

UDC 331

**THE EFFECT OF AGE, EDUCATION LEVEL, WORK EXPERIENCE,
NUMBER OF DEPENDENT FAMILY MEMBERS, AND LEVEL OF INCOME
ON THE PRODUCTIVITY OF TENUN IKAT CRAFTSWOMEN IN KUPANG CITY,
EAST NUSA TENGGARA PROVINCE OF INDONESIA**

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ABSTRACT

Women's participation in improving household welfare is increasingly significant. This can be seen from the work productivity of women in each socio-economic layer. This study aims to analyze and explain the factors that influence the work productivity of *tenun ikat* craftswomen. To achieve this goal, 120 craftswomen in Kupang City were selected as samples using purposive sampling. Multiple linear regression analysis was also used as data analysis technique. The results of the analysis show that age, education level, work experience, number of dependent family members, and level of income have a simultaneous and significant effect on work productivity. Partially, each research variable has a significant effect on work productivity. Among the five variables above, work experience dominantly affects work productivity. The productivity of the craftswomen is quite high, but the level of income is very low. For this reason, the researchers suggested that there needs to be a real and sustainable intervention for *tenun ikat* craftswomen through an integrated and comprehensive strategy by involving several parties. It is also important to carry out further research by adding other research variables, including the research on the socio-economic strategy of *tenun ikat* craftswomen to improve the household economy, as a prerequisite for strategy formulation and program implementation.

KEYWORDS

Age, education level, work experience, dependent family members, level of income.

Among other ASEAN countries, Indonesia's work productivity was placed fourth from 1970 to 2015, where Indonesia was above the Philippines. Meanwhile, out of 10 ASEAN countries, the average productivity growth of Indonesian workers from 1990 to 2015 was in the fifth position. Indonesia was below Vietnam, Laos, and Cambodia, which have higher growth rates of work productivity (Imansyah, 2020). During that period (1970 - 2015), work productivity in Indonesia tends to increase in almost all provinces even though it is still not equal. The data from the Central Bureau of Statistics and the Ministry of Manpower in 2017 showed that the highest work productivity in 2015 was held by East Kalimantan Province (IDR 308.8 million/worker), while the lowest is East Nusa Tenggara Province, amounting to IDR 25.6 million/worker (Djirimu, 2019).

One of the factors causing the high productivity gap between provinces is the approach used to measure productivity levels. One of which is done by dividing the GRDP (Gross Regional Domestic Product) with the total population, as has been done by Hidayat (1986), Djirimu (2019), and Handra (2019). However, the difficulty of measuring or determining the level of productivity in Indonesia is not only due to the complexity of the product concept but also to the weakness of the data collection system. Troena (1995) explains that measuring productivity starts from the lowest level at the level of production factors, especially the workforce. The problem of the workforce itself does not stand alone; it is related to various other aspects such as the number and distribution of the population, utilization of energy, quality, and economic growth.

Not only difficult to measure or determine the level of productivity in Indonesia, several studies that measure or analyze the factors affecting work productivity also show different

results. Wahyu et al. (2013) mention that socio-economic factors together have a significant effect on the productivity of female workers. However, wage or salary, ability, and motivation have a partial and significant effect on the productivity of female workers. Meanwhile, age, number of dependent family members, education level, work agreement, household income, and menstrual, pregnancy, childbirth, and breastfeeding leave partially do not affect the productivity of female workers. Andari and Aswitari (2012) have found that age, education level, work experience, and marital status simultaneously have a significant effect on the productivity of female workers. On the one hand, it has been found that age, work experience, and marital status partially have a positive and significant effect on the productivity of female workers while education level does not.

Based on the background and several contradictory findings of previous studies above, this study aims to re-examine the effect of age, education level, work experience, number of dependent family members, and income level on the productivity of female workers in the *tenun ikat*¹ industry of Kupang City.

LITERATURE REVIEW

Work Productivity

The concept of productivity contains complex elements that involve many factors in terms of the concept, approach, and measurement method. Sumarsono (2009) says that productivity is a comparison between results (output) with the overall resources used (input). On the other hand, economists define productivity as the ratio of output to input in economic activity or sector (Djirimu, 2019). In a broad sense, productivity concerns the relationship between the output and input used to produce output (Hafid, 1995). In 1984, the International Productivity Congress in Oslo concluded that productivity is a universal concept that aims to provide more goods and services for wider society using fewer real resources.

Productivity is also the ratio between the output and input of a production process in a certain period. Input consists of management, workforce, production costs, equipment, and time while output includes production, product sales, and income (Mangkuprawira and Hubeis, 2007). Productivity is one of the most important measures of economic performance. Based on the explanation of Suprihanto (Haryani, 2002), productivity is the ability of a set of economic resources to produce goods and services. Economic sources, often called factors of production, include land, capital, technology, workforce, and raw materials. These economic sources are processed to produce goods or services in a production process. Therefore, productivity is the output and input of a certain production.

Productivity is not merely a measure of the production of outputs but a measure of resource utilization to achieve the expected results. In this context, the result is related to the effectiveness of achieving a mission or achievement (Hafid, 1995). Meanwhile, resources are related to the efficiency of obtaining results using minimal resources. There is a close relationship between efficiency and effectiveness, which is an inseparable combination in productivity. These two concepts are the basis for measuring productivity.

If it is associated with the workforce, productivity (work productivity) means comparing the results achieved with the participation of the workforce per unit of time (Simanjuntak, in Ravianto, 1985). It can also be described as the comparison between the results achieved with the overall resources used in a certain time (Troena, 1995). The comparison between the results achieved and the overall resources used by a workforce within a certain time is influenced by many variables such as education, skills, discipline, attitudes, work ethics, motivation, nutrition and health, income level, social security, work environment and climate, industrial relations, technology, production facilities, management, achievement opportunities, government production policies, investment, licensing, monetary, fiscal, price, distribution, and many more (Simanjuntak, in Ravianto, 1985). Those factors influence each other and can affect work productivity, either directly or indirectly.

¹ *Tenun ikat* is an Indonesian weaving craft in the form of a cloth woven from warp and weft that were previously tied and dipped in natural dyes.

Factors Affecting Work Productivity

Tenun ikat industry is a home industry that is done manually. This industry does not require specific skills and a high level of education. The *tenun ikat* industry is filled with women from poor households. Age, education level, work experience, number of dependent family members, and income level are assumed to have the largest effect on the productivity of those female workers.

Age is the *first* factor in this study. The age structure of a worker (workforce) is seen as one factor affecting productivity to produce a certain product. Simanjuntak (1985) emphasizes that if the workers are in the productive age, their productivity will increase. If they approach old age, their productivity will decrease due to limited physical and health factors. In other words, those who are still in their productive period usually have a higher productivity level than old workers who have weaker and limited physical abilities. The productive age of a person generally ranges from 15 to 60 years. According to Budhyani and Sila (2008), growing is followed by physical, psychological, and intellectual development. The maturity of these developments is needed to complete a job effectively and efficiently. The older a person gets, the better the work results obtained. Therefore, age determines work productivity. However, work productivity tends to decrease when it reaches a certain age (generally above 60 years).

Secondly, there is a level of education. Higher education will generate higher work productivity and therefore allows higher earnings. Education is one of the important factors in human resources development. Suyono and Hermawan (2013) confirm the effect of education on workers' productivity. This indicates that the higher the education level, the higher the work productivity—the worker will have broader insight and knowledge. Vice versa, if the worker has a low level of education, their insight and knowledge will be low, leading to low work productivity. Education will increase insight and knowledge and improve work skills so that it will increase work productivity. This is also in line with Hasanah and Widowati (2011), who examined the influence of education level on work productivity. Education provides knowledge for job completion. The higher the level of education, the higher the level of work productivity. Conversely, the lower the level of education, the lower the level of work productivity.

As the *third* factor, work experience is also important in increasing productivity. Robbins (2007) underlines that years of service and job productivity are positively related. The longer the years of service, the higher the experience and skills that will support a person in work. The wider the experience, the better the work skills. Besides that, that person will have a better attitude and mindset to achieve the goals that have been set (Puspaningsih, 2014).

Experience is a process of learning and increasing potential behavior from formal and non-formal education. In other words, it can be interpreted as a process that leads a person to a higher pattern of behavior. Work experience is reflected through the ability of workers in their previous places. The higher the worker's experience, the better their skill and competence in work (Amron, 2009). With experience, it is expected that a person will get a job according to their expertise. When a person has a job that matches their expertise, it is expected that they will increase their productivity (Ukkas, 2017).

The *fourth* factor is the number of dependent family members. In general, households with more family members have greater daily needs than households with few family members. To meet the needs, a big family eventually requires a high cost of living. Whereas, if their income is relatively small, they will push themselves or their family members to work harder to increase work productivity, which will increase their income. On the other hand, living costs are also small if a family has smaller dependent members. With an adequate level of income, that kind of family will tend to be less motivated to work harder so that the work productivity will be relatively low.

Based on this description, it can be said that the bigger the number of dependent family members, the higher the needs in the family. That condition will encourage the family members to work harder to obtain more income to meet their needs. As a result, their productivity at work will increase. Situngkir (2007) says that the number of dependent family

members is one of the main reasons wives help their husbands earn a living. More children and dependents in the family will make those women spend more time working. If the dependents in the family and the needs are high, the productivity level will also increase because they are motivated to meet their needs.

Last but not least, there is the level of income. One of the driving factors of women to work is because their husband's income is not sufficient to fill the family needs. Besides that, there is the desire to earn their income, to fill their spare time, and fulfill household activities. Referring to the explanation of Kaufman and Hotchkiss (2000), a household tends to improve the family's standard of living. Families with two sources of income (from husband and wife) will be more likely to improve their standard of living. In the context of work productivity, the level of income becomes a driving force or incentive for someone to work harder or more productive (Simanjuntak, in Moenardy, 1999). It is further explained that a person's income and social security are directly related to the ability to meet basic needs such as food, clothing, housing, and health, which further affects their productivity.

The Relationship between Independent Variables and Work Productivity

Several differences and similarities were found based on the findings of several previous studies to prove the relationship between independent variables (age, education level, work experience, number of dependent family members, and level of income) and the dependent variable (work productivity). The first is Djirimu (2019), analyzing the factors that influence work productivity in Indonesia. The factors or variables analyzed are life expectancy, average school years, minimum wage, and gross fixed capital formation. In that study, the results show that (a) age (life expectancy) negatively affects work productivity; (b) the average school years has a positive and significant effect in all provinces, but in Indonesia, there is an insignificant positive relationship; (c) wages have a positive effect on the workforce; and (d) the formation of gross domestic capital only has a positive effect in Sumatra, while in Indonesia it has a positive and significant effect.

Secondly, Ukkas (2017) examines the effect of education level, age, work experience, and gender on the work productivity of small industries in Palopo City. The results show that education level, age, work experience, and gender significantly affect the productivity of small industries in Palopo City. Dewi and Mustika (2015) also researched *tenun ikat* craftswomen in Klungkung Regency to (a) examine the effect of education, age, husband's income, and several dependent family members on work productivity and (b) investigate the variable (skill) that moderates the effect of education and age on productivity. Their study shows that the variables of education, age, husband's income, and the number of dependent family members simultaneously affect the productivity of *tenun ikat* craftswomen in Klungkung Regency. Partially, education and the number of dependent family members do not affect the productivity of female workers, while age and husband's income influence the productivity of female workers. The analysis results also point out that skill moderates education and age on female worker productivity.

On the other hand, Suyono and Hermawan (2013) (a) determine the effect of age, education level, work experience, income, and the number of dependent family members on productivity and (b) examine the simultaneous effect of age, education level, work experience, income, and the number of dependent family members on work productivity at leathercraft centers in Magetan Regency. It confirms that age, education level, work experience, income, and the number of workers partially affected work productivity at the leathercraft centers in Magetan Regency. The study also shows that the five independent variables simultaneously affect work productivity at the leathercraft centers in Magetan Regency.

Moenardy and Lay (1999), in their study investigated (a) the partial effect of education, work experience, work motivation, income level, socio-economic conditions, and the number of dependent family members on the productivity of female workers in the *tenun ikat* industry of South Ende District, Ende Regency and (b) the simultaneous effect of five independent variables (education and work experience, work motivation, income level, socio-economic conditions, and the number of dependent family members) on the productivity of female

workers in the *tenun ikat* industry of South Ende District, Ende Regency. The study concluded that work motivation, income level, and work experience significantly affect work productivity. Meanwhile, education and socio-economic conditions have no significant effect on work productivity. They also prove that those five independent variables have a significant effect on the productivity of female workers in the *tenun ikat* industry of South Ende District, Ende Regency.

From here, it can be seen that previous studies above and the research from Dewi and Mustika (2013) show inconsistent conclusions regarding the productivity of female workers, which is influenced by socio-economic variables. Some studies agreed that socio-economic variables positively affect productivity, while some researchers concluded that socio-economic variables do not affect productivity. Wahyu et al. (2013) have found that all socio-economic factors together have a significant effect on the productivity of female workers. Whereas individually, wage/salary, ability, and motivation have a significant effect on the productivity of female workers. On the one hand, age, the number of dependent family members, education level, work agreement, household income, as well as menstrual, pregnancy, childbirth, and breastfeeding leave individually, have no significant effect on the productivity of female workers.

Furthermore, Dewi and Mustika (2013) and Andari and Aswitari (2012) point out that the variables of age, education level, work experience, and marital status simultaneously have a significant effect on the productivity of female workers. However, it was found that age, work experience, and marital status partially had a positive and significant effect on the productivity of the female workers while the level of education did not. The inconsistency of the research results was also shown from several other studies as mentioned above. Referring to the findings of Djirimu (2019), it was stated that age had no significant effect on work productivity, while Ukkas (2017), Dewi and Mustika (2015), and Suyono and Hermawan (2015) mentioned that age had a significant effect on work productivity. Moreover, Dewi and Mustika (2015) and Moenardy and Lay (1999) confirmed that education did not affect work productivity. In contrast, the results of the study from Djirimu (2019), Ukkas (2017), and Suyono and Hermawan (2015) reinforced that the level of education had a significant effect on work productivity. The number of dependent family members was also stated not to influence the productivity of *tenun ikat* craftswomen in Klungkung Regency (2015). This is different from the findings from Suyono and Hermawan (2015) and Moenardy and Lay (1999) that the number of dependent family members significantly affects work productivity.

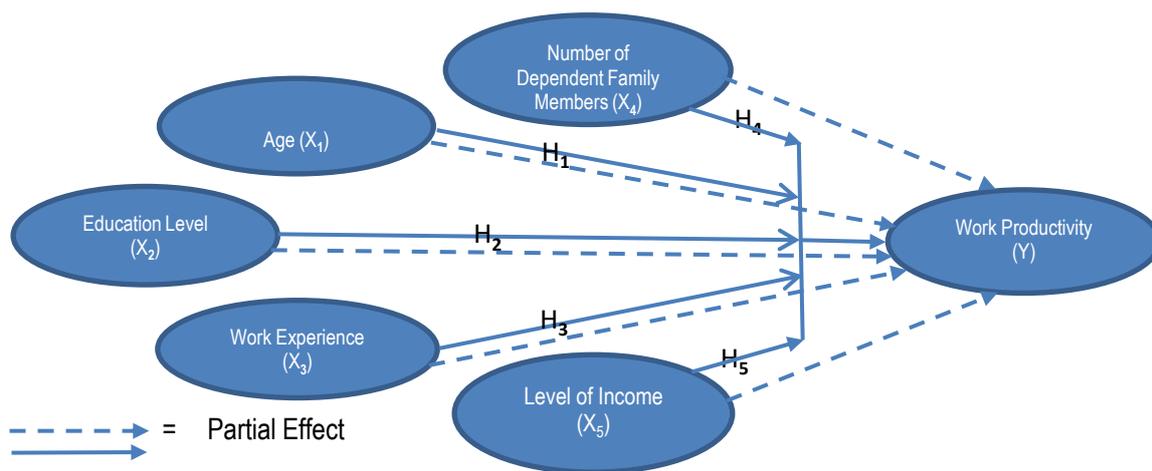


Figure 1 – Research Hypothesis

Based on the background and theoretical and empirical studies, a research model can be made in Figure 1, which shows the relationship between the variables below. The formulation of the research hypothesis is as follows:

- H₁ The age of female workers affects work productivity;
- H₂ The education level of female workers affects work productivity;
- H₃ The work experience of female workers affects work productivity;
- H₄ The number of dependent family members affects work productivity;
- H₅ The level of income affects work productivity;
- H₆ Age, education level, work experience, number of dependent family members, and income level have a simultaneous effect on work productivity.

METHODS OF RESEARCH

This study used a quantitative and descriptive qualitative approach. Quantitative analysis is used to identify, explain, and prove the research hypothesis. Meanwhile, a simple descriptive analysis was used to find out and explain the respondent's profile based on age, education level, work experience, number of dependent family members, level of income, and work productivity. Then, the average results and percentage were interpreted based on the data trend and linked to the existing theory.

Sampling was carried out purposively (purposive sampling) considering the number of population (*tenun ikat* craftswomen) and population distribution. In the first stage, three districts with the biggest population were selected from six districts in Kupang City. Furthermore, in each district, 40 *tenun ikat* craftswomen were selected as samples with the following criteria: (a) crafting *tenun ikat* is their main job and has been weaving for at least three years; (b) if the household has more than one family member, then the chosen respondent is a woman who is the wife of the family head or a woman who is the family head; and (c) if the sample is a group of *tenun ikat* craftswomen, then the selected respondents are craftswomen the wife of the family head or a woman who is the family head. The total number of respondents in this study was 120 people.

RESULTS AND DISCUSSION

The descriptive statistics from the samples show that most of the respondents were in the productive age between 25 - 60 years (93.33%). If the maximum productive age is 55 years, then the number of respondents is 99 people (82.50% of the total 120 respondents). The youngest respondent was 25 years old, while the oldest was 66. The majority of respondents only attended Primary School (85%), while respondents who pursued Secondary and Senior High School were only 7 people (5.83%) and 11 people (9.17%). Only 3 respondents (0.83%) had work experience of 3 - 5 years. The majority of the respondents have worked for more than five years (99.17%). With this number, more than half of the respondents (66.67%) have worked for more than 20 years.

The number of dependent family members on average is 3 to 8 people. There are 34 respondents (28.83%) with 4 dependent family members, 24.67% respondents with 5 dependent family members, and 15.83% respondents with 7 dependent family members. Meanwhile, respondents with 3, 6, and 8 dependent family members were relatively similar (10%, 10.83%, and 10.83%). The income level of respondents in one year (only from weaving) was very low, ranging from IDR 4 million to IDR 15 million. The income level of most respondents (94.17%) ranged from IDR 4 million to IDR 10 million. Only 5.83% of respondents had an income level above IDR 10 million. Meanwhile, the productivity level of respondents on average ranged from 1.50 to 2.00, with an average productivity level of 1.81.

The multiple linear regression analysis was done using the SPSS Version-23 program and obtained a result as summarized in Table 1. Based on the table below, the regression equation is:

$$Y = 1.487 + 0.002 X_1 + 0.020 X_2 + 0.004 X_3 + 0.014 X_4 + 0.006 X_5$$

Table 1 – The Results of Multiple Linear Regression Estimation: The Effect of Socio-Economic Factors on the Work Productivity of *Tenun Ikat* Craftswomen

No	Variable	Coefficient	t-test	Probability	Standardized Coefficient (Beta)
00	Constant	1.487	43.883	0.000	-
01	Age	0.002	3.200	0.002	0.207
02	Education Level	0.020	2.519	0.013	0.177
03	Work Experience	0.004	6.065	0.000	0.405
04	Number of Dependent Family Members	0.014	4.177	0.000	0.278
05	Level of Income	0.006	2.574	0.011	0.156

R = 0.774

F Count = 34.061

Adjust R Square = 0.581

Probability = 0.000

Source: Appendix 1, Results of Multiple Linear Regression Analysis using SPSS Version-23 Program.

Table 1 confirms the following. (a) A constant of 1.487 indicates that if age, education level, work experience, number of dependent family members, and income level are constant (no change), then the productivity level is 1.487 points. (b) The coefficient value of Age (X_1) is 0.002 indicates that age significantly and positively affects productivity. If there is an increase in age by 1 year, it will increase productivity by 0.002 points. (c) The coefficient value of education level (X_2) is 0.020, which illustrates that education has a positive and significant effect on productivity. This points out that if there is an increase in education by one level, it will increase productivity by 0.020 points. (d) The coefficient value of work experience (X_3) is 0.004. This indicates that work experience has a positive and significant effect on productivity, which means an increase in the working period by 1 year will increase productivity by 0.004 points. (e) The coefficient value of the number of dependent family members (X_4) is 0.014, which denotes that the number of dependent family members positively and significantly influences productivity. This indicates that if there is an increase in the number of dependent family members by 1 person, productivity will increase by 0.014 points. (f) The coefficient value of income level (X_5) is 0.006, which means that income positively affects productivity. This underlines that an increase in income by IDR 1 million will increase productivity by 0.006 points.

The information presented in Table1 shows the *F-count* of 34.061 with a probability of 0.000, while the *F-table* is 2.294. In other words, *F-count* (34.0631) is bigger than *F-table* (2.294). This shows that age, education level, years of service, number of dependent family members, and income level have a simultaneous effect on work productivity. Table 1 also shows the *Adjusted R Square* value of 0.581. It indicates that the variation of female workers' productivity is influenced by age, education level, years of service, number of dependent family members, and income level by 58.10%. The remaining 41.90% is explained by other variables not used in this model. It is also shown in Table 1 that the R-value is 0.774. From that number, it can be said that the relationship between female workers' productivity (Y) and the dependent variables (age, education level, years of service, number of dependent family members, and level of income) is close (strong) because the R-value has reached 0.774 or close to 1.

The results of multiple linear regression analysis, as shown in Table 1, explain that all of the proposed research hypotheses are proven. Partially, the *t-count* for all independent variables such as age (X_1), education levels (X_2), work experience (X_3), number of dependent family members (X_4), and income levels (X_5) are greater than the *t-table* at 5% significance level (1,981). This also applies to *F-count* that is simultaneously bigger than *the t-table* at a 5% significance level (1,981). Thus, the results of this study have proven that: (a) age (X_1) has a significant effect on work productivity; (b) education level (X_2) has a significant effect on work productivity; (c) work experience (X_3) has a significant effect on work productivity; (d) the number of dependent family members (X_4) has a significant effect on work productivity; (e) income level (X_5) has a significant effect on work productivity. In addition, (f) age (X_1), education levels (X_2), work experience (X_3), number of dependent family members (X_4), and income levels (X_5) simultaneously have a significant effect on work productivity. Furthermore,

when viewed from the contribution of each variable to work productivity, it is known that work experience (X_3) has the largest contribution. This can be seen from the value of the *Standardized Coefficient* that is 0.405 for work experience, 0.278 for the number of dependent family members, 0.207 for age, 0.177 for education levels, and 0.156 for income levels.

Policy Discussion and Implication

The results of the hypothesis testing show that *age* has a significant effect on the work productivity of *tenun ikat* craftswomen. The result supports Ukas (2017), Dewi and Mustika (2015), and Suyono and Hermawan (2013), but contrary to Djirimu (2019) and Wahyu (2013). The support for the research of Ukas (2017), Dewi and Mustika (2015), and Suyono and Hermawan (2013) is for workers in productive age (15 - 55 years). Meanwhile, it tends not to affect workers over 55 years old. In fact, it negatively influences work productivity, as stated by Djirimu (2019) and Wahyu (2013). This contradictory finding is in line with the opinion of Simanjuntak (1985) that if the age of the worker moves up, the productivity level will increase because the worker is in the state of productive age, but when the worker approaches old age, the productivity level will decrease due to limited physical and health factors.

Furthermore, the *education level* significantly affects the work productivity of *tenun ikat* craftswomen. The results of this study support the research conducted by Djirimu (2019), Ukas (2017), and Suyono and Hermawan (2013), but in contrast to Dewi and Mustika (2015), Wahyu (2013), Andari and Aswitari (2012), and Moenardy and Lay (1999). The results are in line with the theory and purpose of education, which emphasizes that education is a process of changing attitudes and behavior of a person or a group to improve a man's quality through teaching and training, processes, methods, and acts of educating to develop attitudes, personality, knowledge, and skills. As a process, the higher a person's level of education, the better the attitude and personality—and thus, the knowledge and skills to complete a job will be wider. Meanwhile, Dewi and Mustika (2015), Wahyu (2013), Andari and Aswitari (2012), and Moenardy and Lay (1999) show that the education level of female workers has no significant effect on work productivity. This is possible because working as a *tenun ikat* weaver does not require a higher level of education.

Apart from the contradictory findings with previous studies, this study underlines the importance of the relationship between education level and work productivity. If there is an increase in education by one level, it will increase work productivity. The implication in this study is that the effort to increase the work productivity of *tenun ikat* craftswomen is to increase the workers' knowledge and skills, especially in the *tenun ikat* industry. Technically, the production process does not require higher education, but knowledge of the market such as market needs and demands (tastes, types, motifs, and quality), market share, and the competition level is important to be recognized by the workers. Therefore, the workers will increase their productivity and make this industry the main contributor to the household economy.

The hypothesis testing in this study also shows that *work experience* significantly affects the work productivity of *tenun ikat* craftswomen. This is similar to the findings of Ukas (2017), Suyono and Hermawan (2013), Andari and Aswitari (2012) in Dewi and Mustika (2015), and Moenardy and Lay (1999). The results of this study are in line with the opinion that more experience will lead to better skills. When a person has a job that matches their expertise, it is expected that they will increase productivity (Ukkas, 2017). In other words, the results of this study can be explained through a "learning curve" or an "experience curve". In this case, *tenun ikat* craftswomen who have been working on *tenun ikat* for years will become more fluent in completing their work. With the smooth execution of work, the time needed to produce one sheet of *tenun ikat* will be shorter, and the quality will be better. Besides that, the motif or type of the products will be more in line with market needs.

Besides the results of hypothesis testing, findings from previous studies, and theoretical support, empirical facts in this study show that most of the respondents (106 respondents or 88.33%) have work experience of more than 10 years. Therefore, it is

possible to increase the expertise and skills of *tenun ikat* craftswomen. It has direct and positive implications on their work productivity. The importance of work experience among *tenun ikat* craftswomen is strengthened by the analysis results, which point out that work experience has the greatest contribution to work productivity. Compared to the other 4 variables in this study, it is reinforced that the work experience of *tenun ikat* craftswomen determines the high and low level of work productivity in the *tenun ikat* industry.

On the other hand, the variable *number of dependent family members* significantly affects the work productivity of *tenun ikat* craftswomen. This result is in line with the results of Suyono and Hermawan (2013) and Moenardy and Lay (1999) but contradictory to the results of Dewi and Mustika (2015) and Wahyu et al. (2013). These findings confirm empirical facts that, in general, households with more family members have a greater need to fulfill their daily needs than relatively small households. To meet the household needs, a big family eventually requires a high cost of living. However, if their income is relatively small, they will push themselves or their family members to work harder to increase work productivity, which will increase their income. This is also reinforced by Situngkir (2007), which mentions that if the number of dependent family members and the needs is large, the productivity level will increase because they are motivated to meet the family needs.

The next hypothesis testing shows that the *income level* has a significant effect on the work productivity of *tenun ikat* craftswomen. This result supports previous research conducted by Dewi and Mustika (2015), Suyono and Hermawan (2013), and Moenardy and Lay (1999). However, it contrasts with the research results from Wahyu et al. (2013). This finding is also in line with Simanjuntak (1985) that the level of income received by a person becomes a driving force or incentive for someone to work harder or more productive. It is further stated that a person's income and social security are directly related to the ability to meet basic needs such as food, clothing, housing, and health, which further affects their productivity. Empirical facts also show that women or housewives from poor households mostly choose to work to meet family needs. Besides, there is the desire to earn their income, fill spare time, or have certain skills that can be used to improve their quality of life. This view is reinforced by Kaufman and Hotchkiss (1999), who state that families with two sources of income (from husband and wife) will be more likely to improve their standard of living.

It can be seen that one of the main factors that encourage women from poor households, including *tenun ikat* craftswomen, to work is to help the household economy. However, the multiple linear regression analysis results showed that the income level had the smallest contribution to work productivity (with standardized coefficients value of only 0.156). In addition, the level of income of *tenun ikat* craftswomen from weaving was also very small, ranging from IDR 4 million to IDR 15 million. On average, it was IDR 333,000 to IDR 1,250,000 in one month. The low-income level of *tenun ikat* craftswomen may be caused by limited market control, especially in the target market. In general, *tenun ikat* craftswomen do not have a clear target market. These women also do not properly understand the level of demand (both motifs and types), competition, quality, and tastes or interests needed by the market. Besides those market factors, the equipment or technology used is still traditional or manual. This has inhibited the effectiveness of producing one sheet of *tenun ikat*. In addition to that, the size of the products will be limited because of the inadequate production equipment.

The condition experienced by *tenun ikat* craftswomen is in contrast with the market where almost all institutions market or commodify *tenun ikat* as core business. The facts show that the market segment and market dominance are not only limited to civil servants and residents of East Nusa Tenggara Province but also the upper-middle-class segment in the national and global market. This is shown by the growing number of entrepreneurs (intermediary traders), both in quantity and turnover, who specifically market *tenun ikat* products. For example, in the national market segment, traders who sell *tenun ikat* in the Shopping Center of Thamrin City Jakarta continue to grow. "The increase in the number of *tenun ikat* craftsmen as well as the growing number of shops that sell *tenun ikat* products can be seen from the expansion of Thamrin City Nusantara Weaving Center zone. The area was

originally on the first floor only, but now, it has expanded until the second and third floors” (<http://www.tribunnews.com/>, October 8, 2017, in Moenardy et al., 2019).

Furthermore, as Pos Kupang (March 7, 2018) reports, in the global market segmented, “Again, Indonesian designers present traditional fabrics in front of global fashion. Led by Julie S. Laiskodat (owner of the LeVico boutique) with several *tenun ikat* brands from East Nusa Tenggara Province, the show took place in Paris Fashion Week 2018 Fall and Winter Collection at Le Grand Paris on Saturday, 3 March 2018. Many world models appeared to present a collection of clothing made from *tenun ikat* at the fashion show. Models from various countries such as the United States, Europe, and Asia wore authentic East Nusa Tenggara motifs made by local weavers”. The world shows high enthusiasm knowing that *tenun ikat* is handmade, yet it is very beautiful and has the best quality. It was hoped that *tenun ikat* could be presented at London Fashion Week in September 2018 and Milan Fashion Week in October - November 2018 (Moenardy et al., 2019).

CONCLUSION

The facts above show a significant gap between *tenun ikat* craftswomen as global product producers and traders. The level of income or margin received by those craftswomen is very small compared to the traders’ level of income or margin. One alternative to narrow that gap is to increase the income or margin of the craftswomen. Therefore, the efforts to improve all research variables that significantly affect the productivity of *tenun ikat* craftswomen must be carried out simultaneously, sustainably, and in an integrated manner.

Our findings can be very strategic seen from the policy and program implementation to empower and alleviate the economy of poor households amid the Covid-19 pandemic. It needs a real and sustainable intervention for *tenun ikat* craftswomen through an integrated and comprehensive strategy involving several parties. It is also important to carry out further research by adding variables that affect the work productivity of *tenun ikat* craftswomen, including the research of socio-economic strategy to improve the household economy. It will greatly assist in formulating strategies, policies, and implementation of economic empowerment programs for poor households.

APPENDICES

Multiple Linear Regression Analysis

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.774 ^a	.599	.581	.05094

a. Predictors: (Constant), level of income, education level, age, number of dependent family members, years of service

b. Dependent Variable: Productivity

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.442	5	.088	34.061	.000 ^b
	Residual	.296	114	.003		
	Total	.738	119			

a. Dependent Variable: Productivity

b. Predictors: (Constant), level of income, education level, age, number of dependent family members, years of service

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.487	.034		43.883	.000
	Age	.002	.001	.207	3.200	.002
	Education	.020	.008	.177	2.519	.013
	Years of service	.004	.001	.405	6.065	.000
	Number of dependent family members	.014	.003	.278	4.177	.000
	Income	.006	.002	.156	2.574	.011

a. Dependent Variable: Productivity.

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