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Does Local Wisdom Affect the Increasing Human Capital of Fisherwomen?

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Abstract

The paper explores the role of local religious wisdom in its contribution to improving the human capital of fisherwomen. The human capital investment developed by Becker focuses only on education, skills, and competencies and ignores other tributes, such as local wisdom from religious values. Philanthropy, which is still firmly practiced in the fishing community, is the answer to the question of whether religion and local wisdom are the most critical elements in the development of the human capital of fisherwomen. The method used in this study is a quantitative approach with SEM PLS analysis tools. This study used a survey design with a sampling technique that disproportioned stratified random sampling to 81 respondents in two research sites. Researchers collected data through a questionnaire done in 2023. The sample selection technique is snowball. The results showed that local religious wisdom in the form of help helped increase fisherwomen's human capital with p values of 0.044 (<0.05). The government must synergize local wisdom that is still inherent in practice in making policies for the human capital development of fisherwomen.

Keywords: *human capital investment, cooperation, religious virtues, SEM PLS, mutual help.*

1. Introduction

The concept of human capital in economics has been widely discussed over the past thirty years (e.g., Schultz, 1961; Becker, 1964). Human *capital development* focuses on the intellectual foundations of education and value creation in humans (Becker, 2004). This study defines human capital as adopting human capital influenced by other attributes. These other tributes should be considered, such as local wisdom shaped by the value of religious virtues and individuals' social value in economic activities. The broad definition of human attributes is not only the degree to which a person has been educated but also the extent to which he can harness and put the value of religious and social virtues to productive use to improve the family economy. In other words, the value of human capital investment is only sometimes for production. However, it can be directed to religious and social to accelerate economic goals realized through existing local wisdom.

Koentjaraningrat (2006) suggests that local wisdom has a solid social and cultural dimension because it is born from treating human patterns in community life. Local wisdom can be incarnated in various forms, such as ideas, ideas, and regulations in the realm of culture, while

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in social life, it can be in the form of religious systems, social systems and organizations, knowledge systems, livelihood systems, and technological systems and equipment. According to Keraf (2014), local wisdom is a form of knowledge, belief, understanding, insight, and customs or ethics that guide human behavior in living in ecological communities.

Fisheries are complex socio-ecological systems typically operating as shared resources (Ostrom, 2007). The most important part of fisheries management is people management. However, many management failures involve failures in fishers' social and cultural context (Salas & Gaertner, 2004). Local religious wisdom is one of the main influences on human attitudes, perceptions, and behavior that is evident in the marine and fisheries sector but is often overlooked in research.

The wisdom values of Javanese society are based on Islamic teachings. Various rituals that are upheld and passed down from generation to generation teach moral values that govern economic development in society. Merti Dusun prioritizes cooperation, harmony, and friendship between residents (Pratoyo, 2013; Sutiyono & Seriati, 2013). Islamic teachings greatly influence the traditional values of Merti Dusun (Ratnawati, 2018; Siswayanti, 2022). In the fishing community, local wisdom is still practiced in the cooperation between fishing communities, manifested in mandatory dues for the recitation program.

Developing social, emotional, religious, and cultural capital is very important. Since human capital is narrowly interpreted as an educational investment in one's work experience and skills, it requires constant rethinking. Various human needs arise during today's social and economic developments (Abdelmajjed and Safijllin 2018).

Grier's (1997) research shows that religion influences dealing with income inequality, environmental pollution, and official corruption in China. In Western countries such as the United States and Canada, Protestantism is a virtue for building a savings base and providing funds to increase investment and capital stock. Guiso et al. (2003) say that different religions affect people's attitudes differently. It is shown by participation in religious services, increasing trust among Christians. In Christian families, the effect is stronger for Protestants than for Catholics. Religion has a role to play in improving economic performance. By promoting religion, individual values, and attitudes are formed for financial performance, especially regarding honesty, work ethic, and trust. For religions other than Islam, Tu, Bulte, Tan (2011), and Renneboog & Spaenjers (2012) found that religious beliefs are positively related to economic performance. Tu, Bulte, and Tan (2011) prove that spiritual faith intensity and household income show a positive relationship in rural Tibet, where most of the population is Buddhist.

Similarly, in the Netherlands for the Christian Faith, Renneboog (2012) emphasizes that religious households are more likely to save money. No different, Wang & Lin (2014) suggest that religion has a strategic role in economic performance by exerting Influence on political preferences, human capital, and work ethic. Regarding the importance of religious values for economic growth, several scholars have extensively analyzed the impact of religious beliefs on individual values and attitudes, resulting in social change and better financial performance (Giuseppina, 2016).

This study aims to analyze the Influence of local wisdom in efforts to increase the human capital of fisherwomen. Human investment policy in fisherwomen has been in the physical and environmental context. Discussion on the social aspects of religion still needs to be improved, even though, at the field level, human capital can be built by religious values. It illustrates that local wisdom can contribute positively to the human capital of fisherwomen.

2. Objectives

This study aims to analyze the Influence of local wisdom in efforts to increase the human capital of fisherwomen. Human investment policy in fisherwomen has been in the physical and environmental context. Discussion on the social aspects of religion still needs to be improved, even though, at the field level, human capital can be built by religious values. It illustrates that local wisdom can contribute positively to the human capital of fisherwomen.

3. Methods

Surveys and interviews researchers conduct in Indonesian. We included questions that focused on the importance of religion to fishermen and how religious practices are used to influence actions in efforts to increase the human capital of fisherwomen.

Location and Time

This research was conducted in Kalibaru and Pluit, North Jakarta, to select research sites. Based on the education level of Pluit fishermen, it is low, with 23% not in school, 57% having elementary education, 14% in junior high school, 3% in vocational high school, and 3% D3. The education level of Kalibaru fishermen is 23%, who still need to graduate from elementary school, 67% from elementary school, and 10% from junior high school. Data collection was conducted in November 2022. Furthermore, the second stage is a focus group discussion (FGD), which will be held in January-February 2023.

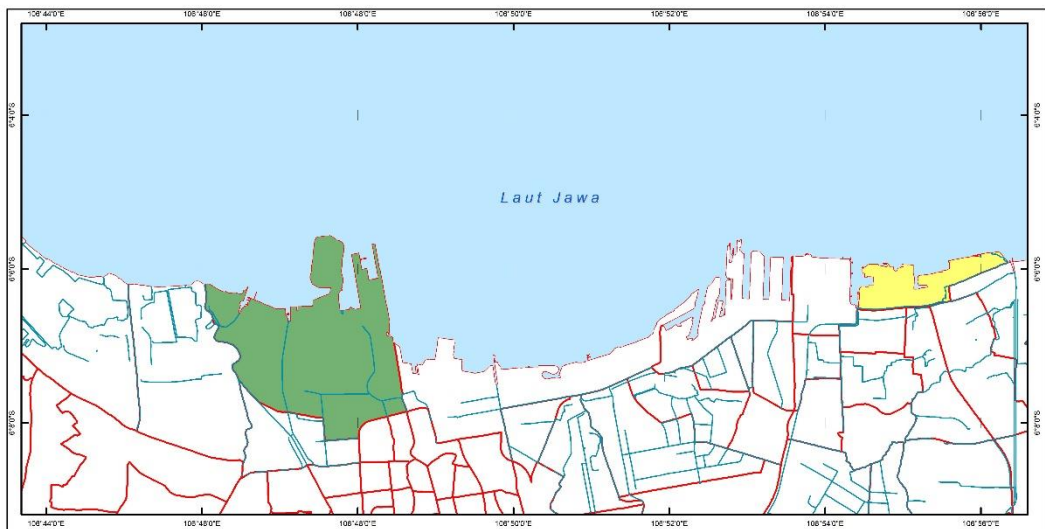


Figure 1: Research Location Map.

Types and Techniques of Data Collection

The data collected consists of primary data and secondary data. The researcher divided data into qualitative and quantitative data. The qualitative data collected strengthens the data analysis to be carried out, while the quantitative data is edited and tabulated to facilitate the analysis. Based on summa, data is classified into primary data and secondary data. Interviews, participatory observations, and FGDs conducted primary data collection techniques. The interview was structured with the head of the family (husband and wife) using a list of questions

(questionnaires). We used the snowball sampling technique to collect data. Researchers identified the head of a fishing community group. Then, afterward, it was spread to several households that matched the required characteristics.

Data Analysis

The study used the Partial Least Square (PLS) approach with the SmartPLS program to test the hypothesis. Hair et al. (2021) suggest that this approach has several advantages. First, PLS-SEM is suitable because this research model uses variables that cannot be measured directly or latent variables whose measurement error can be predicted. Second, PLS-SEM analysis can simultaneously test this research model's multiple dependencies and independent variables. Third, component-based PLS-SEM can overcome complexity models with limited sample sizes.

In the study, five endogenous latent modifiers were used, namely religious virtue (KA), time allocation (AW), decision-making (PK), mutual help (TM), and cooperation (KS). One exogenous modifier is human capital investment (HCI). An indicator measures each latent variable, and each indicator has 81 observations from the sample. Each indicator is observed using an ordinal measurement scale with one to four Likert intervals. More detailed descriptions of endogenous and exogenous latent modifiers are outlined in Table 1.

Table 1: Description of Endogenous and Exogenous Latent Modifiers.

Latent	Indicator	Code
Religious Virtues	Involvement in being a foster parent	KA 1
	Religious practice in sadaqah	KA 2
	Religious practice in infaq	KA
	Religious practice in zakat	KA 4
Time Allocation	Regularity of conducting religious activities	AW 1
	Regularity of performing following religious celebrations	AW
	Regularity of participating in personal worship activities	AW 3
Mutual Help	Frequent charitable behavior	TM 1
	Helpful behavior	TM 2
Cooperation	Is it to accompany the child to recite?	KS 1
	Is there an obligation in the neighborhood to raise dues for mosques/ambulances/activities to help others?	KS 2
Decision-Making	There is satisfaction with the services provided by certain institutions	PK 1
	There is a feeling of safety in donating through certain institutions	PK 2
	Recommend a contribution program to others.	PK 3
Human Capital Investment	The urgency of learning to recite	HC 1
	The urgency of doing Zakat, Infaq, and Shadaqah	HC 2

4. Results

Partial Least Square (PLS) analysis is used to determine the effect of time allocation, decision-making, virtue values, mutual help, and cooperation on the human capital investment of fisherwomen. The influence test is carried out in two stages. The first stage is the measurement or outer model, and the second is the structural or inner model (Hamid & Anwar, 2019).

Evaluation of the Measurement Model (Outer Model)

The first stage aims to test the validity and reliability of latent variables. The validity test consists of convergent validity, which can be seen from the Average Variance Extracted (AVE) value with a value not less than 0.5. The reliability test results from the composite reliability (CR) value must be greater than 0.7 (Abdullah & Jogiyanto, 2015). Each indicator's loading factor value must meet the measurement requirements in the model's evaluation phase. In this stage, several unqualified indicators have been eliminated, namely the regularity of participating in personal worship activities (AW 3), involvement in being a foster parent (KA 1), religious practice in zakat (KA 4), the feeling of security donating through certain institutions (PK 2). The measurement results of each indicator against the latent variable can be seen in Figure 2.

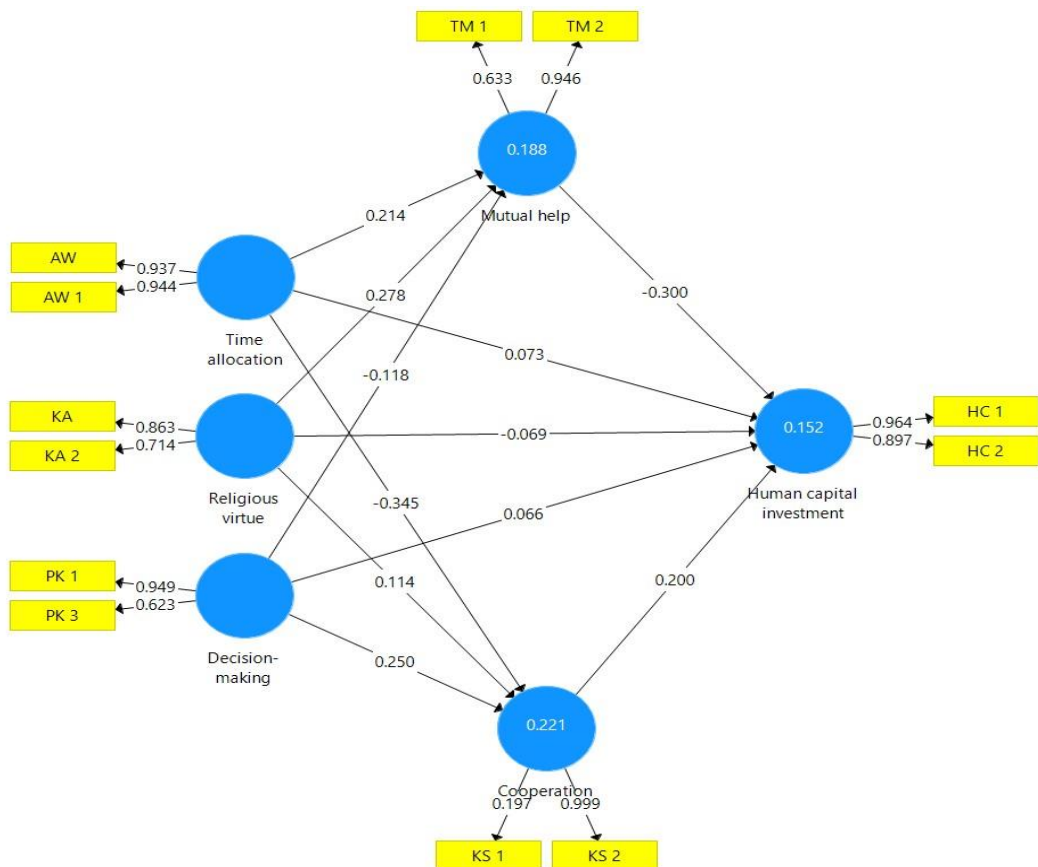


Figure 2: Results of PLS-SEM Output Path Diagram that Examines the Relationship between Religious Virtue, Decision Making, Time Allocation, Cooperation, and Help to Human Capital Investment.

From Figure 2, it is known that the results of the validity test of each indicator against latent variables all indicators have a value of > 0.05 . One indicator, recommending contribution programs to others (PK 3), has a reliability test value below 0.7. It is not a problem because the Average variance extracted (AVE) value is above 0.5, as shown in Table 10 (Abdullah & Jogiyanto, 2015). It means that the loading factor value of each indicator has met the rule's requirements of > 0.5 ; this indicates that each indicator is considered a valid variable in this study.

Table 2: Reliability Tests.

	Composite Reliability	Average Variance Extracted (AVE)
Time allocation	0,939	0,885
Human capital investment	0,928	0,866
Religious virtuous	0,770	0,628
Cooperation	0,598	0,519
Decision-making	0,777	0,645
Mutual help	0,780	0,648

After validity and reliability tests, researchers evaluated discriminant validity. The results of the discriminatory validity test greater than 0.70 show that the accuracy level of each variable's supporting items is relatively strong (Table 3).

Table 3: Discriminant Validity.

	Time allocation	Human capital investment	Religious welfare	Cooperation	Decision-making	Mutual help
Time allocation	0,941					
Human capital investment	-0,140	0,931				
Religious virtues	0,262	-0,157	0,792			
Cooperation	-0,389	0,212	0,006	0,720		
Decision-making	-0,298	0,179	-0,072	0,344	0,803	
Mutual help	0,322	-0,325	0,343	-0,059	-0,202	0,805

Evaluation of the Structural Model (Inner Model)

In the second stage, after the evaluation of the measurement model (outer model), the structural model evaluation (inner model) is carried out. The components measured in structural model evaluation are r-square and significance (Hamid & Anwar, 2019). The r-square value is an indicator to measure the degree of variation in the change of the independent variable to the dependent variable (Musyafi et al., 2022). Data analysis yielded the r-square value of the cooperation variable of 0.221 and please help of 0.188. Furthermore, the r-square value of the human capital investment is 0.152. It means that 15.2 percent of the increase in human capital investment is influenced jointly by cooperation and help, and 84.8 percent is influenced by factors not in this study.

Table 4: R Square.

	R Square
Human capital investment	0,152
Cooperation	0,221
Mutual help	0,188

To determine the weak or strong effect of the cooperation variable and help with human capital investment, researchers look at the total impact with the requirement that if p values < 0.05, the variable is declared to have a strong influence. Table 5 shows that the human capital investment of fisherwomen is directly affected by mutual help, with a t-value of 2.021 and a p-value of 0.044 (<0.05).

Table 5: Total Effects.

	T Statistics (O/STDEV)	P Values
Time allocation -> Human capital investment	0,460	0,645
Religious, virtuous -> Human capital investment	1,627	0,104
Cooperation -> Human capital investment	1,881	0,061
Decision-making -> Human capital investment	1,005	0,316
Mutual help -> Human capital investment	2,021	0,044

From Table 6, the criteria for meeting the requirements are obtained. It means that the model is a Good Fit. Overall, this model-fit combination is good to use. In this study, the RMS Theta criteria had a value of 0.320 or ≤ 0.08 . It means that the resulting model meets the GOF criteria. Other uses of GOF criteria are SRMR and NFI.

Table 6: Goodness of Fit (GoF) Test.

GoF Criteria	Cut of Value	Result	Match rate
RMS theta	Less than 0.07 (Steiger, 2007)	0.344	<i>Goodness of Fit</i>
NFI	≤ 1 .	0.463	<i>Goodness of Fit</i>
SRMR	Less than 0,08 (Hu et al., 1999)	0.073	<i>Goodness of Fit</i>

5. Discussion

The Effect of Cooperation on Human Capital Investment

The cooperation system implemented by the fishing community has little effect on increasing the human capital of fisherwomen. It is shown from the p-value of cooperation with human capital investment of 0.061 (>0.05). The test results were influenced by observations and interviews with all respondents in Pluit, stating that no cooperation was applied in their environment for implementing non-formal education, such as recitation activities. Although the results of questionnaires and interviews of respondents in Pluit showed that most of them regularly carried out infaq and alms, the results of infak and alms carried out were not directly aimed at being able to increase the human capital of fisherwomen. It is shown from the results of the p-value of religious virtue value towards cooperation of 0.362 or >0.05 .

In contrast, respondents in Kalibaru stated that a cooperation system was applied as dues of IDR 20,000 / month and "ngecrek". The social relations of fisherwomen in Kalibaru are based on the local socio-cultural system. The cooperation carried out does have a direct goal of increasing the human capital of fisherwomen, as shown by the budget allocated for study programs for fishermen's households. It means that the cooperation carried out is based on cultural principles. This research is supported by the results of several studies showing that the collaboration carried out by fishing communities is only based on culture and does not increase their income Grace (2012). It shows that elements of cooperation and togetherness are only sometimes built in all fishing communities. They can stick to trust to build/strengthen cooperation in fishing communities. Trust is an attitude of interdependence based on an attitude of honesty, a sense of responsibility, or an attitude of togetherness that is always expected (Siegelman et al., 2019). Without cooperation in the community, Pluit needs more interaction to build trust between fishing communities.

The Effect of Mutual Help on Human Capital Investment

The p-value of help to human capital investment is 0.044 (<0.05), implying that mutual help has a positive and significant effect on the human capital investment of fisherwomen. Please

help is an input in improving the quality of fisherwomen's resources. The output of the process is non-formal education, such as religious insight and increased literacy. Scientific understanding is fundamental for women who are the first madrassas for their children. Children are valuable assets as the nation's successors, and they can be formed through intelligent mothers so that they can give birth to wise and noble children.

Ngecrek is a non-formal form of material collection that is based on the nominal amount given by donors. One of the fees collected is used to pay recitation teachers. Please help make economic transactions more efficient. In the case of dues made by Kalibaru Village residents and the routine infaq and alms carried out by the Pluit community has an impact on fisherwomen, there is no need to spend money on recitation so that they can save household expenses. The findings of this investigation are supported by previous research (Iriani (2019); Sumarsono et al. (1995); Grootaert, 1999; Alfian and Arif (2012); Crane et al. (2011).

These results show that please help effectively positively influence increasing human capital investment in fisherwomen. On the economic side, the perspective and philanthropy of fisherwomen impact increasing savings because they save more money that must be spent on non-formal education costs. In addition, the benefits of the cooperation between dues and "ngecrek" are not only material but also immaterial, namely strengthening the literacy index of the Quran. The improvement of children's and fisherwomen's salary skills can be seen from the high literacy ability.

The Influence of Decision-making on Human Capital Investment

The p-value of decision-making on human capital investment of 0.316 (>0.05) implies that decision-making does not significantly increase fisherwomen's human capital. The pattern of decision-making related to expenditure on the education of fishermen's children is still dominated by food production. Two indicators influence the decision variable because it has a t-statistic above 1.96: service satisfaction of the organizing institution (5,388) and mandatory program recommendations to others (2,810). However, decision-making does not directly affect fisherwomen's increase in human capital investment. Furthermore, because the Pluit area does not have a binding program and is directly aimed at increasing the human capital of women fishermen, respondents cannot measure their satisfaction with the services of the organizing institution, only the majority of Kalibaru people expressed satisfaction with the services of the organizers of the secret program and mandatory dues in an effort to increase human capital fisherwoman. The interview results showed that most respondents answered that they did not recommend mandatory programs to other fishermen outside the study area. It is based on the consideration that most fishing families still prioritize spending only on food. Table 7 shows that the highest expenditure in Kalibaru and Pluit fishing households is 63.4% for food expenditure, while non-food is 34.9% and for non-formal education is only 1.7%. It shows that fishing families still consider additional education, such as reciting, unnecessary. The discussion of expenditure is always linked to the food and non-food expenditure level. Suparmin et al. (2016) suggest that the greater the expenditure on food compared to non-food, the lower the level of welfare.

Table 7: Average Consumption Expenditure of Fishing Families.

Jenis Pengeluaran	Nominal (Rp)	Percentage (%)
Pangan	1.945.061	63.4%
NonFood (Pay rent, water, electricity, infaq and recite)	1.070.617	34,9%
Non-formal Education (General Tutoring or Quran Tutoring)	51.322	1.7%
Total	1.996.383	100%

The results of this study align with Jamilah and Mawardati (2018), who found that the most significant expenditure allocation to fishing households was on food expenditure at 80.7%, non-food spending at 13.9%, and expenditure on education and health at 5.4%. Meanwhile, Lili Winarti and Rokhman (2015) also showed the allocation of community consumption expenditures in Sungai Bakau Village. Food expenditures still dominate the village compared to non-food spending.

The expenses of fishermen's wives, who only get an average ration of Rp 50,000 / day, require them to be innovative in managing finances, especially urgent expenditure items, so as not to interfere with budget items for other needs. The study results align with Grootaert (1999), showing that a 20% increase in decision-making participation will increase family expenditure by 3.2%. While Lehrer (2004a) suggests that the decisions made by one person in the family are closely interrelated, when local wisdom is directly included as a variable that influences decision-making, others indirectly affect the impact (Lehrer, 2004a). Decisions can affect the economy regarding benefits and costs, including choices regarding fisherwomen's pursuit of human capital investment.

The Effect of Time Allocation on Human Capital Investment

The p-value of time allocation to human capital investment is 0.645 (>0.05), implying that the low allocation of participating in religious celebrations and religious activities does not significantly increase the human capital of women fishermen. The observations and interviews show that the time allocation for women fishermen in social and spiritual activities is low. The number of respondents who regularly participated in religious activities such as recitation was only 36 women. While those who don't, rarely and sometimes number 45 fisherwomen. That is, they take learning outside of formal education less into account, so the investment of resources is less visible. Participation in religious activities is strongly associated with educational attainment. Those with low human capital do not have the incentive or opportunity to acquire more human capital later in life, thus creating the risk of exclusion. Research results of Bene (2016) and Miles & Haberman (1994) suggest that the majority of respondents (64.17%) consider that education is not essential for girls, and they believe that girls are also responsible for household chores. It shows that women's fishery investment is still tied to cultural norms around their primary role in providing food for their families. Income is considered secondary after a woman completes her primary duties of looking after her home and household members.

Table 8 shows that 13% of fisherwomen regularly attend training activities held by NGOs, ministries/institutions, and universities, while 84% do not participate. The number of fisherwomen who did not follow was almost six times greater than those who followed. So the participation of fisherwomen in training activities, for example, training related to skills in processing fishery products organized by the Ministry of Marine Affairs and Fisheries, is low.

Table 8: Participation in Education and Training.

Participation	Quantity	Percentage
Yes	13	16
No	68	84

The low time allocation for fisherwomen to participate in training and religious and social activities impacts the low quality of resources. As a result, they need more time to improve quality or potential. The enormous amount of time fisherwomen spend on economic and

domestic activities, so the rest of their time is only used to relax, such as watching TV, visiting neighbors' houses, or resting. These results are in line with Wheani (2020), Dewi (year unknown), Redatin (2005), and Kholidatul (2016).

The Influence of Religious Virtues on Human Capital Investment

The p-value of religious virtue to the human capital investment of 0.104 (>0.05) implies that spiritual virtue is not significant in increasing the human capital of fisherwomen. The value of religious virtue in terms of the regularity of infaq and alms does not directly affect human capital investment. It can be influenced by the results of interviews and observations showing that the average size of the fishing community doing infaq or alms is Rp 20,000-25,000 per month. The low allocation of fees used for zakat, infaq, and alms shows that public awareness of doing ZIS could be higher. This factor may be one of the causes of the increase in human capital not running optimally. Our research results are in line with Ariendi (2023), Robbiyatul (2019), and Megayana et al. (2022), which suggests that there needs to be more public awareness of the importance of paying zakat and infaq. Furthermore, Table 9 found that 55 respondents regularly do infaq and alms, while 37 do not. It shows that the number of respondents who do not regularly do infaq and alms is almost the same as those who do.

Table 9: Economic Map for Active Households That Often Do Infaq and Alms.

Active status	Quantity	Percentage
Orderly	44	54
Disorganized	26	32
Sometimes	5	5
Often	6	6

Their irregular behavior in alms and infaq was due to respondents' low income and education. The study's average income of female fishermen respondents was Rp.1,219,382/month, ranging from Rp1,250,000 to Rp1,500,000. This income is undoubtedly far from the UMR set by DKI Jakarta Province in 2023 of IDR 4,901,798. It is in line with Lammam & Gabler (2012) say that by needing more money, those with low incomes will find it challenging to find ways to give alms often. No different, Laily *et al.* (2017) revealed that high-income households also reported giving more alms regularly than low-income households (1,821 times). The findings of Laily et al. (2016) also show that low-income households outside Jakarta are less likely to give alms than those from Jakarta. This situation implies that solid and stable households are more likely to provide alms regularly. Furthermore, financial education can also influence alms behavior because it can be categorized as economic behavior (Lyonsdkk., 2006; Martin, 2007; Hogarth, 2006).

Conclusions

The formulation of the *human capital* improvement model developed by Becker only includes and observes educational and skill variables. In the case of fisherwomen, investments that can be made are local wisdom. Religious value-based wisdom, such as mutual help in mandatory contributions of IDR 20,000/month, increases human capital investment for fisherwomen. The government must utilize local knowledge that is still well-developed in these fishing communities to help accelerate government programs to improve the quality of women's human resources.

This study has limitations, such as it being impossible to generalize the results because of 1) the exclusive use of fishing community data in this study, especially in coastal DKI North

Jakarta. Therefore, it is recommended that future research include communities outside of anglers to be used as a comparison. 2) Respondents in this study are limited to labor fishermen with low incomes so that future studies can compare high- and middle-income fishermen.

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