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Human Capital And Social Capital, And Their Influence On The Financial Performace Of Informal Agriculture-Based Industries

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ABSTRACT

The development of informal industries in Indonesia still faces many major challenges, ranging from limited access to capital, limited human resource capabilities, minimal technology and market information needed for business growth. This study aims to investigate the impact of human capital and social capital on the performance of informal agriculture-based industries in West Java. This study also further investigates the role of Innovation as a controlling variable in the relationship between Social Capital and Human Capital on the Financial Performance of informal industries. The survey was conducted on 180 informal agriculture-based industry entrepreneurs in Sukabumi, Bogor and Bandung Regencies were selected through a simple random sampling technique. Tests were conducted using the Partial Least Square model of the structural equation model (PLS SEM). The research findings reveal that human capital (Managerial skills, Entrepreneurial experience, Academic education and Age of entrepreneurs) and social capital (Level of Closeness, Trust, Networks and Norms) have a significant positive influence on the financial performance of informal agriculture-based industries. The results of the study also show that the influence of social capital and human capital on financial performance will be better through Innovation carried out by the informal industry. Therefore, this study recommends that informal industry players utilize their human capital and social capital in a balanced manner in realizing better product, process and service innovations, so as to achieve sustainable financial performance.

Keywords: informal industry, innovation, financial performance, human capital, social capital.

BACKGROUND

Informal industries according to the ILO are industries that employ hired workers, home-based workers, part-time employees, and household employees. Informal industries are defined in terms of the number of employees as firms with less than ten employees (Onyebueke & Geyer, 2011). The ownership structure of most of these industries consists of sole proprietorship by one person who is voluntarily assisted by family members and hired workers (Onyenechere, 2009). Informal industries are characterized by business activities that are beyond government regulation and taxation.

Despite its small scale, informal industry is able to contribute more than 55% to GDP, and more than 65% to total employment in high-income countries (Dramani et al., 2022). As for developing countries in Asia, informal industries contribute to GDP by 47.3%. In Indonesia, agriculture-based informal industry is still the most common business sector in the community. This sector makes a major contribution to reducing the unemployment rate which has increased sharply,

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especially after the Covid 19 pandemic, by providing employment opportunities for more than 30 million unemployed people in 2019-2022 (Charina et al., 2022). This sector also serves as a reliable place for housewives to create additional sources of income for the family.

Unfortunately, the informal industry still faces many major challenges, ranging from limited access to capital, limited human resource capabilities, lack of technology, and market information needed for business growth. Its "informal" nature and lack of business licenses make this industry far from the touch or assistance of the government, and as a result this business is considered difficult to develop, vulnerable and unsustainable (Famiola, 2019)

Some literature states that there are key strengths that must be considered and utilized by informal industries to be able to compete, namely through optimization: (1) human capital (individual resources) and (2) social capital (the way individuals interact and relate to each other). Both of these capitals are considered to influence their economic activities. Research (Dakhli & De Clercq, 2004) suggests that there is an impact of the strength of human capital, including entrepreneurial experience, on the economic outcomes of an industry. For example, that human capital such as education level in the industrial sector can play an important role to generate innovative activities (Dwumah et al., 2024). (Kumar & Bhaduri, 2014) found that there is a strong influence and positive relationship between human capital and innovation. Kilkenny and colleagues' research discusses the human capital model for firm performance and suggests that business success is positively related to the level of education, business experience, managerial skills and age of the business person (Böhme & Thiele, 2014).

Several other studies highlight the role of social capital in informal industry business performance. At the individual level, social capital is defined as the resources embedded in one's relationships with others. The emphasis in this case is on the actual or potential benefits one derives from a network of formal and informal ties with others (Akintimehin et al., 2019). Putnam conceptualizes social capital as features of social organization, such as network structure, norms, cohesiveness and trust that facilitate coordination and cooperation for mutual benefit in a society (Burt, 2012). Other research also reveals a positive relationship between social capital and corporate financial performance (Pratono, 2018). However, many informal industry players have not utilized social capital in their business activities (Agyapong et al., 2017).

The novelty in this study is to look at the combination of two aspects, namely human capital and social capital, in improving the financial performance of informal industries, especially through innovation. Innovation as a controlling variable is also applied in the research of (Darbi et al., 2018) in relation to measuring social capital and human capital on firm performance, the difference is that they use secondary data measurement across countries. become an important innovation point in improving business performance, including for informal industries, which are micro businesses or household businesses. Because innovation will help informal industries have good value or characteristics compared to other similar businesses. This study will look at how well the financial performance of informal industries is affected by innovations built by human capital and social capital of the actors. This study focuses on agricultural commodities as an important object of research, given that agricultural products are by far the most widely used as the main raw material in informal industries, especially in West Java Province.

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This paper aims to fill the research gaps identified above, so the purpose of this study is to investigate the influence of human capital and social capital through innovation, and its effect on financial performance in agriculture-based informal industries in West Java.

RESEARCH METHODS

This study limits the informal industry in accordance with the definition set by the ILO as an industry characterized by being outside of government interference/regulation and taxes in its business activities, and managed by a workforce that comes from family or outsiders with the number of workers below 10 people. The choice of research location was limited to West Java Province, considering that the largest number of informal industries in Indonesia is in this region[1]. However, this research is further limited to three regions, namely: Sukabumi District, Bogor District and Bandung District, where agriculture-based informal industries are most concentrated in these three districts. The population of informal agricultural-based industries in the region is 8927 (Industries service annual book, 2022), using the Lemeshow Formula with a 95% confidence level (Lemeshow, 2013), a sampling of 180 informal agricultural-based industry actors was obtained, through a simple random sampling technique.The research was conducted during January 2024-May 2024.

Endogenous variables in this study are Financial Performance (KK), Social Capital (MS) and Innovation (IN). Financial performance indicators are seen from Revenue (KK1), Sales Growth (KK2), ROI (KK3) and cost efficiency (KK4) (Akintimehin et al., 2019). Social capital is measured based on indicators: Level of Closeness (MS1), Trust (MS2), Networking (MS3) and Norms (MS4) (Akintimehin et al., 2019). While Innovation is measured using indicators: Product improvement (IN1), process improvement (IN2) and service improvement (IN4)(van de Vrande et al., 2009). Meanwhile, the exogenous variable in this study is Human Capital. Human capital is measured based on indicators: Managerial skills (MM1), Entrepreneurial experience (MM2), Academic education (MM3) and Entrepreneur age (MM4) (Dakhli & De Clercq, 2004).

The following Research Hypotheses are formed:

H1: Human Capital has a positive and significant effect on Innovation
H2: Human Capital has a positive and significant effect on Financial Performance
H3: Human Capital has a positive and significant effect on Social Capital
H4: Social Capital has a positive and significant effect on Innovation
H5: Social Capital has a positive and significant effect on Financial Performance
H6: Innovation has a positive and significant effect on Financial Performance
H7: Human Capital has a positive and significant effect on Financial Performance through Innovation
H8: Social Capital has a positive and significant effect on Financial Performance through Innovation

[1] Annual Report of the Department of Industry and Trade of West Java Province, 2023

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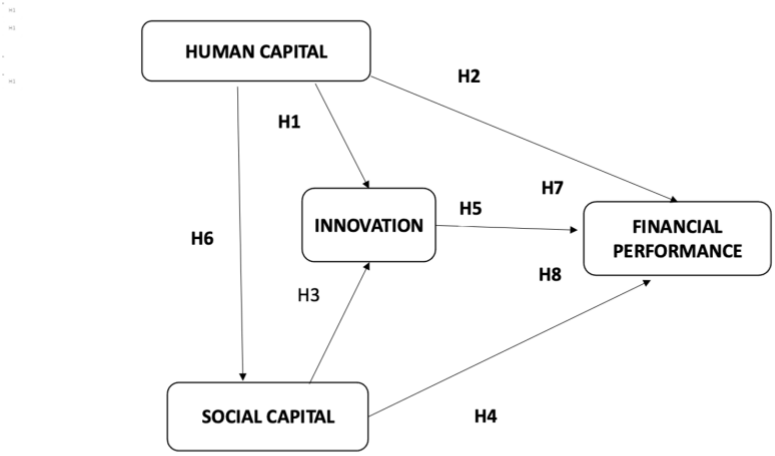

Figure 1. Research model

This study uses a survey technique where primary data collection is carried out using research instruments (Suhartanto, 2014). In this study, the research instrument used was a questionnaire using a Likert scale from a score of 1 to 5. The questionnaire consists of human capital variables (4 questions), social capital variables (4 questions), innovation variables (3 questions), and financial performance variables (4 questions). So that the total questions used in the research questionnaire were 15 questions. Cronbach Alpha and composite reliability were used in testing the reliability of the selected instruments.

Data were processed with descriptive statistical analysis using SPSS version 29 and the author used Partial Least Squire - Structural Equation Modeling (PLS-SEM) model testing. This approach is part of the SEM analysis model which is widely used to test the relationship between theory and describe the concept of the model with latent variables (cannot be measured directly) but through its indicators. PLS-SEM is very good and appropriate for this study, especially for conducting consistent estimates of the influence between constructs. The analysis tool used is SMART PLS 3.29. Evaluation of the indicator measurement model includes examining individual item reliability, internal consistency or composite reliability, average variance extracted, and discriminant validity.

RESULT AND DISCUSSION

Respondent Characteristics

Information regarding the characteristics of respondents presented in this study include gender, age, latest education and entrepreneurial experience, can be seen in Figure 2. The total respondents in this study were 180 randomly selected agricultural-based informal industry entrepreneurs from Sukabumi, Bogor and Bandung districts, including the “moci” industry, “borondong” industry, rengginang industry, “unyil” bread industry and tofu industry.

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The distribution of respondents was found to be mostly female (92.85%), aged between 30 to 50 years (44.62%) with the majority of the last education being senior high school (61.50%) and entrepreneurial experience between 10 to 15 years (49.26%).

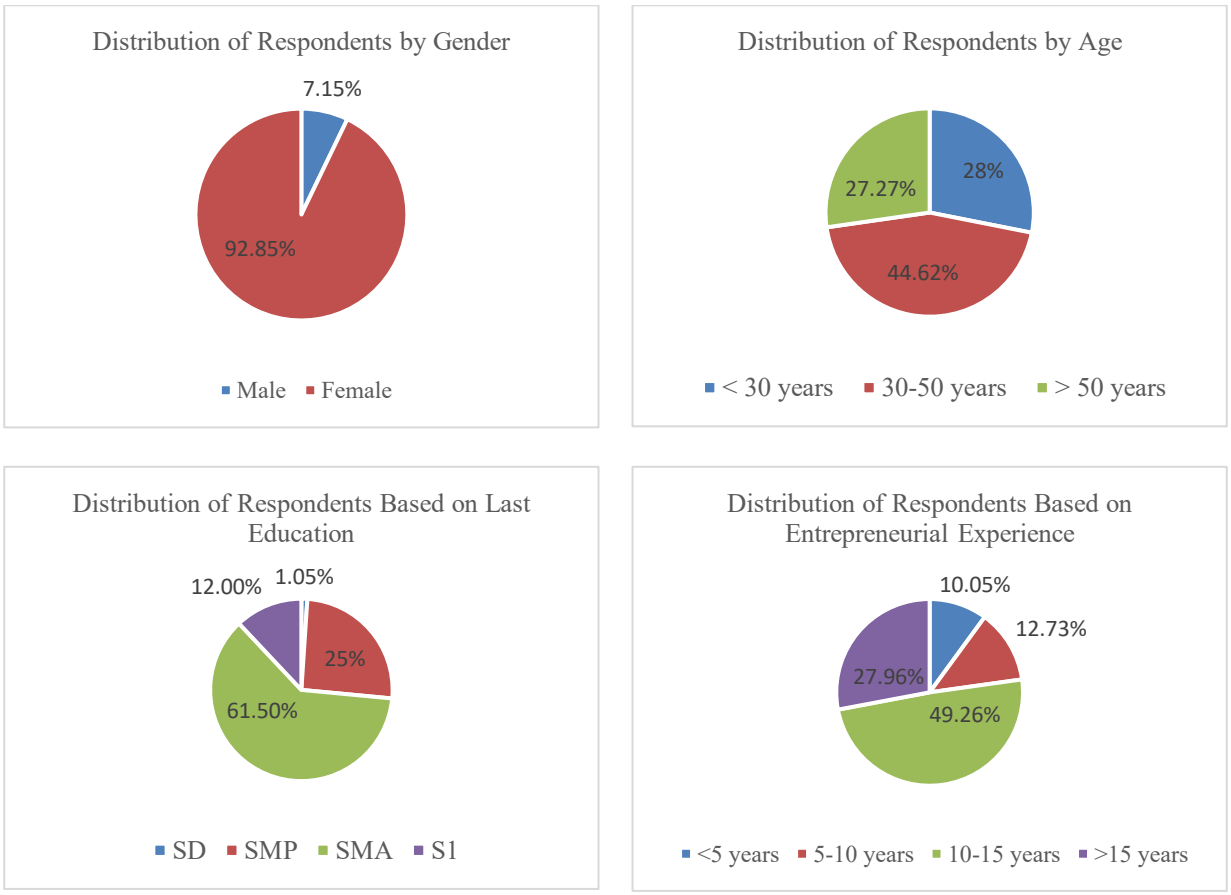

Figure 2. Distribution of Respondents

Source: Data Processed by Researchers, 2024

Results of Questionnaire Validity Measurement

The results of the validity test of the questionnaire totaling 15 questions state that the overall value of the correlation coefficient (r-correlation) of all variables (human capital, social capital, innovation and financial performance) in this study is greater than the critical correlation coefficient (r-table) so that it is declared valid and suitable for use as a measurement in this study.

Outer Model Evaluation Each outer loading value of the output correlation between indicators and their constructs as shown in Figure 3. below all have values above 0.7.

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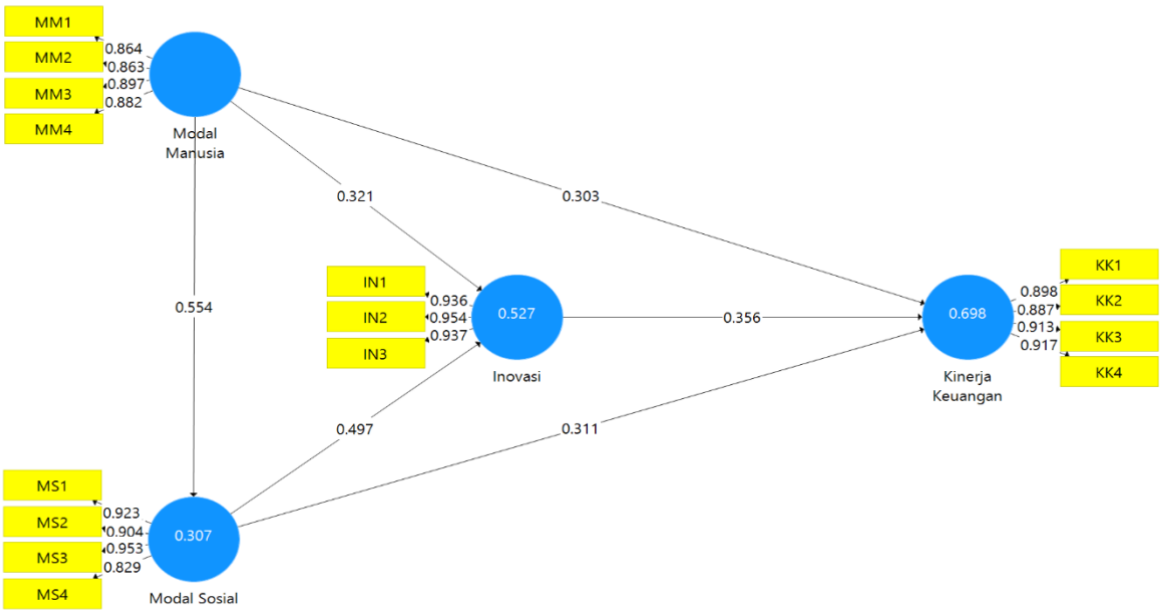

Figure 3. PLS Algorithm Results
Source: Data Processed by Researchers, 2024

The AVE value, Cronbach's alpha value, and composite reliability are presented in Table 1 where the results show that all indicators meet the validity and reliability requirements (Loading facto r>0.7; AVE >0.5; Cronbach's Alpha >0.7; Composite Reliability >0.7).

Table 1. AVE Value, Cronbach's Alpha and Composite Reliability

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Innovation	0,937	0,939	0,960	0,888
Financial Performance	0,925	0,929	0,947	0,817
Social Capital	0,900	0,905	0,930	0,769
Human Capital	0,924	0,926	0,946	0,816

Source: Data Processed by Researchers, 2024

Internal Model Evaluation

The internal model is carried out to ensure that the structural model built is robust and accurate. The internal model describes the relationship between latent variables based on substantive theory. Structural model design (Inner model) is the design of the relationship between latent variables in PLS based on the formulation of problems or hypotheses. The internal model is evaluated by looking at the percentage of variance explained, namely by looking at the R-Squares value for endogenous latent constructs and the Stone-Geisser test to test predictive relevance. The results of testing the structural model used in this study can be seen in Table 2 where the coefficient of

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determination (R^2) has a value> 0.7 which means that the model is good. While the R^2 value of endogenous variables is shown in Table 3.

Table 2. Goodness of Fit (GOF) Index Values

Mean Communality	Mean R-Squares	GoF Index
0,907	0,705	0,639

Source: Data Processed by Researchers, 2024

Table 3. Calculation of the Coefficient of Determination (R^2)

Variable	R^2
Innovation	0,446
Financial Performance	0,637
Social Capital	0,227

Source: Data Processed by Researchers, 2024

Table 4. Hypothesis Test Results

DIRECT HYPOTHESIS TEST	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Interpretation
Innovation -> Financial Performance	0,430	0,416	0,201	2,134	0,017	Positive and significant influence
Human Capital -> Innovation	0,326	0,340	0,166	1,966	0,025	Positive and significant influence
Human Capital -> Financial Performance	0,219	0,229	0,157	1,983	0,028	Positive and significant influence
Human Capital -> Social Capital	0,542	0,549	0,106	5,134	0,000	Positive and significant influence
Social Capital -> Innovation	0,507	0,492	0,167	3,031	0,001	Positive and significant influence
Social Capital -> Financial Performance	0,346	0,347	0,173	1,998	0,023	Positive and significant influence
NON DIRECT HYPOTHESIS TEST	**Original Sample (O)**	**Sample Mean (M)**	**Standard Deviation (STDEV)**	**T Statistics (O/STDEV)**	**P Values**	**Interpretation**
Human Capital -> Innovation -> Financial Performance	0,140	0,140	0,108	1,921	0,027	Positive and significant influence
Social Capital -> Innovation -> Financial Performance	0,218	0,204	0,129	1,965	0,045	Positive and significant influence

Source: Data Processed by Researchers, 2024

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Effect of Innovation on Financial Performance
Hypothesis Test

Hypothesis testing can be seen through the coefficient of influence (parameter) and the t-statistic value. The hypothesis can be accepted (significant effect) if it meets the conditions that the t-statistic value is greater than the t-table of 1.96 which can be seen in Table 4. Based on the results of hypothesis testing, it is found that innovation has a positive and significant influence on the financial performance of the informal industry. This study found that the existence of social media that is easily accessible and easy to operate is one of the keys that helps informal industry players adapt newness to their business. As recognized by the moci entrepreneurs in Sukabumi district and borondong entrepreneurs in Ibun sub-district, Bandung district, they innovated by trying to produce new flavors as a form of product diversification and innovation through education obtained from YouTube and other platforms. As a result, their sales growth rate has improved over time. The majority of them admitted to achieving sales growth of more than 20% over the past few periods after they innovated by relying on education from YouTube alone. Meanwhile, another type of innovation that is carried out is system innovation, informal industry players have apparently started to adopt a digital marketing system, namely through online sales on their social media, it turns out that this innovation is considered by them as the innovation that is most helpful in increasing sales. This research is in line with Kostopoulus research, where the research conclusion is that there is a strong correlation between innovation and the financial performance of small businesses (Kostopoulos et al., 2011).

Effect of Human Capital on Innovation

Based on the results of hypothesis testing, it is found that human capital has a positive and significant influence on innovation in agriculture-based informal industries. The results of this study are in line with research (Malesios et al., 2021) that in the research location, informal industry players with a high level of education (senior high school) and have a long enough entrepreneurial experience (10-15 years), have the ability to be creative and innovate better than business actors who graduated from elementary or junior high school, or are new to entrepreneurship. Unfortunately, there are still many informal industry actors whose educational background is below senior high school, especially mothers in rural areas.

However, the findings of this study are in line with research (Ayanda, 2011) that age and gender indicators are not an absolute guarantee, meaning that young or old age is not a determinant in innovation. The majority of female respondents also reinforce that gender does not really affect innovation, as evidenced by the findings in the field that female informal industry players are able to innovate as well as male industry players (Banihashemi et al., 2017).

Effect of Human Capital on Financial Performance

Based on the results of hypothesis testing, it is found that human capital has a positive and significant influence on financial performance in informal agriculture-based industries. This research is in line with the research of (Bendickson & Chandler, 2019), that business success is positively related to the level of education, business experience, managerial skills and age of business people.

In the research locations, industry players with good business experience and managerial skills appear to be able to adapt to various changes. They are able to read opportunities better than industry players who are elementary school graduates or have no experience in business. Business experience makes their “entrepreneurship feelings” sharper, able to make plans so that they can boost their performance even better. The rengginang industry players in Majalaya sub-district admit that their long experience in entrepreneurship has made them have many loyal customers, which has an impact on their good profits.

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Effect of Human Capital on Social Capital

Based on the results of hypothesis testing, it is found that human capital has a positive and significant influence on social capital in informal agriculture-based industries. This research agrees with Putnam's idea that social capital in a community will be influenced by the characteristics of the people in it. This research is in line with Hollenback's research which states the importance of good human capital in achieving strong social capital (Hollenbeck & Jamieson, 2015).

People who are educated (although not absolutely), will appreciate the importance of values, norms and trust in society (Malesios et al., 2021). They are also more adaptable in a business community, for example. Therefore, this research argues that to form strong social capital in a community, it must be formed by similar characteristics, or at least their personal characteristics are not too prominent, this is useful in creating strong boundaries in the community.

Effect of Social Capital on Innovation

Based on the results of hypothesis testing, it is found that social capital has a positive and significant influence on innovation in agriculture-based informal industries. Innovation comes from the interaction between individual skills and behaviors, and the social characteristics of the wider network or community in which collaboration is developed (Klerkx & Proctor, 2013). Understanding interactions within social networks has been a key concept in various rural innovation contexts (Akçomak & ter Weel, 2009). (Landry et al., 2002) concluded that relational conflict reduces creativity and innovation.

This research agrees with some of the statements above, and sees in the field that the innovative ability of the informal industry depends on its ability to utilize its internal social capital resources. Informal industry actors who are members of a community or business association, have strong bounding, which is characterized by relationships that tend to be closed, members have strong reciprocal relationships and similar socio-economic status. Binding social capital found among homogeneous group members will help realize collaboration in a series of product improvements, system improvements or services.

The Effect of Social Capital on Financial Performance

There is widespread agreement that social capital, or the resources embedded in entrepreneurs' personal networks, is critical to the performance of informal enterprises (Klerkx & Proctor, 2013). It turns out that the results of hypothesis testing also show that social capital has a positive and significant influence on the financial performance of informal agriculture-based industries.

In the research sites, for example, network connections enable entrepreneurs to identify new business opportunities, obtain resources at below-market prices, and secure legitimacy from external stakeholders. As mentioned in the work of (Xie et al., 2022), financial performance in informal industries tends to be influenced by external and internal social capital. In the research sites, external social capital enabled credit support from creditors, provision of valid market information, and input from loyal customers. While in the farms it was also found that internal social capital enabled support from family, friends and professional colleagues in the form of capital loans or strategic business advice.

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Effect of Human Capital on Financial Performance through Innovation

The results of hypothesis testing show that human capital has a positive and significant influence on financial performance through innovation of agriculture-based informal industry players. It was found that when the informal industry has more human capital, it will have more innovative competencies to further improve its new product development performance. There is clearly a positive correlation between the intellectual capital present in the organization and its innovation performance.

In the informal roti unyil industry, which is found in the urban area of Bogor, it is in fact driven by actors who are S1 graduates. Many graduates who continue their family's business show a positive trend in producing creativity such as innovation in digital marketing, innovation in the shape and taste of bread and packaging innovation. Higher education background provides better knowledge and skills for small industries to be more innovative in achieving profits (Famiola, 2019). This study confirms previous findings that education is positively correlated with the innovation capabilities of informal entrepreneurs.

The Effect of Social Capital on Financial Performance through Innovation

The results of hypothesis testing from this study indicate that social capital has a positive and significant influence on financial performance through innovation of agriculture-based informal industry players. The majority of informal industry consumers in the lower middle class (Charina et al., 2023) are very price sensitive so they always want to get almost perfect value for their money in terms of high-quality products and services. Therefore, the ability to meet their needs requires an adequate level of innovation. This innovation can be achieved through through good internal social capital relationships and connections.

The formation of informal business communities such as centers will help in information, technology and price sharing activities among informal industry players. This community will play a role in transferring technology or knowledge between members. Informal industries that are members of the community will be more innovative, so their financial performance will be better and more sustainable. Unfortunately, in the field of agriculture, there are not many business communities that accommodate informal industries, which are currently running, including the Borondong Industry Community and the Tempe Tofu Industry Community in Bandung Regency and the Moci Industry Community in Sukabumi Regency.

This study has limitations, especially the potential for biases in sampling, measurement error, or generalization. These limitations may affect the interpretation of the findings, especially in other research settings, therefore more in-depth exploration would be very helpful in enriching the research findings.

CONCLUSION AND SUGGESTION

This study found that there is a positive and significant relationship between human capital and innovation, social capital and financial performance, and there is a positive and significant relationship between social capital and innovation, human capital and financial performance. Human capital (Managerial skills, Entrepreneurial experience, Academic education and Age of entrepreneurs) and social capital (Level of Closeness, Trust, Networks and Norms) have a significant positive influence on the financial performance of informal agriculture-based industries. Therefore,

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this study emphasizes the need for informal industry players to develop social capital and human capital because both have a positive and significant influence on the financial performance of the informal industry. Innovation is a key thing that must be considered in improving the financial performance of informal industries, therefore this study suggests informal industry players to create open innovation that is built on the strength of their human capital and social capital.

Informal industry entrepreneurs are advised to continue to update their ability to manage businesses, hone their creativity, as well as continue to maintain relationships and ensure good trust and social cohesion with stakeholders such as consumers, suppliers and their employees. Future research is expected to explore non-financial performance aspects of the informal industry that are not covered in this study, so it is expected that the findings will be more comprehensive.

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