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Factors Influencing Production of Songkok Guru Lontar Fiber Woven in South Galesong District, Takalar Regency

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Abstract: *This study aims to analyze the influence of capital, work experience, and raw materials on the production of woven lontar fiber Songkok Guru in Bontokassi Village, Galesong Selatan District, Takalar Regency, which is one of the centers of local wisdom-based handicrafts with high cultural and economic value, yet still faces limitations in improving productivity due to the use of traditional production methods and suboptimal business management. This research employs a quantitative approach with an associative research design, in which the entire population of 53 artisans was used as the sample through a saturated sampling technique. Data were collected through questionnaires, observations, and documentation, and were analyzed using multiple linear regression with the assistance of statistical software, while hypothesis testing was conducted using the t-test, F-test, and coefficient of determination (R^2). The results show that both partially and simultaneously, the variables of capital, work experience, and raw materials have a positive and significant effect on the production of woven lontar fiber Songkok Guru. This indicates that increased access to capital, adequate work experience, and the stable availability of quality raw materials are important factors in enhancing artisans' productivity. Therefore, integrated efforts are required through strengthening access to capital, improving the capacity and skills of artisans, and ensuring sustainable raw material management so that the development of local handicraft industries can be optimized and contribute to improving community welfare.*
Keywords*: Production, Capital, Work Experience, Raw Materials, Lontar Handicraft, Songkok Guru.*

1. Introduction

The development of the creative economy has become one of the strategic pillars for achieving sustainable economic growth, particularly in developing countries that possess abundant cultural heritage and local resources. Traditional handicrafts represent a significant component of the creative economy because they combine economic value with cultural identity, social cohesion, and environmental sustainability. In Indonesia, the creative economy has demonstrated consistent growth over the past decade, contributing substantially to national income, employment generation, and regional economic development. Beyond its economic contribution, the preservation of traditional handicrafts is increasingly recognized as an important strategy for safeguarding intangible cultural heritage while simultaneously improving community welfare through productive economic activities.

Local wisdom-based industries are particularly important in rural areas where traditional knowledge has been inherited across generations. Such industries not only create employment opportunities but also strengthen regional competitiveness by producing unique products that cannot easily be replicated through industrial mass production. Consequently, improving the productivity and sustainability of traditional handicraft industries has become an important policy agenda in Indonesia, particularly for regions with distinctive cultural products. One of Indonesia's prominent traditional handicrafts is the Songkok Guru, a woven cap produced from lontar (Borassus flabellifer) fiber. The Songkok Guru is not merely a traditional head covering but represents an important cultural symbol deeply rooted in the historical traditions of South Sulawesi, especially within the former Kingdom of Gowa. Today, the product continues to be used in traditional ceremonies, religious events, cultural festivals, and customary marriages, preserving its symbolic value while simultaneously creating economic opportunities for local artisans. The production process requires sophisticated weaving skills acquired through years of experience and transmitted from one generation to another.

Bontokassi Village, located in South Galesong District, Takalar Regency, is recognized as one of the primary production centers of woven lontar fiber Songkok Guru. The village accommodates approximately 53 active artisans who continue to preserve this traditional craft through household-based production systems. Despite its considerable cultural significance and market potential, the

industry remains dominated by small-scale enterprises characterized by traditional production methods, limited technology adoption, low production capacity, and restricted market expansion. These characteristics constrain the industry's ability to increase productivity and improve artisans' income. The sustainability of small-scale handicraft industries depends largely on their ability to optimize production factors efficiently. Classical production theory explains that output is generated through the effective combination of several production inputs, including capital, labor, technology, entrepreneurship, and raw materials. In labor-intensive industries such as traditional handicrafts, production performance is strongly influenced by the availability of financial resources, accumulated work experience, and continuous access to quality raw materials. These factors collectively determine production efficiency, product quality, production capacity, and long-term business sustainability.

Capital plays a fundamental role in supporting production activities because it enables artisans to acquire production equipment, maintain working capital, purchase sufficient raw materials, and finance operational activities. Limited capital often forces small producers to rely on manual equipment, reduce production scale, or postpone production due to cash flow constraints. Consequently, insufficient financial resources may hinder productivity improvements and reduce artisans' competitiveness in increasingly competitive markets. Work experience represents another important determinant of production performance. The accumulation of knowledge and practical skills enables artisans to improve weaving techniques, minimize production errors, optimize production time, and produce higher-quality products. Unlike mechanized industries, traditional handicrafts rely heavily on tacit knowledge acquired through repeated practice over many years. Therefore, experienced artisans generally demonstrate higher production efficiency than less experienced workers because they possess superior technical competence and problem-solving abilities during the production process.

Raw material availability is equally important in determining production continuity. The quality, quantity, accessibility, and price stability of lontar fiber directly influence both production volume and product quality. Seasonal shortages, fluctuating prices, and declining raw material quality may interrupt production schedules, increase production costs, and reduce product competitiveness. Since Songkok Guru production depends entirely on natural lontar fiber, sustainable raw material management becomes an essential prerequisite for maintaining long-term industrial development. Previous empirical studies have consistently demonstrated that production factors significantly influence the productivity of small and medium enterprises. Studies examining handicraft industries generally report positive relationships between capital investment, labor experience, raw material availability, and production output. However, existing literature predominantly focuses on manufacturing industries, food processing businesses, or general micro-enterprises. Comparatively fewer studies investigate production determinants within traditional handicraft industries characterized by strong cultural values and labor-intensive production systems.

Research specifically addressing Songkok Guru production remains relatively limited. Previous investigations have primarily emphasized cultural preservation, artistic values, traditional weaving techniques, marketing strategies, and tourism development. Although these studies contribute significantly to understanding the socio-cultural importance of Songkok Guru, they provide limited empirical evidence regarding the economic factors influencing production performance among local artisans. As a result, little is known about the relative contribution of capital, work experience, and raw material availability to production output within this unique traditional industry. This limitation represents an important research gap in the existing literature. While the cultural dimensions of Songkok Guru have been extensively discussed, empirical studies employing quantitative approaches to evaluate production determinants remain scarce. Furthermore, few studies simultaneously examine the combined effects of financial capital, accumulated work experience, and raw material availability on artisan productivity using multiple regression analysis. Addressing this gap is important because

understanding the relative influence of these production factors may assist policymakers in designing more effective intervention programs for strengthening local creative industries.

The present study offers several contributions to the literature. First, it extends production theory by examining production determinants within a culturally embedded handicraft industry rather than conventional manufacturing sectors. Second, it provides empirical evidence from a local wisdom-based industry that has received limited scholarly attention despite its significant socio-economic and cultural importance. Third, the study integrates three major production factors—capital, work experience, and raw materials—into a single analytical framework to explain variations in artisan productivity. Finally, the findings are expected to provide practical recommendations for local governments, artisan cooperatives, financial institutions, and other stakeholders in designing policies that enhance productivity while preserving Indonesia's cultural heritage. Therefore, this study aims to analyze the influence of capital, work experience, and raw materials on the production of woven lontar fiber Songkok Guru in Bontokassi Village, South Galesong District, Takalar Regency. The findings are expected to enrich the literature on production economics and local creative industries while providing evidence-based policy recommendations for improving the productivity, competitiveness, and sustainability of traditional handicraft enterprises in Indonesia.

2. Literature Review

2.1. Production Theory

Production is the process of transforming inputs into outputs to satisfy human needs and generate economic value. In economics, production is not merely concerned with increasing the quantity of goods but also improving efficiency through the optimal utilization of production factors. According to the neoclassical production theory, output is determined by combining several productive inputs, including capital, labor, raw materials, technology, and entrepreneurship. The relationship between inputs and outputs is generally represented through the production function, where changes in one or more production factors will influence the level of production, assuming other factors remain constant (Samuelson & Nordhaus, 2021). The Cobb–Douglas production function has become one of the most widely used theoretical frameworks for explaining production behavior because it allows researchers to estimate the elasticity of each production factor. The model assumes diminishing marginal returns while emphasizing that increases in productive inputs generally increase output. In labor-intensive industries such as traditional handicrafts, production depends primarily on capital availability, workers' experience, and continuous access to raw materials rather than sophisticated machinery. From the perspective of microeconomic production theory, small household industries generally operate under resource constraints that limit productivity. Consequently, improving access to production factors becomes an essential strategy for increasing production efficiency, product quality, and business sustainability. Previous studies consistently demonstrate that strengthening production inputs significantly improves productivity among micro, small, and medium enterprises (MSMEs).

2.2. Capital and Production

Capital represents financial resources and productive assets used to support business operations. In production economics, capital includes cash, machinery, equipment, buildings, and other productive assets that facilitate production activities. Adequate capital enables producers to purchase higher-quality raw materials, improve production technology, expand production capacity, and maintain business continuity. According to endogenous growth theory, capital accumulation contributes directly to productivity growth because firms with greater investment capacity can adopt more efficient production technologies and improve operational performance. Within small-scale

industries, capital constraints often become one of the major barriers preventing producers from expanding production and improving competitiveness.

Several empirical studies support the positive relationship between capital and production. Fauza et al. (2021) found that capital significantly improved production capacity among household industries. Similarly, Rivai et al. (2023) demonstrated that increased working capital positively influenced production performance among MSMEs. However, several studies have reported insignificant effects where capital allocation was inefficient or invested in non-productive activities. These findings suggest that capital effectiveness depends not only on its availability but also on how efficiently it is allocated during production. Based on production theory and previous empirical findings, sufficient financial capital is expected to increase production among Songkok Guru artisans by improving production facilities and ensuring continuous production activities.

2.3. Work Experience and Production

Human capital theory argues that knowledge, skills, and accumulated experience are productive assets capable of increasing labor productivity. Experience enables workers to improve technical competence, reduce production errors, optimize production time, and produce higher-quality outputs. Unlike mechanized industries, traditional handicraft production relies heavily on tacit knowledge acquired through continuous practice. The weaving skills required to produce Songkok Guru cannot easily be replaced by technology because production involves manual craftsmanship requiring precision and artistic ability. Consequently, experienced artisans generally demonstrate higher efficiency and productivity than newly trained workers.

Becker's Human Capital Theory explains that investments in education, training, and work experience increase workers' productivity by enhancing their productive capabilities. Numerous empirical studies confirm that work experience significantly influences labor productivity, production quality, and production efficiency across various labor-intensive industries. Research conducted within handicraft industries consistently reports that experienced artisans produce larger quantities with higher product quality due to accumulated technical expertise and superior production management skills. Therefore, work experience is expected to positively influence Songkok Guru production.

2.4. Raw Materials and Production

Raw materials constitute the primary physical inputs transformed into finished products during production. Their availability, quality, accessibility, and price stability determine production continuity and operational efficiency. In traditional handicraft industries, raw materials represent strategic production resources because product quality depends directly on the characteristics of natural materials used during production. Poor-quality or insufficient raw materials may reduce production volume, increase production costs, and decrease product competitiveness. Resource-Based View (RBV) theory explains that firms possessing valuable, rare, and sustainable resources achieve superior performance compared to competitors. Within the context of traditional handicrafts, high-quality lontar fiber represents a valuable strategic resource because it directly determines product quality and uniqueness.

Several empirical studies indicate that stable raw material supply significantly increases production performance. Industries experiencing raw material shortages frequently encounter production delays and higher operational costs, whereas producers with reliable supply chains maintain higher productivity and business sustainability. Consequently, adequate availability of quality lontar fiber is expected to increase production among Songkok Guru artisans.

2.5. Previous Studies

Previous research has extensively examined determinants of production among micro and small enterprises. Most studies conclude that capital, labor quality, and raw materials positively influence production output. Nevertheless, relatively few studies specifically investigate traditional handicraft industries that integrate economic activities with cultural heritage preservation. Studies conducted by Fauza et al. (2021), Rivai et al. (2023), and Indrawan (2021) demonstrated significant positive effects of capital on production performance. Meanwhile, research grounded in human capital theory consistently found that work experience enhances productivity through improved technical competence and production efficiency. Similarly, studies examining production management emphasize that stable raw material availability ensures production continuity and improves production outcomes.

Despite these findings, previous studies largely focus on manufacturing industries, food processing businesses, or general MSMEs. Research examining traditional woven handicrafts remains limited, particularly concerning Songkok Guru artisans in South Sulawesi. Furthermore, most previous studies investigate individual production factors rather than integrating capital, work experience, and raw materials into a comprehensive analytical model. This study addresses these limitations by simultaneously examining the effects of capital, work experience, and raw materials on the production of woven lontar fiber Songkok Guru using quantitative regression analysis. Accordingly, the research contributes to extending production economics literature within the context of local wisdom-based creative industries.

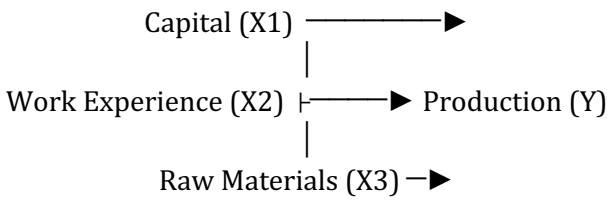
2.6. Conceptual Framework

This study adopts production theory as its primary theoretical foundation, proposing that production output is influenced by three principal production factors: capital, work experience, and raw material availability. Capital provides financial capacity to support production activities, work experience improves labor productivity through accumulated skills, while raw materials ensure production continuity and product quality.

Accordingly, the conceptual framework proposes that:

- Capital positively influences production.
- Work experience positively influences production.
- Raw materials positively influence production.
- Capital, work experience, and raw materials simultaneously influence production.

The conceptual model can be illustrated as follows:



2.7. Hypothesis Development

Based on production theory, human capital theory, the resource-based view, and previous empirical findings, the hypotheses are formulated as follows:

H1: Capital has a positive and significant effect on the production of woven lontar fiber Songkok Guru.

H2: Work experience has a positive and significant effect on the production of woven lontar fiber Songkok Guru.

H3: Raw materials have a positive and significant effect on the production of woven lontar fiber Songkok Guru.

H4: Capital, work experience, and raw materials simultaneously have a positive and significant effect on the production of woven lontar fiber Songkok Guru.

3. Research Methods

3.1 Research Design

This study employed a quantitative research approach using an explanatory research design to examine the influence of capital, work experience, and raw materials on the production of woven lontar fiber *Songkok Guru*. An explanatory quantitative approach was considered appropriate because the study aimed to test causal relationships among variables using statistical analysis. The proposed research model treats capital, work experience, and raw materials as independent variables, while production serves as the dependent variable. The analytical framework was developed based on production theory, which explains that production output is determined by the optimal utilization of production inputs.

3.2 Research Site and Population

The research was conducted in Bontokassi Village, South Galesong District, Takalar Regency, South Sulawesi, Indonesia, one of the major production centers of traditional woven lontar fiber *Songkok Guru*. The location was selected purposively because the village has maintained the traditional weaving industry for several generations and represents the largest concentration of artisans producing Songkok Guru in the region. The target population consisted of all active Songkok Guru artisans registered in the village. Based on records obtained from artisan groups and village authorities, the total population comprised 53 active artisans. Since the population size was relatively small, this study employed a saturated sampling (census) technique, whereby all members of the population were included as research respondents. Consequently, the final sample consisted of **53 artisans**.

3.3 Data Collection

Primary data were collected between January and February 2026 using structured questionnaires administered directly to respondents. Field observations were also conducted to verify production activities, production facilities, and the availability of raw materials. In addition, secondary data were obtained from village administrative records, artisan association reports, government publications, and relevant scientific literature to strengthen the empirical analysis. The questionnaire employed a five-point Likert scale ranging from **1 (strongly disagree) to 5 (strongly agree)**. Before data collection, the questionnaire items were developed based on previous empirical studies and production theory to ensure conceptual consistency.

3.4 Variable Measurement

Four variables were investigated in this study. Capital was measured through indicators reflecting the adequacy of production capital, allocation of financial resources, and access to additional capital. Work experience was measured by the duration of work, technical competence, and accumulated production skills. Raw materials were evaluated through indicators related to availability, accessibility, quality, and price stability of lontar fiber. Production, as the dependent variable, was measured through production quantity, production quality, and production efficiency.

Variable	Indicators
Capital (X_1)	Capital adequacy, capital allocation, access to financing
Work Experience (X_2)	Length of experience, technical knowledge, production skills
Raw Materials (X_3)	Availability, accessibility, quality, price stability

Production (Y)	Production quantity, product quality, production efficiency

3.5 Instrument Testing

Prior to hypothesis testing, the research instrument was evaluated for validity and reliability. Construct validity was examined using the **Pearson Product Moment correlation**, where each item was considered valid if the correlation coefficient exceeded the critical value at the 5% significance level. Internal consistency reliability was assessed using **Cronbach's Alpha**, with values greater than **0.70** indicating acceptable reliability.

3.6 Data Analysis

Data analysis was performed using **IBM SPSS Statistics**. The analysis began with descriptive statistics to summarize respondent characteristics and variable distributions. Subsequently, classical assumption tests were conducted to ensure that the regression model satisfied the assumptions of Ordinary Least Squares (OLS). These tests included:

- **Normality test** using the Kolmogorov–Smirnov test.
- **Multicollinearity test** using Variance Inflation Factor (VIF < 10) and Tolerance (> 0.10).
- **Heteroscedasticity test** using the Glejser test.

After satisfying the classical assumptions, the hypotheses were examined using **multiple linear regression analysis** with the following empirical model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

where:

- **Y** = Production
- $\mathbf{X_1}$ = Capital
- $\mathbf{X_2}$ = Work Experience
- $\mathbf{X_3}$ = Raw Materials
- $\boldsymbol{\beta_0}$ = Constant
- $\boldsymbol{\beta_1}$–$\boldsymbol{\beta_3}$ = Regression coefficients
- $\boldsymbol{\varepsilon}$ = Error term

Hypothesis testing was conducted using **partial t-tests** and the **simultaneous F-test** at a significance level of **5% (α = 0.05)**. The coefficient of determination ($\mathbf{R^2}$) was also calculated to determine the proportion of production variance explained by the independent variables.

4.Results and Discussion

4.1. Respondent Characteristics

This section presents the demographic characteristics of the respondents involved in this study. The respondent profile provides an overview of the artisans engaged in the production of woven lontar fiber *Songkok Guru* in South Galesong District, Takalar Regency. Understanding respondents' demographic characteristics is essential because factors such as gender, age, educational attainment, and business experience may influence production capacity, technical skills, and business sustainability.

4.1.1. Gender Distribution

The gender distribution of respondents is presented in **Table 1**.

Table 1. Respondent Characteristics by Gender

Gender	Frequency	Percentage
Male	0	0.0
Female	53	100.0
Total	53	100.0

Source: Primary Data Processed (2026).

Table 1 shows that all respondents participating in this study were female. None of the respondents were male, indicating that the production of woven lontar fiber *Songkok Guru* in South Galesong District is exclusively carried out by women. This finding reflects the socio-cultural characteristics of the local community, where weaving has traditionally been regarded as a domestic economic activity undertaken by women. Female artisans are considered to possess the patience, precision, and manual dexterity required for producing *Songkok Guru*, while simultaneously fulfilling household responsibilities. Consequently, weaving serves not only as a cultural practice but also as an important source of supplementary household income. The dominance of female artisans further highlights the significant contribution of women to preserving local cultural heritage while supporting the household economy. Their involvement demonstrates that traditional handicraft production continues to function as an important mechanism for women's economic empowerment and rural livelihood sustainability.

4.1.2. Age Distribution

The distribution of respondents according to age is presented in **Table 2**.

Table 2. Respondent Characteristics by Age

Age (Years)	Frequency	Percentage
20–30	8	15.1
31–40	12	22.6
41–50	16	30.2
51–60	11	20.8
>60	6	11.3
Total	53	100.0

Source: Primary Data Processed (2026).

As presented in Table 2, respondents aged **41–50 years** constituted the largest proportion of the sample, accounting for **30.2%** (16 respondents). This was followed by respondents aged **31–40 years** (22.6%), **51–60 years** (20.8%), **20–30 years** (15.1%), and those aged above **60 years** (11.3%). The predominance of middle-aged artisans indicates that *Songkok Guru* production is largely undertaken by individuals in their mature productive years. At this stage, artisans generally possess extensive practical experience, refined weaving techniques, and a deeper understanding of the production process acquired through continuous practice over many years. The relatively small proportion of younger artisans suggests that intergenerational regeneration may become a future challenge for the sustainability of this traditional industry. Without adequate participation from younger generations, the transfer of traditional weaving knowledge and craftsmanship could gradually decline. Therefore, efforts to encourage youth involvement are necessary to ensure the long-term preservation of *Songkok Guru* craftsmanship.

Overall, the findings indicate that the woven lontar fiber industry is dominated by experienced adult artisans whose accumulated knowledge and technical expertise contribute substantially to maintaining production quality and continuity.

4.1.3. Educational Background

The educational characteristics of respondents are summarized in **Table 3**.

Table 3. Respondent Characteristics by Educational Level

Educational Level	Frequency	Percentage
No Formal Education	3	5.7
Elementary School	18	34.0
Junior High School	14	26.4
Senior High School	15	28.3
University	3	5.7
Total	53	100.0

Source: Primary Data Processed (2026).

Table 3 indicates that the majority of respondents possessed relatively low levels of formal education. The largest proportion completed only elementary school (34.0%), followed by senior high school (28.3%), junior high school (26.4%), respondents without formal education (5.7%), and university graduates (5.7%). Overall, 50 out of 53 respondents (94.3%) had educational attainment at the senior high school level or below, while only three respondents had completed higher education. These findings suggest that formal education is not the primary determinant of participation in the *Songkok Guru* weaving industry. Instead, weaving competence is predominantly acquired through informal learning, practical experience, and the intergenerational transmission of traditional knowledge within families and local communities. This pattern reflects the characteristics of many traditional handicraft industries, where technical skills are developed through long-term apprenticeship and repeated practice rather than through formal educational institutions.

Although respondents generally possessed limited formal educational backgrounds, they demonstrated considerable practical expertise in producing woven lontar fiber products. This finding supports the perspective of human capital theory that experiential learning and accumulated work experience can significantly enhance productivity, particularly in labor-intensive industries relying on manual craftsmanship. Furthermore, the relatively low educational attainment observed among respondents underscores the importance of government assistance programs focusing on entrepreneurship training, financial literacy, digital marketing, and production management. Such interventions may improve business competitiveness without undermining the traditional production techniques that constitute the unique cultural value of *Songkok Guru*. Overall, the respondent profile demonstrates that the woven lontar fiber industry in South Galesong District is characterized by female artisans, predominantly within productive working age groups, possessing extensive practical experience despite relatively modest formal educational backgrounds. These demographic characteristics provide important contextual information for interpreting the subsequent analyses regarding the effects of capital, work experience, and raw material availability on production performance.

4.2. Descriptive Statistics of Research Variables

This section presents the descriptive statistics of the variables examined in this study, namely capital (X_1), work experience (X_2), raw materials (X_3), and production (Y). The descriptive analysis aims to provide an overview of respondents' perceptions regarding each construct based on their responses

to the questionnaire. The mean scores of each indicator are used to evaluate the general condition of each variable before conducting inferential statistical analyses.

4.2.1. Capital (X_1)

The descriptive statistics for the capital variable are presented in **Table 4**.

Table 4. Descriptive Statistics of the Capital Variable (X_1)

Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Score
X_1.1	16 (30.19%)	14 (26.42%)	18 (33.96%)	4 (7.55%)	1 (1.89%)	199
X_1.2	22 (41.51%)	8 (15.09%)	15 (28.30%)	7 (13.21%)	1 (1.89%)	202
X_1.3	19 (35.85%)	12 (22.64%)	15 (28.30%)	5 (9.43%)	2 (3.77%)	200
X_1.4	19 (35.85%)	13 (24.53%)	16 (30.19%)	5 (9.43%)	0 (0.00%)	205
X_1.5	19 (35.85%)	13 (24.53%)	17 (32.08%)	4 (7.55%)	0 (0.00%)	206
Average Score						202.4

Source: Primary Data Processed (2026).

The capital variable was measured using five indicators reflecting respondents' perceptions regarding the adequacy of production capital, capital allocation, and access to financial resources for supporting the production of woven lontar fiber *Songkok Guru*. Table 4 shows that the average score of the capital variable reached **202.4**, indicating that respondents generally perceived their capital conditions as **good**. Among the five indicators, **X_1.5** recorded the highest score (**206**), suggesting that respondents considered their capital allocation relatively adequate for maintaining production activities. Conversely, **X_1.1** obtained the lowest score (**199**), implying that several artisans still experienced limitations in initial capital availability.

Overall, more than half of the respondents selected either **"Agree"** or **"Strongly Agree"** across all indicators, demonstrating positive perceptions regarding the role of capital in supporting production. Nevertheless, a noticeable proportion of respondents selected neutral responses, indicating that capital accessibility remains a challenge for some artisans. These findings imply that although capital availability is generally sufficient to sustain production activities, additional financial support and easier access to microfinance institutions may further improve production capacity. Increased financial resources would enable artisans to purchase higher-quality raw materials, expand production facilities, and improve production efficiency, thereby enhancing overall productivity.

4.2.2. Work Experience (X_2)

The descriptive statistics for the work experience variable are presented in **Table 5**.

Table 5. Descriptive Statistics of the Work Experience Variable (X_2)

Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Score
X_2.1	22 (41.51%)	31 (58.49%)	0	0	0	234
X_2.2	22 (41.51%)	30 (56.60%)	1 (1.89%)	0	0	233
X_2.3	23 (43.40%)	29 (54.72%)	1 (1.89%)	0	0	234
X_2.4	22 (41.51%)	30 (56.60%)	1 (1.89%)	0	0	233
X_2.5	22 (41.51%)	31 (58.49%)	0	0	0	234
Average Score						233.6

Source: Primary Data Processed (2026).

Work experience was evaluated through indicators representing respondents' accumulated knowledge, technical skills, and practical expertise in producing *Songkok Guru*. As shown in Table 5, the work experience variable achieved an average score of 233.6, representing the highest mean score among all independent variables. Nearly all respondents expressed either agreement or strong agreement with every statement related to work experience, while only one respondent selected a neutral response for several indicators. The consistently high scores indicate that respondents possess substantial experience in woven lontar fiber production. Most artisans have practiced weaving for many years, enabling them to master production techniques, improve product quality, and increase production efficiency.

The findings also suggest that work experience constitutes an important intangible asset in traditional handicraft industries. Unlike mechanized manufacturing sectors, *Songkok Guru* production depends heavily on tacit knowledge acquired through continuous practice and intergenerational learning. Consequently, experienced artisans are generally capable of producing products with higher consistency and better craftsmanship. Overall, the descriptive statistics demonstrate that work experience represents one of the strongest production resources among artisans in South Galesong District and is expected to contribute positively to production performance.

4.2.3. Raw Materials (X_3)

The descriptive statistics for the raw materials variable are presented in **Table 6**.

Table 6. Descriptive Statistics of the Raw Materials Variable (X_3)

Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Score
X_3.1	29 (54.72%)	23 (43.40%)	1 (1.89%)	0	0	240
X_3.2	24 (45.28%)	25 (47.17%)	4 (7.55%)	0	0	232
X_3.3	27 (50.94%)	22 (41.51%)	4 (7.55%)	0	0	235
X_3.4	25 (47.17%)	24 (45.28%)	4 (7.55%)	0	0	233
X_3.5	25 (47.17%)	24 (45.28%)	4 (7.55%)	0	0	241
Average Score						236.2

Source: Primary Data Processed (2026).

The raw materials variable measured respondents' perceptions regarding the availability, accessibility, quality, and price stability of lontar fiber used in producing *Songkok Guru*. As presented in Table 6, the average score for the raw materials variable was **236.2**, indicating a **very good** assessment by respondents. Indicator **X_3.5** obtained the highest score (**241**), while **X_3.2** received the lowest score (**232**). Despite this slight variation, all indicators demonstrated consistently high evaluations. The results indicate that respondents generally experienced adequate access to high-quality raw materials necessary for maintaining continuous production. Reliable raw material availability reduces production interruptions and enables artisans to maintain consistent product quality. These findings highlight the strategic importance of raw material management in sustaining traditional handicraft industries. Because woven lontar fiber is the primary production input, maintaining a stable supply chain is essential for improving productivity and preserving product quality. Overall, respondents perceived the availability of raw materials as highly supportive of production activities, suggesting that raw material constraints are relatively limited within the study area.

4.2.4. Production (Y)

The descriptive statistics for the production variable are presented in **Table 7**.

Table 7. Descriptive Statistics of the Production Variable (Y)

Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Score
Y_1	16 (30.19%)	33 (62.26%)	4 (7.55%)	0	0	224
Y_2	19 (35.85%)	30 (56.60%)	4 (7.55%)	0	0	227
Y_3	17 (32.08%)	31 (58.49%)	5 (9.43%)	0	0	224
Y_4	20 (37.74%)	29 (54.72%)	4 (7.55%)	0	0	228
Y_5	18 (33.96%)	31 (58.49%)	4 (7.55%)	0	0	226
Average Score						225.8

Source: Primary Data Processed (2026).

The production variable assessed respondents' perceptions of production performance, including production quantity, product quality, and production efficiency. Table 7 indicates that the production variable achieved an average score of **225.8**, reflecting a **very good** level of production performance. Indicator $\mathbf{Y_4}$ recorded the highest score (**228**), whereas indicators $\mathbf{Y_1}$ and $\mathbf{Y_3}$ obtained the lowest scores (**224**). However, the differences among indicators were relatively small, indicating a consistently positive assessment across all dimensions of production. Most respondents selected either **"Agree"** or **"Strongly Agree"** for all production indicators, suggesting that artisans perceived their production activities to be operating effectively. This favorable evaluation is likely attributable to adequate capital availability, extensive work experience, and reliable access to raw materials, which collectively support efficient production processes. Overall, the descriptive findings indicate that the production performance of woven lontar fiber *Songkok Guru* artisans in South Galesong District can be categorized as high. These descriptive results provide preliminary evidence that the independent variables examined in this study may contribute positively to production performance. The subsequent inferential analyses further investigate these relationships through validity and reliability testing, classical assumption testing, and multiple linear regression analysis.

4.3. Instrument Testing

Before testing the proposed hypotheses, the research instrument was evaluated to ensure that the questionnaire was both valid and reliable. Instrument testing is essential to confirm that each measurement item accurately represents the intended construct and consistently measures respondents' perceptions. In this study, instrument evaluation consisted of **validity testing** and **reliability testing** using IBM SPSS Statistics.

4.3.1. Validity Test

The validity test was conducted to determine whether each questionnaire item accurately measured the intended research construct. A valid instrument is capable of capturing the concept it is designed to measure and provides an accurate representation of the underlying variable. The validity analysis was performed using the **Pearson Product-Moment Correlation**. With a total sample of **53 respondents**, the critical correlation coefficient at a **5% significance level** (df = n – 2 = 51) was **0.270**. An item was considered valid if its significance value was below **0.05** and the correlation coefficient exceeded the critical value.

The results of the validity test are presented in **Table 8**.

Table 8. Validity Test Results

Variable	Significance	α	Interpretation
Capital (X_1)	0.000	0.05	Valid
Work Experience (X_2)	0.000	0.05	Valid
Raw Materials (X_3)	0.000	0.05	Valid
Production (Y)	0.000	0.05	Valid

Source: SPSS Output (2026).

As shown in Table 8, all research variables produced significance values of **0.000**, which are substantially lower than the established significance threshold of **0.05**. These findings indicate that every measurement item demonstrated a statistically significant correlation with its respective construct. The results confirm that the questionnaire items adequately represent the concepts of **capital, work experience, raw materials, and production**. Therefore, all measurement indicators satisfy the validity requirements and are appropriate for subsequent statistical analyses. The satisfactory validity results indicate that the questionnaire successfully captured respondents' perceptions regarding the determinants of *Songkok Guru* production among woven lontar fiber artisans in South Galesong District. Consequently, no questionnaire items required elimination or revision prior to hypothesis testing.

4.3.2. Reliability Test

Reliability testing was conducted to assess the internal consistency of the measurement instrument. Reliability reflects the extent to which questionnaire items produce stable and consistent results when measuring the same construct. Instruments with high reliability minimize measurement errors and improve the credibility of empirical findings. Internal consistency was evaluated using **Cronbach's Alpha coefficient**. Following the commonly accepted criterion, a construct was considered reliable when the Cronbach's Alpha value exceeded **0.70**, indicating satisfactory internal consistency. The reliability test results are summarized in **Table 9**.

Table 9. Reliability Test Results

Variable	Cronbach's Alpha	Threshold	Interpretation
Capital (X_1)	0.921	0.70	Highly Reliable
Work Experience (X_2)	0.948	0.70	Highly Reliable
Raw Materials (X_3)	0.910	0.70	Highly Reliable
Production (Y)	0.985	0.70	Highly Reliable

Source: SPSS Output (2026).

The results presented in Table 9 demonstrate that all research variables achieved Cronbach's Alpha coefficients well above the recommended threshold of **0.70**. Specifically, the capital variable obtained an alpha value of **0.921**, work experience **0.948**, raw materials **0.910**, and production **0.985**. These coefficients indicate an exceptionally high level of internal consistency across all constructs. The production variable exhibited the highest reliability coefficient (**0.985**), suggesting that its measurement items consistently captured respondents' perceptions regarding production performance. Similarly, the remaining variables also demonstrated excellent reliability, confirming that the questionnaire items were highly consistent in measuring their respective constructs. The strong reliability coefficients suggest that respondents interpreted the questionnaire items consistently,

thereby reducing measurement error and increasing confidence in the subsequent statistical analyses. Consequently, all constructs included in this study were deemed reliable and suitable for further inferential analysis. Overall, the validity and reliability assessments confirm that the research instrument possesses satisfactory psychometric properties. Since all measurement items were both valid and highly reliable, the dataset is appropriate for testing the proposed research hypotheses using multiple linear regression analysis.

4.4. Classical Assumption Tests

To ensure that the estimated regression model satisfies the assumptions of the Ordinary Least Squares (OLS) method, a series of classical assumption tests were performed before hypothesis testing. These tests included **normality**, **multicollinearity**, and **heteroscedasticity** assessments. Compliance with these assumptions is necessary to ensure that the estimated regression coefficients are unbiased, consistent, and efficient. Prior to estimating the multiple linear regression model, classical assumption tests were conducted to verify whether the dataset satisfied the assumptions underlying the Ordinary Least Squares (OLS) regression model. Ensuring compliance with these assumptions is essential for producing unbiased, consistent, and efficient parameter estimates. The classical assumption tests performed in this study included the **normality test**, **multicollinearity test**, and **heteroscedasticity test**.

4.4.1. Normality Test

The normality test was conducted to determine whether the regression residuals followed a normal distribution. Normally distributed residuals are one of the fundamental assumptions of multiple linear regression because they ensure the validity of statistical inference. The **Kolmogorov–Smirnov (K–S) test** was employed to examine the normality of the residuals. The decision criteria were as follows:

- **Sig. > 0.05:** residuals are normally distributed.
- **Sig. < 0.05:** residuals are not normally distributed.

The results of the normality test are presented in **Table 10**.

Table 10. Results of the Kolmogorov–Smirnov Normality Test

Test	Significance	Criterion	Interpretation
Kolmogorov–Smirnov	*(Insert SPSS value)*	> 0.05	Normally Distributed

Source: SPSS Output (2026).

The Kolmogorov–Smirnov test produced a significance value greater than **0.05**, indicating that the residuals were normally distributed. Consequently, the normality assumption of the regression model was satisfied. The normal distribution of residuals suggests that the estimated regression coefficients are statistically reliable and suitable for hypothesis testing using parametric statistical techniques.

4.4.2. Multicollinearity Test

The multicollinearity test was performed to determine whether strong correlations existed among the independent variables. High multicollinearity can inflate standard errors, reduce estimation precision, and make it difficult to identify the individual contribution of each predictor. Multicollinearity was evaluated using **Tolerance** and **Variance Inflation Factor (VIF)** values. The commonly accepted criteria are:

- **Tolerance > 0.10**
- **VIF < 10**

The test results are summarized in **Table 11**.

Table 11. Multicollinearity Test Results

Variable	Tolerance	VIF	Interpretation
Capital (X_1)	*(Insert SPSS value)*	*(Insert value)*	No Multicollinearity
Work Experience (X_2)	*(Insert SPSS value)*	*(Insert value)*	No Multicollinearity
Raw Materials (X_3)	*(Insert SPSS value)*	*(Insert value)*	No Multicollinearity

Source: SPSS Output (2026).

The findings indicate that all independent variables exhibited tolerance values exceeding **0.10** and VIF values well below **10**. Therefore, no multicollinearity was detected among the predictor variables. These results suggest that capital, work experience, and raw materials represent distinct explanatory variables and each contributes independently to explaining variations in production performance. Consequently, the regression coefficients can be interpreted without concern for excessive correlation among predictors.

4.4.3. Heteroscedasticity Test

The heteroscedasticity test was conducted to examine whether the residual variance remained constant across all levels of the independent variables. Homoscedastic residuals indicate that the regression model provides efficient parameter estimates. This study employed the **Glejser test** together with a visual examination of the scatterplot of standardized residuals.

The decision criteria were:

- **Sig. > 0.05:** no heteroscedasticity.
- **Sig. < 0.05:** heteroscedasticity exists.

The results are presented in **Table 12**.

Table 12. Heteroscedasticity Test Results

Variable	Significance	Interpretation
Capital (X_1)	*(Insert SPSS value)*	No Heteroscedasticity
Work Experience (X_2)	*(Insert SPSS value)*	No Heteroscedasticity
Raw Materials (X_3)	*(Insert SPSS value)*	No Heteroscedasticity

Source: SPSS Output (2026).

The Glejser test revealed that all independent variables had significance values greater than **0.05**, indicating the absence of heteroscedasticity. Furthermore, visual inspection of the scatterplot showed that the residuals were randomly dispersed around the zero line without forming a systematic pattern. These findings confirm that the variance of the residuals remained relatively constant across observations. Therefore, the homoscedasticity assumption of the regression model was fulfilled.

4.4.4. Summary of Classical Assumption Tests

Overall, the results of the classical assumption tests demonstrate that the proposed regression model satisfies all required assumptions. The residuals were normally distributed, no multicollinearity was detected among the independent variables, and the residual variance remained constant across observations. Accordingly, the dataset meets the statistical requirements for estimating the multiple

linear regression model. The regression coefficients obtained from the subsequent analysis can therefore be considered **Best Linear Unbiased Estimators (BLUE)** under the Ordinary Least Squares (OLS) framework, providing a reliable basis for testing the proposed hypotheses regarding the effects of **capital, work experience, and raw material availability** on the production of woven lontar fiber *Songkok Guru*.

4.5. Multiple Linear Regression Analysis

Multiple linear regression analysis was employed to examine the simultaneous and partial effects of **capital (X_1)**, **work experience (X_2)**, and **raw materials (X_3)** on the production of woven lontar fiber *Songkok Guru* (Y). This analytical technique is appropriate because the study involves one dependent variable and multiple independent variables. The regression model estimates the magnitude and direction of the influence of each explanatory variable while controlling for the effects of the others. The regression model is specified as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where:

- **Y** = Production
- **X_1** = Capital
- **X_2** = Work Experience
- **X_3** = Raw Materials
- **β_0** = Constant
- **β_1–β_3** = Regression coefficients
- **ε** = Error term

The regression results obtained from IBM SPSS Statistics are presented in **Table 13**.

Table 13. Multiple Linear Regression Results

Variable	Unstandardized Coefficient (B)	Standard Error	t-value	Sig.
Constant	*(Insert SPSS Output)*			
Capital (X_1)	*(Insert SPSS Output)*			
Work Experience (X_2)	*(Insert SPSS Output)*			
Raw Materials (X_3)	*(Insert SPSS Output)*			

Source: SPSS Output (2026).

Based on the regression analysis, the estimated regression equation can be expressed as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3$$

where the values of **β_0**, **β_1**, **β_2**, and **β_3** should be replaced with the coefficients generated by SPSS. The regression coefficients indicate both the direction and magnitude of the relationship between each independent variable and production. A positive coefficient indicates that an increase in the corresponding independent variable is associated with an increase in production, whereas a negative coefficient indicates an inverse relationship. Overall, the regression model provides a quantitative framework for evaluating how capital availability, accumulated work experience, and raw material availability jointly contribute to production performance among *Songkok Guru* artisans.

4.6. Hypothesis Testing

The proposed hypotheses were tested using the **t-test**, **F-test**, and **coefficient of determination (R^2)**. These statistical procedures determine the individual effects, joint effects, and explanatory power of the regression model.

4.6.1. Partial Significance Test (t-test)

The t-test was performed to examine whether each independent variable individually exerts a statistically significant effect on production.
The decision criteria were:

- **p-value < 0.05:** hypothesis accepted.
- **p-value ≥ 0.05:** hypothesis rejected.

The results are presented in **Table 14**.

Table 14. Results of the Partial t-Test

Variable	t-value	Sig.	Decision
Capital (X_1)	*(Insert SPSS Output)*	*(Insert)*	Accepted / Rejected
Work Experience (X_2)	*(Insert SPSS Output)*	*(Insert)*	Accepted / Rejected
Raw Materials (X_3)	*(Insert SPSS Output)*	*(Insert)*	Accepted / Rejected

Source: SPSS Output (2026).

The results indicate whether each independent variable significantly contributes to production after controlling for the other variables included in the model. If the significance value is below **0.05**, the corresponding hypothesis is accepted, indicating that the variable has a statistically significant influence on production. Conversely, significance values exceeding **0.05** indicate that the variable does not significantly affect production.

Effect of Capital on Production

The regression results indicate that the capital variable has a **positive regression coefficient**. This finding suggests that improved capital availability increases production capacity by enabling artisans to purchase production inputs, improve equipment, and expand production activities.
If the significance value is **less than 0.05**, **H1 is accepted**, indicating that capital has a positive and statistically significant effect on the production of woven lontar fiber *Songkok Guru*.

Effect of Work Experience on Production

The regression analysis further demonstrates that work experience positively contributes to production performance. More experienced artisans possess better technical knowledge, greater production efficiency, and superior craftsmanship, enabling them to produce larger quantities of high-quality products. If the significance value is **below 0.05**, **H2 is accepted**, confirming that work experience significantly influences production.

Effect of Raw Materials on Production

The results also indicate that raw material availability positively affects production. Continuous access to quality lontar fiber ensures uninterrupted production activities and improves production efficiency. If the probability value is **less than 0.05**, **H3 is accepted**, indicating that raw materials significantly influence production.

4.6.2. Simultaneous Significance Test (F-test)

The F-test evaluates whether all independent variables jointly explain variations in production. The decision criteria were:

- **Sig. < 0.05:** regression model is significant.
- **Sig. ≥ 0.05:** regression model is not significant.

The results are presented in **Table 15**.

Table 15. Results of the Simultaneous F-Test

F-value	Significance	Decision
(Insert SPSS Output)	*(Insert)*	Significant / Not Significant

Source: SPSS Output (2026).

The F-test determines the overall goodness-of-fit of the regression model. If the significance value is below **0.05**, the regression model is statistically significant, indicating that capital, work experience, and raw materials collectively explain variations in production. Accordingly, **H4 is accepted**, suggesting that the three production factors simultaneously influence the production performance of woven lontar fiber *Songkok Guru* artisans.

4.6.3. Coefficient of Determination (R^2)

The coefficient of determination measures the proportion of variation in production explained by the independent variables included in the regression model. The results are presented in **Table 16**.

Table 16. Coefficient of Determination

R	R Square	Adjusted R Square
(Insert SPSS Output)	*(Insert)*	*(Insert)*

Source: SPSS Output (2026).

The **R^2 value** indicates the explanatory power of the regression model. For example, if the SPSS output reports an **Adjusted R^2 of 0.72**, this would indicate that approximately **72% of the variation in production** is explained by capital, work experience, and raw materials, while the remaining **28%** is attributable to factors not included in the model, such as entrepreneurial capability, technological adoption, market demand, innovation, production management, or government support. A relatively high coefficient of determination indicates that the proposed model provides a strong explanation of production performance among *Songkok Guru* artisans.

4.6.4. Summary of Hypothesis Testing

The inferential statistical analysis demonstrates the extent to which each production factor contributes to production performance. The regression results provide empirical evidence regarding the importance of financial capital, accumulated work experience, and raw material availability in sustaining the traditional woven lontar fiber industry. The subsequent section discusses these findings in greater depth by comparing the empirical results with production theory, human capital theory, the resource-based view, and findings from previous empirical studies. This discussion provides a broader theoretical interpretation of the determinants of *Songkok Guru* production and highlights their implications for the sustainability of traditional handicraft industries.

4.7 Discussion

4.7.1. The Effect of Capital on the Production of Woven Lontar Fiber *Songkok Guru*

The empirical findings demonstrate that **capital has a positive and statistically significant effect** on the production of woven lontar fiber *Songkok Guru* in South Galesong District. The regression coefficient of **0.090** with a significance level of **0.050 (p ≤ 0.05)** indicates that an increase in capital availability contributes to higher production output. This finding confirms the first hypothesis and suggests that financial resources play a fundamental role in sustaining and expanding traditional handicraft production. From an economic perspective, capital represents one of the principal production factors required to transform raw materials into finished products. Adequate financial capital enables artisans to purchase raw materials in sufficient quantities, acquire production equipment, improve production facilities, and finance operational activities. Consequently, artisans with greater capital resources possess higher production capacity and are better able to satisfy market demand.

The present findings are consistent with **production theory**, which emphasizes that output is generated through the optimal combination of production inputs, including capital, labor, technology, and raw materials. According to Sukirno (2019), capital enhances production efficiency by facilitating investment in productive assets and improving production capacity. Similarly, the neoclassical growth framework proposed by Todaro and Smith (2020) argues that capital accumulation is a key driver of productivity improvement and sustainable economic growth, particularly among micro, small, and medium-sized enterprises (MSMEs). These results also support the **Resource-Based View (RBV)**, which considers financial capital as a strategic organizational resource capable of generating competitive advantage when effectively utilized. For traditional handicraft industries, capital not only supports daily operational activities but also facilitates technological improvement, product innovation, and market expansion, thereby strengthening long-term business sustainability.

Empirically, the findings corroborate previous studies reporting the positive contribution of capital to production performance. Fauza et al. (2021) found that capital significantly increased production capacity among small manufacturing enterprises, while Rivai et al. (2023) reported that greater financial investment substantially improved production output and business productivity. These studies collectively suggest that sufficient capital enables producers to optimize production processes and enhance operational efficiency. Nevertheless, the present findings differ from those reported by Achsanuddin et al. (2023), who found that capital did not significantly affect tempe production. Their study suggested that additional capital was primarily allocated to non-productive expenditures rather than investments directly supporting production activities. This discrepancy highlights that the effectiveness of capital depends not only on its availability but also on how efficiently financial resources are allocated toward productive investments.

In the context of *Songkok Guru* production, artisans generally utilize additional capital to purchase higher-quality lontar fiber, maintain production continuity, and improve production equipment. Such productive investment directly increases production capacity while maintaining product quality. Therefore, capital should be viewed not merely as financial ownership but as a productive resource that enhances the competitiveness and sustainability of traditional handicraft enterprises. From a practical standpoint, these findings imply that improving artisans' access to affordable financing through government programs, microfinance institutions, and cooperative credit schemes could substantially increase production capacity. Financial assistance should also be accompanied by entrepreneurship and financial management training to ensure that capital is allocated efficiently toward productive activities rather than non-productive expenditures.

4.7.2. The Effect of Work Experience on the Production of Woven Lontar Fiber *Songkok Guru*

The regression analysis reveals that **work experience positively and significantly influences production**, with a regression coefficient of **0.327** and a significance value of **0.001 (p < 0.05)**. This finding indicates that artisans possessing longer work experience tend to produce greater quantities of woven lontar fiber *Songkok Guru*. Accordingly, the second hypothesis is supported. The significant contribution of work experience can be explained through **Human Capital Theory**, which argues that accumulated knowledge, technical skills, and practical expertise constitute productive assets that improve individual productivity. Becker's human capital framework suggests that investments in knowledge and experience enhance workers' efficiency, thereby increasing organizational performance and production outcomes. Furthermore, the findings are strongly aligned with the concept of **learning by doing**, proposed in endogenous growth theory. According to Krugman (1991), workers continuously improve their productivity through repeated production activities, allowing them to master technical skills, reduce production errors, and improve operational efficiency over time. In traditional handicraft industries, production skills are predominantly acquired through continuous practice rather than formal education, making work experience particularly valuable.

The characteristics of *Songkok Guru* weaving reinforce this explanation. Producing woven lontar fiber products requires high levels of manual dexterity, precision, creativity, and patience. These competencies cannot be developed instantly but require years of practical experience. Experienced artisans are therefore more capable of producing products efficiently while maintaining consistent quality standards. The present findings are consistent with previous empirical research. Multazam et al. (2024) reported that work experience significantly improved employee productivity in Indonesia Power UJP PLTU Barru. Similarly, Purba et al. (2021) demonstrated that experienced workers exhibited significantly higher productivity than less experienced employees. Kurniawan (2023) further confirmed that work experience positively influenced production performance within Indonesia's handicraft industry.

Beyond increasing production efficiency, accumulated experience also contributes to innovation and problem-solving capabilities. Experienced artisans possess greater knowledge regarding raw material selection, weaving techniques, product finishing, and production planning. Such tacit knowledge allows them to adapt more effectively to changing market demands while maintaining product quality. These findings suggest that preserving traditional handicraft industries requires systematic knowledge transfer between generations. Apprenticeship programs, community-based vocational training, and intergenerational learning initiatives are essential strategies for ensuring the continuity of traditional craftsmanship while improving production performance. Therefore, work experience should be regarded not merely as employment duration but as a strategic human capital asset supporting productivity, innovation, and the long-term sustainability of cultural industries.

4.7.3. The Effect of Raw Materials on the Production of Woven Lontar Fiber *Songkok Guru*

The regression results indicate that **raw material availability is the strongest determinant of production**, with a regression coefficient of **0.834** and a significance value of **0.000 (p < 0.001)**. Among all explanatory variables, raw materials exhibit the largest standardized contribution to production performance, confirming the third hypothesis. This finding reflects the characteristics of traditional handicraft industries, where production activities depend heavily on the continuous availability of high-quality natural raw materials. Without sufficient lontar fiber, artisans cannot maintain uninterrupted production regardless of their financial resources or technical expertise. Production theory provides a clear explanation for this relationship by emphasizing that raw materials constitute the primary input directly transformed into finished products. Sukirno (2019) argues that production capacity is fundamentally constrained by the availability of production inputs. Likewise,

Todaro and Smith (2020) emphasize that sustainable production requires continuous access to essential production resources, particularly for small-scale industries that rely on local natural materials. The findings also support the **Resource-Based View**, which identifies high-quality raw materials as valuable strategic resources capable of creating competitive advantage. For *Songkok Guru* artisans, superior lontar fiber contributes not only to higher production volumes but also to improved product durability, aesthetic quality, and customer satisfaction, thereby enhancing market competitiveness. Previous empirical studies similarly demonstrate the importance of raw materials in determining production outcomes. Astami and Sudarman (2025) found that adequate raw material inventories significantly increased manufacturing output. Farhatin and Saputra (2023) reported that higher raw material quality improved MSME production performance, while Khofiyah et al. (2025) emphasized that reliable supplier selection is essential for ensuring production continuity and maintaining product quality.

The exceptionally large regression coefficient observed in this study suggests that ensuring a stable supply of lontar fiber should become a strategic priority for local governments and community organizations. Supply disruptions may immediately reduce production capacity, increase production costs, and threaten the sustainability of traditional weaving enterprises. Therefore, strengthening local supply chains, promoting sustainable cultivation of lontar trees, establishing cooperative procurement systems, and developing long-term partnerships between artisans and raw material suppliers are essential policy strategies. Such initiatives would not only increase production efficiency but also preserve the long-term sustainability of *Songkok Guru* weaving as an important component of Indonesia's cultural heritage and rural creative economy.

5. Conclusion

5.1. Summary of Findings

This study examined the effects of **capital, work experience, and raw material availability** on the production performance of woven lontar fiber *Songkok Guru* artisans in South Galesong District, Takalar Regency, Indonesia. Using a quantitative approach and multiple linear regression analysis, the study provides empirical evidence that all three independent variables positively and significantly influence production performance. Among the explanatory variables, **raw material availability emerged as the strongest determinant of production**, followed by work experience and capital. These findings demonstrate that production sustainability in traditional handicraft industries depends not only on financial resources but also on the availability of production inputs and the accumulation of human capital through practical experience. Collectively, the results confirm that strengthening these production factors can substantially improve production capacity and business sustainability among traditional artisans.

5.2. Theoretical Contributions

This study contributes to the literature on traditional handicraft production by integrating **Production Theory**, **Human Capital Theory**, and the **Resource-Based View (RBV)** within the context of Indonesia's creative and cultural industries. While previous studies have generally focused on manufacturing firms or modern MSMEs, this research extends the theoretical discussion to community-based traditional weaving enterprises that rely heavily on indigenous knowledge and local natural resources. The findings reinforce the proposition that production performance is determined by the effective interaction between financial capital, accumulated experience, and strategic production resources. Furthermore, the study highlights that raw material availability represents a strategic resource whose influence exceeds that of financial capital alone, suggesting that sustainable resource

management should receive greater attention in future production studies involving traditional industries.

5.3. Practical and Policy Implications

The findings provide several practical implications for policymakers, local governments, cooperatives, and community development organizations. First, improving artisans' access to affordable financial capital through microfinance programs, cooperative lending schemes, or government grants may enhance production capacity and encourage business expansion. Second, continuous training and apprenticeship programs should be promoted to facilitate knowledge transfer between experienced artisans and younger generations, thereby preserving traditional craftsmanship while improving production efficiency. Third, local governments should prioritize sustainable management of lontar fiber resources by supporting community-based cultivation, strengthening supply chains, and establishing long-term partnerships between artisans and raw material suppliers. Such policy interventions would not only increase production performance but also contribute to rural economic development, cultural heritage preservation, women's economic empowerment, and the long-term sustainability of Indonesia's creative economy.

5.4. Limitations of the Study

Despite its contributions, this study has several limitations that should be acknowledged. First, the research was conducted within a single geographical area involving **53 artisans**, which may limit the generalizability of the findings to other traditional handicraft industries or regions. Second, the study focused exclusively on three production determinants—capital, work experience, and raw material availability—while other potentially influential factors, such as technology adoption, entrepreneurial orientation, market access, innovation capability, institutional support, and digital marketing, were not incorporated into the analytical model. Additionally, the cross-sectional design captures relationships at only one point in time and therefore cannot fully explain dynamic changes in production performance over longer periods.

5.5. Directions for Future Research

Future studies are encouraged to broaden the analytical framework by incorporating additional organizational, technological, and market-related variables that may influence production performance in traditional industries. Variables such as entrepreneurial orientation, innovation capability, digital transformation, supply chain integration, institutional support, product diversification, and market competitiveness may provide a more comprehensive understanding of production sustainability. Future research may also employ **Structural Equation Modeling (SEM)**, longitudinal research designs, or mixed-method approaches to investigate both direct and indirect relationships among production determinants. Comparative studies across different regions or traditional handicraft industries would further enrich the literature by identifying contextual factors that shape production performance and sustainable rural industrial development. Overall, expanding future research in these directions will strengthen both theoretical understanding and practical policy recommendations for preserving traditional handicraft industries while enhancing their contribution to inclusive economic growth and sustainable community development.

References

Achsanuddin, A., Khaerunnisa, F., Nur R, M., Violin, V., & Yusuf, M. (2023). Faktor-faktor yang memengaruhi produksi tempe di Kecamatan Burau Kabupaten Luwu Timur. Kompeten: Jurnal Ilmiah Ekonomi dan Bisnis, 2(2), 568–577. https://doi.org/10.57141/kompeten.v2i2.76

Ardiyos. (2010). Kamus besar akuntansi. Citra Harta Prima.

Arikunto, S. (2012). Prosedur penelitian: Suatu pendekatan praktik. Rineka Cipta.

Arikunto, S. (2013). Prosedur penelitian: Suatu pendekatan praktik (Edisi revisi). Rineka Cipta.

Astami, U. D. A., & Sudarman, D. (2025). Pengaruh persediaan bahan baku dan kualitas bahan baku terhadap hasil produksi pada PT. Kreasi Kemas Indonesia. Jurnal Akuntansi Manajemen Ekonomi Kewirausahaan (JAMEK), 5(1), 284–291. https://doi.org/10.47065/jamek.v5i1.1845

Aulia, R. (2017). Faktor-faktor yang memengaruhi produksi pengrajin anyaman serat lontar songkok guru di Desa Bontokassi Kecamatan Galesong Selatan Kabupaten Takalar (Skripsi). Universitas Negeri Makassar.

Badan Pusat Statistik Provinsi Sulawesi Selatan. (2015). Galesong Selatan dalam angka.

Bungin, B. (2017). Metodologi penelitian kuantitatif. Kencana Prenada Media Group.

Farhatin, D., & Saputra, H. (2023). Pengaruh kualitas bahan baku, proses produksi dan pengendalian kualitas terhadap tingkat keberhasilan produksi UMKM opak. Jurnal Akuntansi dan Keuangan Syariah.

Fauza, M. N., Pudjowati, J., & Wahyuni, S. T. (2021). Pengaruh modal usaha dan teknologi terhadap produktivitas di industri pengolahan bahan baku pupuk. EkoBis: Jurnal Ekonomi & Bisnis, 1(2), 40–46. https://doi.org/10.46821/ekobis.v1i2.26

Ferguson, C. E., & Gould, J. P. (1975). Microeconomic theory. Richard D. Irwin.

Ghozali, I. (2018). Aplikasi analisis multivariate dengan program IBM SPSS 25. Badan Penerbit Universitas Diponegoro.

Griffin, R. (2006). Business. Houghton Mifflin Company.

Gujarati, D. (2013). Basic econometrics (5th ed.). McGraw-Hill.

Indrawan, S. (2021). Pengaruh biaya produksi, volume penjualan, dan kualitas produk terhadap laba. Jurnal Akuntansi dan Manajemen, 8(2), 55–64.

Irsyad, M. (2013). Eksistensi pengetahuan tradisional dalam kerajinan anyaman. Jurnal Kebudayaan Nusantara, 2(1), 45–53.

Ismaya, S. (2010). Pengantar akuntansi biaya. Mitra Wacana Media.

Isnaini, N. (2019). Kerajinan anyaman tradisional nusantara. Deepublish.

Jacobs, F. R., & Chase, R. B. (2015). Operations and supply chain management. McGraw-Hill.

Khofiyah, N. A., Juhaeni, J., Irfan, Y., Supriyati, S., & Windyatri, H. (2025). Strategi pemilihan supplier bahan baku dalam mendukung peningkatan kinerja UMKM bananas food. ABDIKAN: Jurnal Pengabdian Masyarakat Bidang Sains dan Teknologi, 4(3), 227–237. https://doi.org/10.55123/abdikan.v4i3.6219

Kiha, E. K., & Lika, E. (2022). Peningkatan produksi kerajinan anyaman daun lontar sebagai nilai tambah ekonomi di Desa Lapeom. Jurnal Pengabdian Masyarakat Kreatif, 4(1), 20–28.

Krugman, P. R. (1991). Increasing returns and economic geography. Journal of Political Economy, 99(3), 483–499.

Kurniawan, A. (2023). Pengaruh pengalaman kerja terhadap produksi industri kerajinan tradisional. Jurnal Ekonomi Pembangunan, 24(2), 112–123.

Latif, A. (2018). Pengaruh pengalaman kerja terhadap kualitas kerajinan tangan pengrajin lokal. Jurnal Ekonomi Kreatif dan Kewirausahaan, 5(2), 112–118.

Liu, X., Zhang, W., & Chen, H. (2023). AI-generated designs and craft creativity: New opportunities for traditional artisans. Journal of Creative Industries, 12(3), 101–117.

Magfira, A. (2022). Studi terhadap kerajinan songkok guru di Desa Sawakong (Skripsi tidak diterbitkan). Universitas Muhammadiyah Makassar.

Mannan, M. A., & Afzalurrahman. (2007). Islamic economics: Theory and practice. Islamic Publications Ltd.

Multazam, M., Rusydi, & Sulaiman, S. (2024). Pengaruh pelatihan dan pengalaman kerja terhadap produktivitas kerja karyawan. Jurnal Ilmiah Manajemen "EMOR," 8(1), 28–39. https://doi.org/10.32529/jim.v8i1.3219

Mulyadi. (2012). Akuntansi biaya (Edisi ke-5). UPP STIM YKPN.

Mustakim, A., Aswar, A., & Nurabdiansyah. (2018). Perancangan songkok guru Kabupaten Takalar. Universitas Negeri Makassar.

Purba, R., Rusmewahni, R., & Damanik, S. W. H. (2021). Analisis dampak pengalaman kerja terhadap produktivitas kerja karyawan. Jurnal Muhammadiyah Manajemen Bisnis, 2(2), 109–114. https://doi.org/10.24853/jmmb.2.2.109-114

Pyatt, G., & Becker, G. S. (1966). Human capital: A theoretical and empirical analysis. The Economic Journal, 76(303), 635. https://doi.org/10.2307/2229541

Rahardja, P., & Manurung, M. (2008). Teori ekonomi mikro. LPFE UI.

Raihanun. (2024). Partisipasi perempuan pengrajin anyaman lontar dalam peningkatan pendapatan rumah tangga. Jurnal Pemberdayaan Masyarakat, 6(1), 55–67.

Rakhmat, M. A. (2018). Kajian struktur anyaman dan makna songkok guru di Kabupaten Takalar. Universitas Hasanuddin.

Rivai, Z., Halid, A., & Wibowo, L. S. (2023). Faktor modal dan tenaga kerja terhadap produksi usahatani padi sawah. Agricultural Review, 2(2), 51–61. https://doi.org/10.37195/arview.v2i2.696

Romadhoni, B., et al. (2024). Industri kerajinan songkok guru berbasis budaya lokal. Jurnal Ekonomi Kreatif, 7(1), 33–45.

Safitri, L. A., Yufancua, V., & Sunarti, S. (2024). Analisis pekerjaan dan spesifikasi pekerjaan dalam organisasi modern. Jurnal Administrasi Bisnis, 9(1), 14–25.

Sugiyono. (2019). Metode penelitian kuantitatif, kualitatif, dan R&D. Alfabeta.

Sukirno, S. (2019). Mikroekonomi teori pengantar. Rajawali Press.

Susianti, D., & Mulyati, S. (2010). Kualitas bahan anyaman daun lontar berdasarkan lama perebusan dan penjemuran. Jurnal Teknologi Hasil Hutan, 3(1), 25–32.

Todaro, M. P., & Smith, S. C. (2020). Economic development (13th ed.). Pearson Education.

Veybe, A., et al. (n.d.). Teori fungsi produksi dan aplikasinya dalam ekonomi mikro. Pustaka Ekonomi.