

# Digital Empowerment of Coastal Entrepreneurs: A Quasi-Experimental Study on Financial and Entrepreneurial Literacy for Financial Inclusion

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**Abstract:** The digitalization of financial services and entrepreneurship holds transformative potential for Micro, Small, and Medium Enterprises (MSMEs) in tourist destinations. This study, conducted in Pantai Pancer, addresses the challenges faced by MSMEs in managing their business finances effectively through the development of digital financial literacy and entrepreneurial literacy models. Utilizing quasi-experimental methods combined with Participatory Learning and Action (PLA), the research engages direct community participation to obtain real results. The study focuses on four dimensions of digital literacy: Knowledge of Digital Financial Products and Services, Digital Financial Risk Awareness, Knowledge of Control over Digital Financial Risk, and Knowledge of Consumer Rights and Indemnity Procedure. The quasi-experimental design, specifically a pre-test post-test non-equivalent control group design, is employed to measure the impact of the intervention on these dimensions. The treatment group consists of 45 MSMEs affiliated with Pokdarwis Pantai Lestari, while the control group comprises MSMEs outside the Pokdarwis in equal amount. Findings indicate a significant improvement in digital financial literacy among the treatment group compared to the control group across all dimensions. The positive advancements underscore the potential for replicability in similar regions facing comparable challenges. Important implications for government policies include the need to recognize the multifaceted nature of digital literacy, encompassing knowledge of financial products, risk awareness, control measures, and consumer rights. To widen the inclusion of MSMEs and enhance digital literacy acceptance, tailored government interventions should focus on comprehensive digital education initiatives, targeting not only financial products but also risk management and consumer rights. By doing so, governments can empower MSMEs to navigate the digital landscape more effectively, fostering sustainable development and economic resilience in coastal communities.

**Keywords:** digital financial literacy, entrepreneurial literacy, MSMEs, quasi-experimental study

JEL Classification: O16, L26, L83

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## 1. Introduction

In the modern and all-digital era, people need knowledge and skills in managing resources effectively, so that people can make wise financial decisions as a provision for the future. In this case, the government and related authorities such as OJK always support by expanding financial access and increasing people's financial literacy by directing and developing human resources to optimize knowledge and increase public awareness about

digital financial literacy. Financial literacy itself is defined by a person's knowledge of financial management, financial control, and financial budget planning in application to everyday life (Mufidah, et al., 2022).

Digital financial literacy is the ability of individuals to understand and use digital technology to manage their finances effectively. This includes understanding and using digital financial applications and services such as mobile banking, e-wallets, and investment applications, as well as understanding and applying security and privacy principles when conducting financial transactions through digital technology. Sari, et al., (2022) stated that the lack of knowledge about financial literacy makes decision making regarding business development difficult to achieve as a result of the difficulty of obtaining access to capital, besides that the lack of online promotion also has an impact on the less than optimal income obtained because the products produced are not widespread. MSMEs that are 'literate' in financial literacy will utilize digital platforms such as fintech and e-commerce to get business capital (Fisabilillah, et al., 2021). Not only funding opportunities, security aspects in digital transactions also need to be understood by MSMEs. The use of digital financial products in the form of alternative QRIS payments, the use of internet banking, OVO, Gopay, Dana and Shopee Pay and others is important to understand in order to avoid the risk of fraud or the like (Panos & Wilson, 2020).

In addition to digital financial literacy, digital entrepreneurial literacy is also needed, which is a term that describes entrepreneurial transformation, because business and technology will experience changes and developments. There needs to be a continuous digital culture transformation effort to improve digital literacy at this time, various existing digital applications strongly support the increase in MSME digital entrepreneurs and almost offer applications with zero technical and zero skill features so as to minimize the obstacles faced by actors to develop technology-based businesses (Kisworo, et al., 2022). Digital marketing can save on operating costs such as product marketing through e-commerce such as Shopee, Tokopedia, Tiktokshop, Lazada, or cloud-kitchens such as GoFood and Grab Food, as well as promotion of goods and services through social media such as Instagram, Facebook, and Twitter.

One of the things offered in the research is a treatment and control group model related to digital financial literacy in Jember Regency. Jember Regency is one of the regencies in the East Java region that has a lot of natural potential that can be used as a mainstay tourist attraction, one of which is Pancer Beach in Puger District. Pancer Puger Beach which is 43.9 km from the city of Jember is a beautiful beach tour, waves, and the life of fishermen. Apart from being fishermen, residents around Pancer Puger Beach also rely on entrepreneurship as a fulfillment of needs. Tourism MSMEs become the livelihood of the community such as street vendors selling food, drinks, grilled fresh fish, grilled shrimp, grilled squid, rujak manis, fruits, shrimp paste, salted fish, and petis. The development of tourism in an area cannot be separated from the role of Tourism Awareness Groups (Pokdarwis) and other important tools (Nugraha, et al., 2022). This non-governmental organization is a community consisting of tourism actors who act as a driving force in the development of tourism in these tourist attractions by utilizing all kinds of resources and support from the local government. New challenges from Pokdarwis emerged during the Covid-19 pandemic, where tourist attractions had to adjust to the new normal era. In addition to the implementation of Clean, Health, Safety and Environment (CHSE) and health protocols in tourist attractions, the new economic base supported by MSMEs has also changed and improved.

Pandemic conditions have forced people to accept changes and become more proficient in using technology, including in terms of financial services. Digital financial literacy is one of the basic literacy that must be owned by the community, especially business people. One of the benefits is being able to access financial resources such as peer to peer lending. Not only that, understanding of financial technology is also important to have. As revealed by (Wijoyo & Bakrie, 2020), the basic forms of fintech include payment aspects (digital wallets, P2P Payments), investment aspects (equity crowdfunding, peer to peer lending), financing aspects (crowdfunding, microloans, credit facilities), insurance aspects (risk management) and cross-process aspects (big data analysis, predictive modeling).

Pancer Puger Beach has the potential to develop as a tourist destination that will have an impact on the economy of the local community. However, these various potentials are still challenged in the form of a lack of understanding of financial digitalization literacy and digital entrepreneurial literacy. This is what appears to be a research gap in this study. Previous research has shown that the digital financial literacy model affects the financial performance of Pantai Pancer MSMEs mediated by financial behavior. The reality found in the field is that some business actors already have digital applications such as QRIS but are unable to take advantage of them.

The misalignment between the development of digital financial services and massive digital marketing media will hamper the potential of MSMEs in tourist attractions to develop. Surrounding MSME actors have not been able to use digital applications to support business optimally, so that it can reduce the opportunity to manage business finances more effectively. This condition motivates this research to conduct further studies and develop digital financial literacy models and digital entrepreneurial literacy in Pantai Pancer MSMEs. The novelty of this research is the combination of the use of quasi-experimental methods and Participatory Learning and Action (PLA) to develop financial literacy models as well as provide assistance and obtain real results through direct community participation. In addition, emphasis on aspects of financial technology and digital platform marketing (e-commerce) with the latest phenomena that have not previously been studied specifically for MSMEs tourism players by referring to aspects of fintech financing, payments, investment and risk management through collaboration with Pokdarwis Pancer Lestari partners. The modeling results obtained are expected to be applied to MSMEs in other regions that have similar characteristics.

The potential of Puger Beach to develop as a tourist destination that will have an impact on the economy of the local community. However, these various potentials are still challenged in the form of a lack of understanding of financial digitalization literacy and entrepreneurship. The misalignment between the development of financial services and massive digital entrepreneurship will hamper tourism potential to develop. The problems experienced by MSME players in the Pancer Puger Beach tourist area make it difficult for them to improve their financial performance. This is because financial behavior reflected in the financial decision-making process is also limited. This condition motivates this research to conduct a study of financial literacy and digital entrepreneurship in tourism MSMEs in the Pancer Puger Beach Area.

## **2. Materials and Methods**

This research aims to improve the understanding of financial literacy and digital entrepreneurship, especially for creative industry players and tourism. This research uses quantitative methods with quasi-experimental models. According to Cook and Campbell (1979), a quasi-experimental design is a research design that lacks the full experimental manipulation and control found in true experimental design. In this design, researchers did not randomly assign participants to experimental or control groups, but used other methods to establish causal relationships between the independent variable and the dependent variable. This model aims to overcome the difficulty in determining control groups in research (Sugiyono, 2015). One form of quasi-experimental design is the pre-test post-test non-equivalent control group design. In this design, pre and post tests are applied to two groups, one of which receives the intervention (treatment group) and others not (comparison group).

Pre-test and post-test designs were used in this study to measure the extent of digital financial literacy and entrepreneurial financial literacy of Pancer Puger Beach Tourism MSMEs (attached questionnaire). As a treatment group, MSMEs will be selected who are members of Pokdarwis Pancer Lestari. Furthermore, as a control group, MSMEs that are outside the pokdarwis will be randomly selected. With this experiment, it is hoped that it can dig deeper into the root of the problems faced by MSMEs and through the solutions carried out will be able to help increase MSME knowledge. In the next stage, MSMEs will be able to implement both digital finance and digital entrepreneurship of Pantai Pancer Puger MSMEs and financial inclusion will increase.

The techniques used in obtaining data are observation, interviews, and documentation and experimentation. In-depth interviews were conducted with informants, namely personnel in the ranks of village policy makers, business actors, and administrators of Pokdarwis Pancer Lestari. Documentation in the form of planning and budgeting data, documents on the implementation of programs and activities, work scheduling, and other documents that appear when in the field. Observations were made on objects, namely MSMEs that are members of Pokdarwis to determine the experimental group. Furthermore, experiments will be carried out simultaneously between the treatment group and control group by providing digital literacy questionnaires.

The classification of groups in the study, namely as treatment groups, will be selected by MSMEs who are members of the Pokdarwis Pancer Lestari. Furthermore, as a control group, MSMEs that are outside the pokdarwis will be randomly selected. The data obtained from 45 MSME respondents who are members of the Pokdarwis as a treatment group, and a total of 45 respondents who are not members of the Pokdarwis as a control group. The study assessed both groups using digital financial literacy measurements. Morgan et al. (2019) stated that there are four dimensions that reflect digital financial literacy, namely (1) Knowledge of Digital Financial Products and Services, (2) Awareness of Digital Financial Risks, (3) Knowledge of Control of Digital Financial Risks, (4) Knowledge of Consumer Rights and Indemnity Procedures.

The first dimension is knowledge of digital financial products and services that use the internet and mobile phones. In this case, there are four categories of digital financial products, namely: online payments (using electronic money, crypto assets, or electronic wallets), asset management (using internet banking, mobile trading such as Bareksa and others), alternative financing (such as peer to peer lending, crowd funding, and others) and other digital financial service products (Morgan et al., 2019). The second dimension is awareness of digital financial risks. The risks faced by users of digital financial services are more diverse than using traditional financial services. Risks faced by users of digital services include: phishing, spyware, pharming, and SIM card swap.

The third dimension is knowledge of controls against digital financial risks. This dimension illustrates the understanding of users of financial digital services on how to protect themselves from the risks arising from such use. They should understand how to use computer programs and mobile apps to avoid spamming, phishing, etc. They are also required to understand how to protect personal identification numbers (PINs) and other personal information, when using financial services provided through digital means. The fourth dimension is knowledge of consumer rights as well as redress procedures. Users of digital financial services must understand their rights and know where and how to get redress if they fall victim to fraud or other losses. They should also understand the rights regarding their personal data, and how they can obtain redress against unauthorized use of the data. After being divided into several dimensions, the initial stage of data analysis will be carried out by calculating the gain score value on each dimension. Gain-score is the difference between the average pre-test and post-test scores of the experimental class and the pre-test and post-test scores of the control class. The gain score value will be used to compare which indicators increase and decrease after treatment. Furthermore, a normality test was carried out using Saphiro Wilk with a significance level of 5%. If the value of Sig. > 0.05 then the data is normally distributed, and vice versa. Furthermore, a homogeneity test was carried out with a significance level of 5%. If the value of Sig. > 0.05 then the data is homogeneous. After the data is said to be normal and homogeneous, then the next step is the t test. The t-test is used to measure the level of significance by measuring the mean difference between two or more groups using a significance of more than 5%. Furthermore, a statistical test will be carried out, namely Univariate Analysis of Covariance (ANCOVA). ANCOVA is used at the hypothesis testing stage, namely the presence or absence of differences between Treatment and Control Group. Data on digital financial literacy and digital entrepreneurial literacy were obtained after samples were given treatment.

### 3. Results and Discussions

#### 3.1 Results

The results of the study conducted were in line with expectations, that descriptive analysis produced differences between treatment groups and control groups according to pretest and posttest results according to the four dimensions of digital financial literacy. The results showed that there was a difference in the average score, namely there was a difference in pretest and posttest scores between the treatment group and the control group. The results of descriptive statistical analysis are shown in the table below:

#### a. Knowledge of Digital Financial Products and Services (Dimension 1)

**Table 1.** Distribution of Dimension 1

Description	<i>Treatment Group</i>		<i>Control Group</i>	
	<i>Pre test</i>	<i>Post test</i>	<i>Pre test</i>	<i>Post test</i>
Mean.	8	17	12	13
Max.	20	25	20	25
Min.	0	5	0	0

Source : (Primary data processed, 2023)

From the results of table 1 above, the average pre-test and post-test for the treatment group and control group has increased. The average pre-test treatment group score increased from 8 to 17 in the post test. The pre-test control group score increased from 12 to 13 in the post test. Maximum and minimum scores on pre-test and post-test for treatment groups and control groups have also increased. This shows that treatment groups and control groups are effective in increasing knowledge about digital financial products and services in those using the internet and mobile phones.

#### b. Digital Financial Risk Awareness (Dimension 2)

**Table 2.** Distribution of Dimension 2

Description	<i>Treatment Group</i>		<i>Control Group</i>	
	<i>Pre test</i>	<i>Post test</i>	<i>Pre test</i>	<i>Post test</i>
Mean.	12	21	15	17
Max.	20	25	20	25
Min.	0	10	5	5

Source : (Primary data processed, 2023)

From the results of table 2 above, the average pre-test and post-test for the treatment group and control group has increased. The average pre-test treatment group score increased from 12 to 21 in the post test. The pre-test control group score increased from 15 to 17 in the post test. Maximum and minimum scores on pre-test and post-test increased for the treatment group, but remained at the minimum score of the control group. This shows that treatment groups and control groups are effective in increasing awareness of digital financial risks that are more diverse than using traditional financial services. Risks faced by users of digital services include: phishing, spyware, pharming, and SIM card swap.

#### c. Knowledge of Control over Digital Financial Risk (Dimension 3)

**Table 3.** Distribution of Dimension 3

Description	<i>Treatment Group</i>		<i>Control Group</i>	
	<i>Pre test</i>	<i>Post test</i>	<i>Pre test</i>	<i>Post test</i>
Mean.	5	13	4	6
Max.	15	20	15	20
Min.	0	0	0	0

Source : (Primary data processed, 2023)

From the results of table 3 above, the average pre-test and post-test for the treatment group and control group has increased. The average pre-test treatment group score increased from 5 to 12 in the post test. The pre test control group score increased from 4 to 6 in the post test. The maximum score on the pre test and post test increased by 5 points for the treatment group and control group. However, the minimum score of pre-test and post-test remains 0 for treatment group and control group. This shows that treatment groups and control groups are effective in increasing knowledge about control over digital financial risks. This dimension illustrates the understanding of users of financial digital services on how to protect themselves from the risks arising from such use. Respondents should understand how to use computer programs and mobile applications to avoid spamming, phishing, etc.

d. Knowledge of Consumer Rights and Indemnity Procedure (Dimension 4)

**Table 4.** Distribution of Dimension 4

Description	<i>Treatment Group</i>		<i>Control Group</i>	
	<i>Pre test</i>	<i>Post test</i>	<i>Pre test</i>	<i>Post test</i>
Mean.	15	21	8	15
Max.	20	25	20	25
Min.	5	10	0	0

Source : (Primary data processed, 2023)

From the results of table 4 above, the average pre-test and post-test for the treatment group and control group has increased. The average pre-test treatment group score increased from 15 to 21 in the post test. The pre-test control group score increased from 8 to 15 in the post test. Maximum and minimum scores on pre test and post test increased for treatment group and control group. This shows that treatment groups and control groups are effective in increasing knowledge about consumer rights and compensation procedures. Users of digital financial services must understand their rights and know where and how to get redress if they fall victim to fraud or other losses.

After conducting descriptive statistical analysis, normality tests and homogeneity tests were then carried out. The normality test has the purpose of determining whether the data to be tested follows a normal distribution. The data used in the normality test are pretest and posttest data from the control group and treatment group. One way to calculate the normality value is to use Saphiro Wilk and use the SPSS application in this study. The basis for making this decision is based on the value of Sig. > 0.05 then the data is normally distributed, but if the value of Sig. < 0.05 then the data is not normally distributed. The data used in the normality test can be seen in table below:

**Table 5.** The result of normality test

	Group	<i>Kolmogorov-Smirnov</i>			<i>Saphiro Wilk</i>		
		Statistic	df	Sig.	Statistic	df	Sig.
Pre-Test Dimension 1	<i>Control</i>	.133	45	.103	0.996	45	.457
	<i>Treatment</i>	.112	45	.106	0.986	45	.283
Pre-Test Dimension 2	<i>Control</i>	.130	45	.108	0.931	45	.088
	<i>Treatment</i>	.105	45	.138	0.994	45	.402
Pre-Test Dimension 3	<i>Control</i>	.130	45	.108	0.948	45	.174
	<i>Treatment</i>	.168	45	.097	0.925	45	.059
Pre-Test Dimension 4	<i>Control</i>	.172	45	.089	0.986	45	.331
	<i>Treatment</i>	.146	45	.102	0.903	45	.073
Post-Test Dimension 1	<i>Control</i>	.179	45	.086	0.996	45	.449
	<i>Treatment</i>	.181	45	.078	0.900	45	.171
Post-Test Dimension 2	<i>Control</i>	.160	45	.098	0.989	45	.305

	<i>Treatment</i>	.161	45	.099	0.964	45	.072
Post-Test Dimension 3	<i>Control</i>	.154	45	.101	0.968	45	.114
	<i>Treatment</i>	.178	45	.084	0.900	45	.172
Post-Test Dimension 4	<i>Control</i>	.193	45	.072	0.909	45	.209
	<i>Treatment</i>	.126	45	.102	0.931	45	.087

Source : (Primary data processed, 2023)

The normality test refers to the Shapiro Wilk test because the number of samples in each class is less than 50, which is 45 samples. Based on the results of the normality test, it shows that the data is normally distributed because the Sig. value is more than 0.05 in the pretest and post-test control group and treatment group in each dimension.

The homogeneity test was used to assess whether the two sample groups used in this study had similar variances or not. The data used to test class homogeneity include pretest and posttest control group values as well as treatment groups divided into four dimensions. In the homogeneity test process, researchers used the SPSS application with a significance level of 0.05. Thus, the data is declared homogeneous if the value of Sig. > 0.05, and vice versa the data is declared inhomogeneous if the value of Sig. < 0.05. The results of the homogeneity test with the help of SPSS for windows are presented in the following table 6.

**Table 6.** The result of homogeneity test

	Code of Group	Levene's Test for Equality of Variances		t-test for Equality
		F	Sig.	t
Pre-Test Dimension 1	Equal variances assumed	.086	.770	2.741
	Equal variances not assumed			2.741
Pre-Test Dimension 2	Equal variances assumed	3.790	.055	2.198
	Equal variances not assumed			2.198
Pre-Test Dimension 3	Equal variances assumed	.357	.552	.338
	Equal variances not assumed			.338
Pre-Test Dimension 4	Equal variances assumed	3.210	.077	-5.592
	Equal variances not assumed			-5.592
Post-Test Dimension 1	Equal variances assumed	2.165	.145	-3.675
	Equal variances not assumed			-3.675
Post-Test Dimension 2	Equal variances assumed	2.074	.153	-5.668
	Equal variances not assumed			-5.668
Post-Test Dimension 3	Equal variances assumed	1.184	.280	-4.510
	Equal variances not assumed			-4.510
Post-Test Dimension 4	Equal variances assumed	1.421	.237	-5.309
	Equal variances not assumed			-5.309

Source : (Primary data processed, 2023)

Based on the output table, it is known that the Sig. value in Levene's Test for Equality of Variances is more than 0.05 in the pretest and post-test treatment groups and control groups in each dimension. So it can be concluded that the variant treatment group and control group are homogeneous, where the independent t-test refers to the value of Sig. in the column Equal variances assumed.

Once it is known that the data of this study are normally distributed and homogeneous, then a t test is carried out. The t test in this study aims to determine whether there is an increase or gain score between the pre-test and post-test control group and treatment group. The basis for t-test decision making in this study is that the data is declared significant if the value of Sig. < 0.05, and vice versa the data is declared insignificant if the value of Sig. > 0.05. The results of this research t test can be seen in the table below:



**Table 7.** The result of t test

Measure	Group	Sig.	T	Mean
Gain Score Dimension 1	Control	.000	-14.818	11.111
	Treatment	.000	-14.818	94.444
Gain Score Dimension 2	Control	.000	-8.888	-16.667
	Treatment	.000	-8.888	73.333
Gain Score Dimension 3	Control	.000	-6.535	20.000
	Treatment	.000	-6.535	77.778
Gain Score Dimension 4	Control	.003	1.642	55.556
	Treatment	.004	1.642	72.222

Source : (Primary data processed, 2023)

Based on the table above, the average value of the control group in each dimension (Dimension 1 – Dimension 4) is lower than the value of the treatment group in each dimension. Thus, it can be concluded that this research has increased. The Sig. score in this study also  $< 0.05$  so that it can be stated that there is a significant increase in the digital financial literacy result score between the two groups.

The final step in the study is the ANCOVA test. The ANCOVA (Univariate Analysis of Covariance) test is used to control the impact of undesirable variables (covariate) this test is performed to compare between two or more groups. By including covariates, this test reduces unwanted variation and improves the accuracy of measuring the effect of the independent variable on the dependent variable. Thus, ANCOVA allows research to obtain more accurate and reliable results when comparing different groups. This study is said to be effective if there is a change in score between the control group and the treatment group. The reference for this covariance analysis is if the Sig. value  $< 0.05$ . The results of this ANCOVA test can be seen in table 4.8 below:

**Table 8.** The result of ANCOVA test  
Dependent Variable: Total Post Test

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Squared	Eta Squared
Corrected Model	66522.707 <sup>a</sup>	3	22174.236	132.370	.000	.950	
Intercept	5491.277	1	5491.277	534.521	.000	.609	
Code	7029.819	1	7029.819	169.457	.000	.666	
TotalPreTest	53910.365	1	53910.365	1299.535	.000	.939	
Code * TotalPreTest	1805.075	1	1805.075	43.512	.000	.339	
Error	3526.169	86	41.484				
Total	389250.000	89					
Corrected Total	70048.876	90					

Source : (Primary data processed, 2023)

Based on the table above using SPSS, it can be concluded that the corrected model shows a significance value of  $0.000 < 0.05$ , meaning that the pretest and control treatment model before training and mentoring are simultaneously different in impact on Pantai Puger MSME actors. Intercept shows a significance figure of  $0.000 < 0.05$  with the impact of treatment in the form of digital literacy training and assistance and digital entrepreneurship on Pancer Puger Beach MSME players by 60.9%. The significance value of the pretest shows a significance number of  $0.000 < 0.05$ , meaning that the pretest has an impact on MSME players in Pancer Puger Beach. The control and treatment model shows a significance value of  $0.000 < 0.05$ , meaning that these two models have significant differences with Pancer Puger Beach MSME players.



### 3.2 Discussions

At the initial stage, the calculation of gain score on 4 dimensions is carried out. The gain score value in 4 dimensions can be seen in the table below:

**Table 9.** The result of gain score

No	Dimensions	Gain Score	
		Control Group	Treatment Group
1.	Knowledge of Digital Financial Products and Services	1	9
2.	Digital Financial Risk Awareness	1	9
3.	Knowledge of Control over Digital Financial Risk	2	8
4.	Knowledge of Consumer Rights and Indemnity Procedure	5	6

Source : (Primary data processed, 2023)

It can be known that the gain score value is positive. This shows that the response of the control group and treatment group is good and the pre-test and post-test values increase in each dimension. Based on the table above, the average value of the control group in each dimension (Dimension 1 – Dimension 4) is lower than the value of the treatment group in each dimension. Thus, it can be concluded that this research has increased. The Sig. score on the t test also  $< 0.05$  so that it can be stated that there is a significant increase in the digital financial literacy result score between the two groups. In the ANCOVA test, the control and treatment group models showed significance values of  $0.000 < 0.05$ , meaning that these two models have significant differences with Pancer Puger Beach MSME players.

In the first dimension, namely knowledge of digital financial products and services, there was an increase between pre-test and post-test worth 1 in the control group and 9 in the treatment group. This shows that treatment groups and control groups are effective in increasing knowledge about digital financial products and services in those using the internet and mobile phones. Meanwhile, based on research data, it shows that 29% of respondents in each group are in the age range of 21-30 years, indicating that respondents are still in productive age and need digital adaptation for their business continuity in the future. Therefore, further training and mentoring related to entrepreneurship and digital financial literacy are needed so that their businesses are growing rapidly and able to face competition in the technological era. Moreover, with educational background, 41% of high school graduates influence how their understanding is related to increasing knowledge of digital financial products and services in those using the internet and mobile phones. Because, with higher education will make a person more aware and learn digitalization.

In the second dimension, namely awareness of digital financial risks, there was an increase between pre-test and post-test worth 1 in the control group and 9 in the treatment group. This shows that control groups and treatment groups are effective in increasing awareness of digital financial risks that are more diverse than using traditional financial services. Based on the characteristics of respondents, it shows that respondents' income is less than Rp 2,000,000.00 with a percentage of 27%, both from the control group and treatment group which are quite low. Income affects awareness of digital financial risks, because the less income earned, the more people will think about things to prevent digital financial risks. Their income will be used as well as possible, especially to avoid the risk of digital financial loss. Risks faced by users of digital services include phishing, spyware, pharming, and SIM card swaps.

Furthermore, in the third dimension of knowledge about control over digital financial risks, there was an increase between pre-test and post-test worth 2 in the control group and 8 in the treatment group. This shows that treatment groups and control groups are effective in increasing knowledge about control over digital financial risks. This dimension illustrates the understanding of users of financial digital services on how to protect

themselves from the risks arising from such use. Respondents should understand how to use computer programs and mobile applications to avoid spamming, phishing, etc. During training and mentoring, MSME actors are given an understanding of how to protect personal identification numbers (PINs) and other personal information, when using financial services provided through Shopee.

Finally, the dimension of knowledge about consumer rights and compensation procedures increased between pre-test and post-test values of 5 in the control group and 6 in the treatment group. This dimension is also the dimension that has the highest value with an average of 5.5. This shows that treatment groups and control groups are effective in increasing knowledge about consumer rights and compensation procedures. Meanwhile, 29% of respondents in each group are in the range of 21-30 years, which means that respondents are still at an age that still wants to continue learning, including learning about consumer rights and compensation procedures. Pancer Puger Beach MSME actors must understand their rights and know where and how to get compensation if they become victims of fraud or other losses.

#### 4. Conclusions

This study presents significant insights into the digital empowerment of coastal entrepreneurs, specifically within the Pantai Pancer Micro, Small, and Medium Enterprises (MSMEs) by employing quasi-experimental methods and participatory approaches. The positive impact on digital financial literacy and entrepreneurial literacy suggests replicability potential in similar regions confronting comparable challenges. The findings underscore the crucial role of tailored training programs and mentoring initiatives in addressing the specific needs of MSMEs as they adapt to digital financial services and entrepreneurship. The influence of respondents' age and educational background on shaping their understanding of digitalization highlights the ongoing necessity for educational support to navigate the dynamic technological landscape.

As Puger Beach emerges as a potential tourist destination with significant economic implications for the local community, closing the digital literacy gap becomes imperative for unlocking the region's full economic potential. Collaborative efforts with Pokdarwis Pancer Lestari demonstrate the effectiveness of community engagement in promoting financial inclusion and entrepreneurial growth. The research outcomes establish a foundation for extending these models to MSMEs in other regions with similar characteristics, fostering sustainable development and economic resilience.

However, this study is not without limitations. The constrained sample size, non-random assignment of MSMEs to control and treatment groups, and the specific geographic focus on Pantai Pancer introduce challenges in generalizing findings to a broader population. The short-term evaluation and limited consideration of external factors, such as government policies and contextual variations, emphasize the need for caution in interpreting and applying the results. Furthermore, the reliance on a predominantly quantitative approach may limit the depth of understanding, suggesting that future studies should consider incorporating qualitative methodologies. In conclusion, while this study provides valuable contributions to comprehending digital financial literacy and entrepreneurial outcomes among coastal entrepreneurs, acknowledging and addressing the outlined limitations in future research endeavors will enhance the robustness and applicability of interventions, fostering digital empowerment and financial inclusion among MSMEs in diverse settings.

#### 5. References

- [1] Cook, T. D., & Campbell, D. T. (1979). *Quasi-Experimentation: Design and Analysis Issues for Field Settings*. Boston: Houghton Mifflin.
- [2] Fisabilillah, L., Aji, T., & Prabowo, P. (2021). Literasi Keuangan Digital Sebagai Upaya Pembekalan UMKM . *Dinamis: Jurnal Pengabdian Kepada Masyarakat*, 62-69.

- [3] Kisworo, B., Desmawati, L., Arbarini, M., & Shofwan, I. (2022). Pendampingan Wirausaha Digital Kelompok Sadar Wisata Desa Kalongan Ungaran Timur Kabupaten Semarang. *Jurnal Pengabdian Kepada Masyarakat*, 160-167.
- [4] Morgan, P.J., Huang, B. & Trinh, L.Q. (2019). The Need to Promote Digital Financial Literacy for the Digital Age. *The 2019 G20 Osaka Summit, Japan: The Future of Work and Education for the Digital Age*, August, 40–46.
- [5] Mufidah, A., Istifadah, I., & Awaliyah, I. N. (2022). Sharia Financial Literacy in Personal Financial Planning. *International Social Sciences and Humanities*, 1(2),198-203.
- [6] Nugraha, K. S. W., Musmedi, D. P., Suryaningsih, I. B., & Awwaliyah, I. N. (2022). Penguatan Ekonomi Masyarakat dan Mengembangkan Ciri khas Desa Wisata Sukosari Kidul. *SELAPARANG: Jurnal Pengabdian Masyarakat Berkemajuan*, 6(3), 1252-1260.
- [7] Panos, G. A., & Wilson, J. O. S. (2020). Financial literacy and Responsible Finance in the FinTech era: capabilities and challenges. *European Journal of Finance*, 26(4-5), 297-301. <https://doi.org/10.1080/1351847X.2020.1717569>.
- [8] Sari, N. K., Handayani, Y. I., Wafi, M. A., Susana, M., Artaningtias, D. R., Putri, F. A., & Pramesta, N. B. (2022). Sosialisasi dan Pendampingan Literasi Keuangan dan Media Promosi Digital untuk UMKM Desa Bagon, Kecamatan Puger, Jember. *Jurnal Pengabdian Literasi Digital Indonesia*, 1(2), 46-52.
- [9] Sugiyono. (2015). *Metode Penelitian Kuantitatif Kualitatif dan R&D*. Alfabeta.
- [10] Wijoyo, H., & Bakrie, W. (2020). Digitalisasi Usaha Mikro Kecil dan Menengah (UMKM) di Era Pandemi COVID-19. *Seminar Nasional Kahuripan*, (pp. 10 - 13).

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