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Research Article

The Bamboo Business in Tasikmalaya, Indonesia, During the COVID-19 Pandemic

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Abstract: Globally, various sectors were adversely affected by the emergence of the COVID-19 pandemic. Therefore, this study aims to determine the economic condition of bamboo craftsmen in Mandalagiri Village, Leuwisari District, Tasikmalaya Regency, West Java Province, Indonesia. This is an in-depth research with data obtained by interviewing 35 bamboo craftsmen with various products and production scales. The results showed that craftsmen were not economically affected by the pandemic rather by the central government-stipulated regulation on social distancing, which led to their inability to transport their product from Tasikmalaya to Jakarta and other regions. However, since the government lifted the ban, their income has increased by an average of 2%. The result further showed that the main factor that keeps craftsmen from being negatively affected by the pandemic is the increasing online market demand supported by the availability of raw materials and the ability to adapt to various new model products. Other factors linked to the national market and products answer the demand of the modern market in the cities. Meanwhile, the main factors that positively affect the craftsmen's income are age and marital status.

Keywords: bamboo SME; COVID-19 pandemic; economic condition; craftsmen; Tasikmalaya

1. Introduction

The Indonesian government implemented various policies, such as large-scale social distancing, self-isolation, and travel restriction to block human-to-human transmission of the coronavirus (Directorate General of Disease Prevention and Control, 2020; Ministry of Health, 2020). This led to the closure of schools, offices, and public places to avoid mass gathering and prevent further transmission. According to Djalante et al. (2020) and Victoria (2020), these policies significantly impact Indonesia's economy because of the drastic change in the consumption pattern. Indonesia's economy relies on agriculture, industry, and services with 13.7%, 41%, and 45.4% GDP per sector, respectively (Indexmundi, 2019). In April 2020, the Minister of Finance explained that the adversity on the tourism sector, work termination, and the decreasing value of imports and export aggravated the Indonesian economy. The minister further stated that Java Island, which contributes approximately 57% to the Indonesian economy, has the highest number of coronavirus cases. Kencana (2020) stated that this condition provides a significant impact on economic prospects and community activities. According to Widyar (2020) in Supriyatno (2020), the pandemic is likely to impact on Indonesian economy until 2021 continuously.

One of the backbones for the Indonesian economy and other developing countries is a small-medium enterprise (SME). Many authors argue that the pandemic has caused several negative impacts for the SME (Abbasov & Alizada, 2016; Baker & Judge, 2020; Feranita, et al., 2020; Lutfi et al., 2020; OECD, 2020; Rosavina et al., 2019; Setiawan, 2020; Sugiri, 2020). OECD (2020) stated that the negative impact faced by micro-small-medium enterprises today is more significant than when

the global economic crisis hit in 2008. However, Rosavina et al. (2019) reported that SMEs are more resilient to sudden shocks. In addition, Narula (2020) stated that the rural economy in which most SMEs are located is less severely affected than the urban economy. For example, Roman and Grudzień (2021) stated that agro-tourism in rural areas remains profitable during the pandemic because people choose places with few visitors.

SMEs faced many challenges, such as logistical disruptions, labor mobility regulations, and a decline in market demand during the pandemic (Dai et al., 2021). Liu & Cheng (2018) stated that SMEs are more vulnerable to crises because they have lower capital reserves, less inventory, and lower productivity than larger businesses. This condition is compounded by the lack of digitalization, technology adoption, and limited online individual and family-owned SMEs (Bartik et al., 2020). According to Caballero-Morales (2021), the challenges faced are primarily due to more cash flow to retain workers, pay rent, and make infrastructure investments.

Lu et al., (2021) stated that China, as the first country to be hit by the pandemic, had a decline in SMEs due to their inability to continue work and production. The industrial sector is primarily affected by poor logistics, inadequate supply chain management, the use of online services for wholesale and retail trading, etc. Dimson et al. (2020) stated that approximately 70 percent of more than 2,200 companies in France, Germany, Italy, Spain, and the UK experienced decreased income due to the pandemic with various side effects, such as fears of defaulting loans, laying off employees, and project cancellation. It is also associated with the inability for businesses to last more than 12 months despite receiving assistance from the government in tax breaks and payments for laid-off employees.

One of the most effective strategic responses to crises is innovation (Caballero-Morales, 2021; Wenzel et al., 2020). The ability to innovate and external input through the benefits of the network is an essential determinant of small businesses (Forsman, 2011). According to Hernández-Espallardo and Delgado-Ballester (2009), innovation is essential to improve company performance.

Markovic et al. (2021) stated that SMEs tend to choose the right business partners to realize appropriate innovations during the pandemic. The selection of external partners is an essential factor in increasing open business-to-business innovation management (Bigliardi & Galati, 2016). Furthermore, collaboration built with competitors, distributors, suppliers, research institutions is needed (Bagherzadeh et al., 2021). Markovic et al. (2021) stated that collaboration with customers provides the necessary resources to develop innovations suitable for the end market.

As a home industry, bamboo handicrafts are closely related to technology that helps facilitate productivity. Changes that occur in an industry have an impact on people in the vicinity of the industrial area. Ibrahim & Nurdian (2020) stated that Covid-19 initially impacted decreasing the income of bamboo craftsmen in Antirogo Village, Jember Regency. However, the use of social media (e-commerce) increased the sales of bamboo handicrafts, and products rate returned to normal. Therefore, the presence of the pandemic changed the marketing pattern of bamboo handicrafts, which from traditional to digital.

However, market demand for this handicraft is still relatively high in some centers, even though the procurement of raw materials and product designs is still traditional, including woven bamboo crafts in Heuluwet, Leuwimunding Majalengka (Barnawi, 2020). Small and medium-sized industries that employ the services of rural communities are still needed in accelerating the economic progress of the village (Darajat, 2015).

Innovation is also carried out using business strategies through the adoption of digital transformation to maintain its continued existence until the post-pandemic era (Bai et al., 2021). The digital transformation that is prioritized is digital payments using mobile money, which needs the support of the government, supply chain partners, and the community.

Several studies related to the impact of the pandemic on human life have been conducted. However, this research discusses the pandemic's impact on health, education, tourism, and the economy in general. It specifically discusses the impact of the pandemic on the forest industry, especially SMEs engaged in processing non-timber forest products (NTFPs), such as bamboo in Indonesia.

One of the regencies in Indonesia that relies on bamboo-based SMEs for their rural economic development is Tasikmalaya. Bamboo-based SMEs create more than 17,000 job opportunities, with more than 90% concentrated in rural areas in Tasikmalaya Regency. McKibbin & Fernando (2020) stated that due to the unprecedented disaster in the last of the pandemic and the unclear economic effects, it is essential to determine the impact(s) of the pandemic on the economic conditions of the bamboo artisans in Tasikmalaya Regency. This study utilized the recovery approach, therefore, the finding is an important reference for policymakers in setting appropriate policy interventions.

2. Materials and Methods

2.1 Data Collection

Data were collected in February and March 2021 from Mandalagiri village, one of the biggest bamboo craft industry centers in Tasikmalaya Regency, West Java Province, Leuwisari sub-district (Lubis, 2008; Sakri, 2009). In Mandalagiri Village, there are 10 units of bamboo business with 97 of 430 craftsmen in Leuwisari sub-district (Statistic Indonesia of Tasikmalaya Regency, 2020). According to Gerring (2008), the bamboo business in this regency is typical, therefore, the findings are relevant to the wider population.

This research employed the purposive sampling method in the respondent selection process to guarantee that each bamboo product is represented (Tongco, 2007). Due to the data reliability issue, the authors failed to limit the minimum and maximum number of respondents until at the 35th respondent, when saturation was achieved (Fusch & Ness, 2015; Guest et al., 2006). Data were collected using in-depth interviews and questionnaires consisting of information on household socio-economic conditions before and during the pandemic, business activities of the bamboo-based business, and impacts of the virus on artisans. Government documents such as regulations related to COVID-19 responses are gathered online.

2.2 Analysis

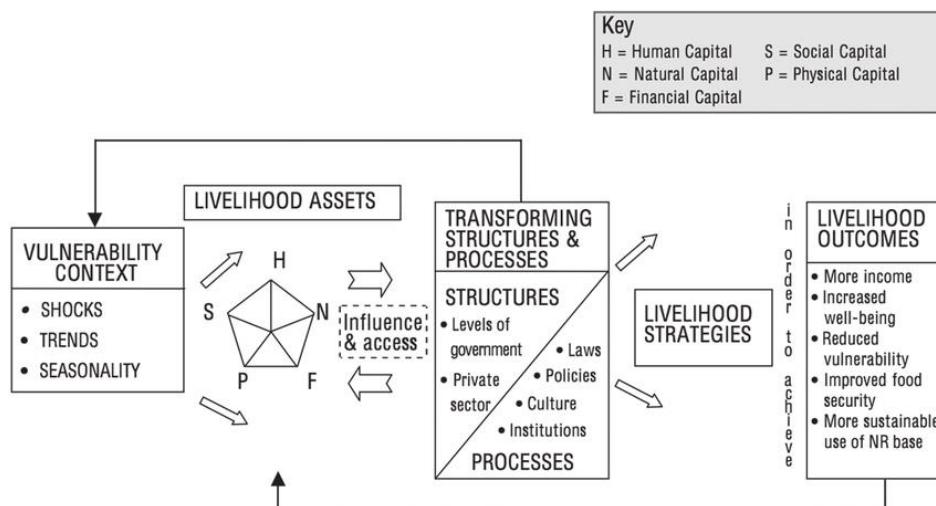


Figure 1. Sustainable Livelihoods Framework (DfID, 1999)

The data collected were analyzed using the descriptive statistics and correlation analysis, which was carried out to imply the factor(s) influence artisans' income. The dependent variable (Y) is income, and the independent variables are age (x1), marital status (x2), gender (x3), education background (x4), side job (x5), working experience (x6), and the number of family member (x7). Bowen's (2009) document analysis process was used to analyze the government's documents. Sustainable livelihoods analysis (SLA) (Department for International Development UK, 1999), which focuses on human, physical, natural, financial, and social capitals, is used to determine the pandemic's effect on bamboo artisans, as shown in Figure 1.

This concept of five capitals is commonly used to assess the capitals owned by the society and arrange the set of actions needed to create more sustainable livelihoods. This is a common approach

applied by donors in conducting action research and rural development programs. Many social studies on community development were also used in proposing livelihood strategies.

3. Results and Discussion

3.1 Respondent Characteristic and Bamboo Business Profile

Respondents came from one of the largest bamboo handicraft centers in Tasikmalaya Regency, namely the craft center Leuwisari. Of the 35 respondents, two came from Ciawang, and the remaining 33 were from Mandalagiri, with both villages located in Leuwisari District, Tasikmalaya Regency. In terms of gender, 30 respondents were men, and 5 were women with varying socio-economic conditions. The average length of education is 7.7 years, equivalent to Grade 2 in Junior High School. Almost all respondents only worked as a bamboo craftsmen, with only 4 having additional jobs. The results showed that the mean age of the respondents was 45.1 years, with 32 (91.4%) under the age of 64, which is the productive age according to the Central Statistics Agency.

The average business experience was 17.1 years, with the lowest and highest being 1 and 40 years, respectively. Of the 35 respondents, only 9 had a business experience of fewer than 10 years. Long business experience showed that the community in the Leuwisari sub-district, especially in the village of Mandalagiri, has carried out bamboo handicraft business for a long time. Some respondents state that this work has been carried out from one generation to another in line with the research carried out by Sopandi (2017), Widyaningsih et al. (2020), Sakri (2009), Setiawan (2010), and Murti (2018). This is evidenced by the fact that 11 (31.4%) respondents are under 40 years old, and the youngest is 18 years old.

Of the 35 respondents, only 4 joined the Cahaya Mandiri and Lestari Bambu craftsmen groups. The owners' also known as prominent artisans, ordered mainly semi-finished products from individual SMEs. Therefore, irrespective of these individual artisans' inability to join the group, they still benefit from the business partnership. The prominent artisans already have regular customers in the Cikini area, Jakarta, and the most saleable products are parcel holders and gift boxes.

The form of working relationship between craftsmen as members of the group and those outside was selling off. Sometimes, those in the medium/large category provided capital for their subordinates in a hectic market. In addition, they had business and social relationships between neighbors and relatives.

The working relationship in bamboo craftsmen shows a pattern of associative social relations between them, which were interrelated and strong based on relationships that need and benefit each other. They are related to business activities and neighboring hoods. Astuti (2012), stated that in addition to enhancing and maintaining the stability of their household economy, the working relationship also fosters solidarity in the form of mutual help, and trust.

The strategy carried out by these bamboo craftsmen leads to the exchange of various transactions with the ability to make an investment in a subsystem. It also shows the strategies used by the medium-scale craftsmen to maintain power and control over the small-scale craftsmen. This working relationship is one of the factors that make bamboo handicrafts survive and the ease of raw materials and market demand.

The products produced by craftsmen vary significantly, with approximately 15 semi-finished products (woven, assembled boxes) and 13 finished ones. Details of products, manufacturing quantities, sales results, and profits are shown in Figure 2. Among the many types of bamboo handicrafts produced by the people of Mandalagiri Village, container products and various deliveries were mostly produced during the pandemic.

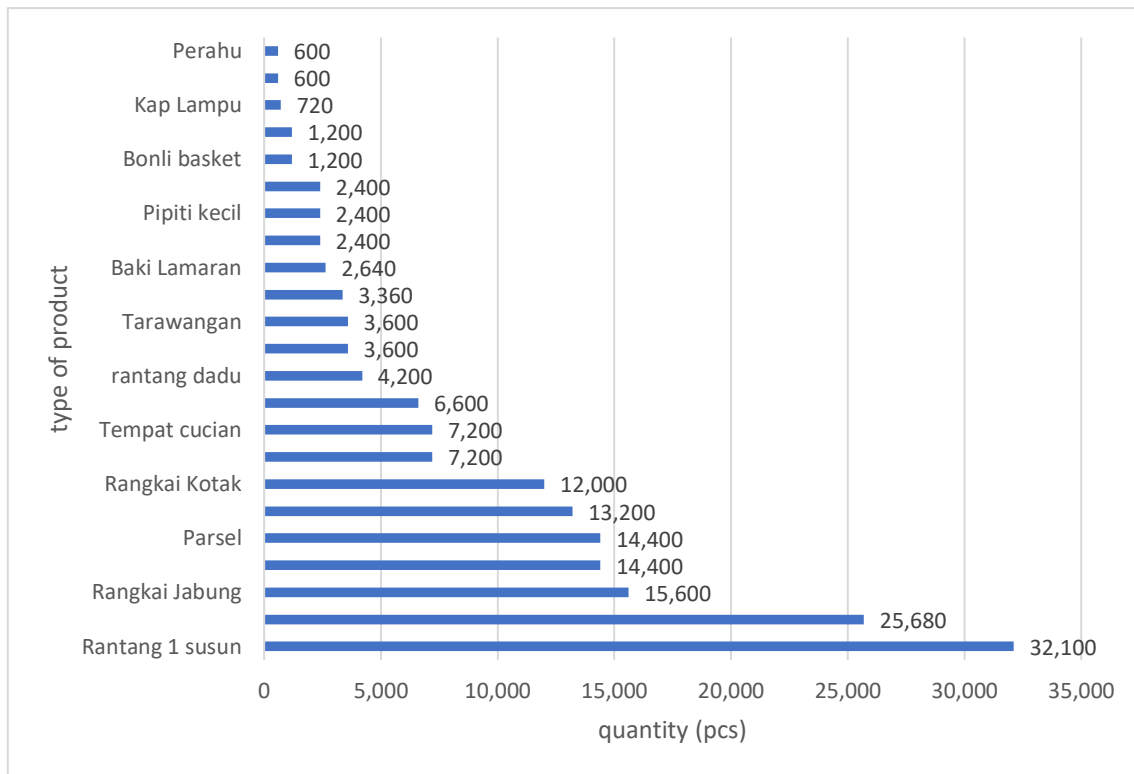


Figure 2. Type and quantity of bamboo handicraft production in Mandalagiri Village in 2020

In general, the bamboo handicraft business actors in Mandalagiri Village are still in the livelihood activity category without a micro-enterprise. There are only three business actors that fall into the small dynamic enterprise category. These individual entrepreneurs are essential in SME’s development (Liñán et al., 2019), with their ability to determine opportunities (Kirzner, 2009) and manage workers (Bell & Stellingwerf, 2012). According to Singh & Belwal (2008) they are also able to overcome challenges related to social disparities, economic growth, and job creation. The individual values of an entrepreneur are important in all cases (Spence et al., 2011).

Bamboo handicrafts in Leuwisari Subdistrict are attached to the daily life of the community, both men and women, parents and young people. They are used to make basic models of the crafts, with finishing activities carried out by skilled craftsmen. One of the businessmen in the Tasikmalaya area stated that finishing activity for several special requests were carried out in their workshops, and the craftsmen only made semi-finished goods.

The bamboo handicraft business by the people of Mandalagiri Village, Leuwisari District, has been going on for a long time and has been passed down from one generation to another. This business still exists today, and it is not affected by the modernization of various tools made of plastic or other mining materials. During the pandemic in early 2020, the bamboo handicraft business increased sales, thereby generating high profits. One type of handicraft product can generate profits of 50% of the product’s value on average. This count has not been deducted by the value of the labor, although it indicates that working as a bamboo craftsman is more profitable within the region.

During the pandemic, jobs as bamboo craftsmen were increasingly in demand by the people of Mandalagiri Village, thereby indicating better competitiveness than other business sectors in the area. According to Rosmadi (2021), apart from being profitable, these businesses also have comparative and competitive advantages used to maintain the sustainability of micro-businesses. This is similar to the research carried out by Rosyada & Wigiawati (2020), which stated that pekalongan batik micro-business actors implemented strategies to enrich product types, innovation, and business creativity during the pandemic.

The many types of handicraft products manufactured by the people of Mandalagiri Village indicate the continuous use of innovation strategy and business creativity. However, only quite a few were produced during the pandemic of these numerous types, such as bushels, set boxes, rangkai jabung, and parcels. The basket is the type of handicraft commonly produced during the

pandemic. The high demand for these goods is related to the change in consumption behavior of people in urban areas due to the pandemic.

Currently, there is a significant increase in demand by the people of Mandalagiri Village. These conditions indicate that working as a bamboo craftsman within the regions is more profitable than outside due to motivation. Economic hypothesis stresses the extrinsic drivers of decision-making in specific item product prices and input costs. The individual context refers to intrinsic motivation for decision-making (Ingram et al., 2013). It relates to individual and social conditions in which the farmer operates, such as knowledge, skills, power, and attitudinal and psychological dimensions (Greiner, 2015). Another craftsman's motivation is to continue a business pioneered by parents or other family members with craftsman skills. This woven product is a functional handicraft category because it is used to support daily life.

Bamboo crafts have comparative and competitive advantages. Simbolon (2019) stated that bamboo handicrafts have Trade Specialization Index between 0.01 - 0.8. Therefore, they are included in the category of growth or export expansion stage. Hence, the bamboo handicraft business in Mandalagiri Village, Leuwisari District, Tasikmalaya Regency still needs to be developed, although it requires several strategies. Benton et al., (2011) reported that bamboo crafts need workers to have high creativity, skill, and adequate technology. Unfortunately, Indonesia has not yet focused on training or the correct understanding of the advantages of bamboo in the world market. Therefore, the government or society has not completely developed Indonesian bamboo products (Adil et al., 2014).

3.2 Bamboo Business Performance during the COVID-19 pandemic

As previously stated in the section on general conditions, all respondents made the bamboo handicraft business their main source of livelihood. However, only four people have additional jobs, which contribute to about 1.2% of total income.

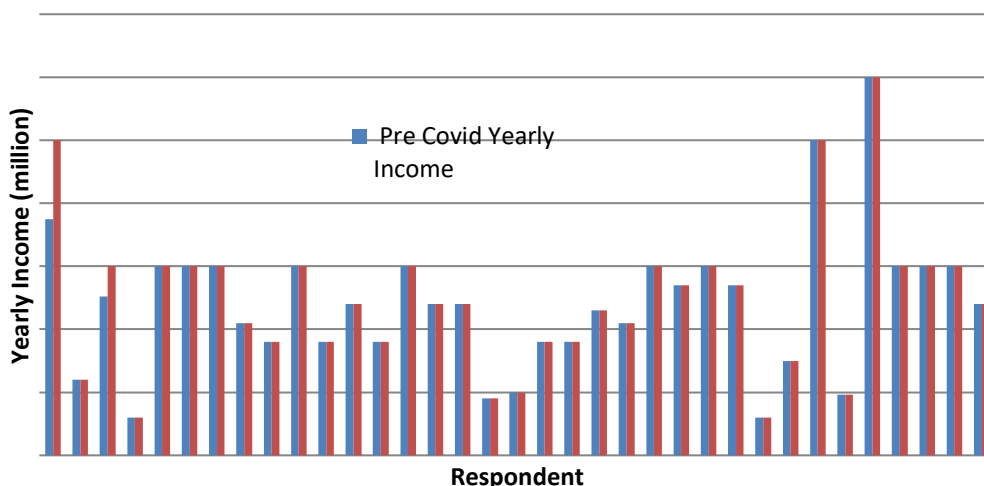


Figure 3. Annual income before and after COVID-19 pandemic

The figure above shows that during the pandemic, the income of craftsmen increased by an average value of 2%. This is certainly a surprising finding because the majority of economic sectors were negatively affected by the pandemic. Based on the interview results, there was an increase in online purchases and gifting, mostly done through the medium of delivery. This is what makes the need for various gift places and gifts made from the bamboo increase. Presently, the most ordered products at the Leuwisari bamboo craft center are various types of boxes, trays, and parcel holders.

Meanwhile, the average expenditure of a craftsman per year was IDR 45,380,571, with the highest allocation being 80.3% for basic needs, such as food, clothing, and shelter. The allocation for health is 7.5%, education is 5.8%, and the remaining 6.4% is for other needs such as pulses, transportation, and recreation.

Furthermore, the interview showed that none of the respondents had been negatively impacted economically due to the pandemic. For this reason, the impact factor is eliminated in the analysis of attributes related to the income level of craftsmen. To test it, an analysis was carried out using parametric statistics. In this analysis, the dependent variable (Y) is income, and the independent variable (X) includes age (x1), marital status (x2), gender (x3), education background (x4), side job (x5), working experience (x6), and the number of the family member (x7). The correlation equation is as follows:

$$Y = a + bx_1 + bx_2 + bx_3 + bx_4 + bx_5 + bx_6 + bx_7 + e \tag{1}$$

Before the correlation regression analysis, a preliminary analysis was carried out, which included tests for normality, homoscedasticity, non-multicollinearity, and non-autocorrelation in determining whether the independent variables used met the requirements analysis. The normality test shows that the data plot is close to the diagonal line, which indicates the variable meets the test requirements, as shown in Figure 4.

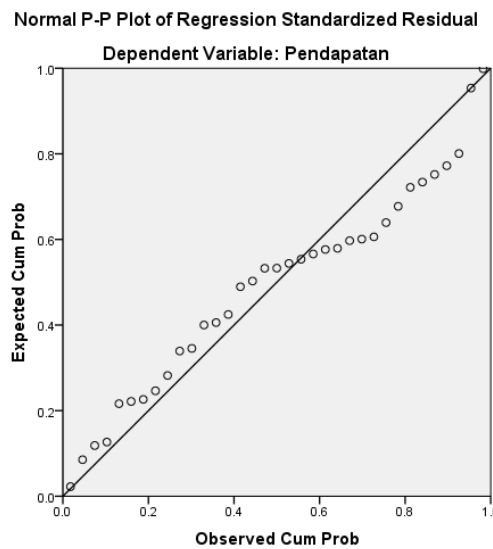


Figure 4. Result of Normality Test

The homoscedasticity test also indicated that the F count of 2.774 was greater than the F table of 2.37 at a 0.05 confidence interval, therefore the assumption of homoscedasticity was met, as shown in Appendix 1. VIF values that are less than 10 also indicate inadequate multicollinearity between variables as a condition for their analysis.

The Durbin-Watson test to determine the relationship between variables was also fulfilled, namely between the range -2 and +2. Therefore, it is concluded that there is no auto-correlation between variables, as shown in Appendix 2.

After the preliminary test was carried out and all variables met the requirements for the follow-up, a correlation regression analysis was performed, as shown in Table 1.

Table 1. Analysis of Variance

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	15727.318	7	2246.760	2.774	.026 ^b
Residual	21870.853	27	810.032		
Total	37598.171	34			

a. Dependent Variable: Income

b. Predictors: (Constant), Number of Family Member, Age, Side Job, Gender, Marital Status, Education Background, Working Experience

The analysis of variance showed that the equation is significant at a 95% confidence interval. However, the model is not strong because it only has an R of 0.647 and an R squared of 0.418, with a standard error value of 28.46105. The results of the correlation test between the dependent and independent variables are shown in Table 2.

The table shows that only two factors significantly affect income, namely age and marital status, at the 95% and 90% confidence intervals. Both have a positive effect on income, whereby the higher the age, the greater the income, and the married ones have a higher income rate than the unmarried.

Table 4 showed that the age variable has a positive and significant effect on income with a standardized beta coefficient value of 0.604 at the 95% significance level. These results are in line with the research carried out by Putri & Setiawina (2013), Ariska & Prayitno (2019), and Dewi (2012), which stated that age has a significant effect on household income. Age and experience are some of the factors used to measure a person's psychological maturity (Budiono, 2006). Age is an essential factor in supporting one's performance, affecting work productivity (Romansah, 2007). Jayeola et al. (2018), Margaretha & Supartika (2016), and Keiku et al., (2020) stated that age determines the level of experience, thinking maturity, and the ability of a business actor to determine strategies to win the business competition. An increase in age also affects a person's ability to optimize their experience and potential resources to take advantage of opportunities and face their business challenges (Gimmon et al., 2018; Sukardi, 2011). Furthermore, it is one factor determining the success rate of a business and capable of directly affecting the income level of the business actor. Therefore, based on the research results and several previous studies, the age of the business actor has a strong relationship with income. The more mature a person is, the more significant the positive impact on income level in conducting business.

Table 2. Coefficients Number of Each Variable

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
(Constant)	-28.076	51.570		-.544	.591
Age	1.446	.570	.604	2.539	.017
Marital Status	23.528	13.811	.287	1.704	.100
Gender	-16.490	14.330	-.176	-1.151	.260
Education Background	.490	2.905	.033	.169	.867
Side Job	8.702	15.699	.084	.554	.584
Working Experience	-.443	.695	-.148	-.638	.529
Number of Family Member	2.285	6.149	.059	.372	.713

a. Dependent Variable: Income

Apart from age, marital status has a positive and significant relationship with income at a significance value of 90%. The research carried out by Akbariandhini & Prakoso (2020) and Thasya & Muhammad (2017) stated that marital status significantly affects a person's income, with married people earning higher than unmarried. Marital status tends to affect a person's motivation to earn income and meet the needs of all family members (Christopher et al., 2019; Hardin, 2019). Therefore, based on this research and preliminary studies, marital status determines the motivation of business actors to increase their income.

3.3 Impacting Government Regulations to Bamboo-based Industry in Tasikmalaya Regency

From March 2020 to March 2021, more than 105 regulations related to COVID-19 pandemic responses have been stipulated in national, West Java Province, and DKI Jakarta. The number of regulations increased when combined with lower-level regulations such as regency or municipality levels. The main issue of the pandemic responses is to minimize the spread of the virus. Most of the regulations are related to the strategies used to reduce the people contact, localize the virus, and

respond to healing those affected by the virus. Response to implementing social distancing is not an issue for the bamboo business, as the artisans tend to work individually in their workshops. However, response related to the travel ban hit the market, especially when it was implemented in Jakarta.

Figures 5 and 6 showed the regulation stipulated by The Central Government, related ministries, the National Taskforce for COVID-19, and provincial governments of DKI Jakarta that affect the bamboo business in Tasikmalaya.

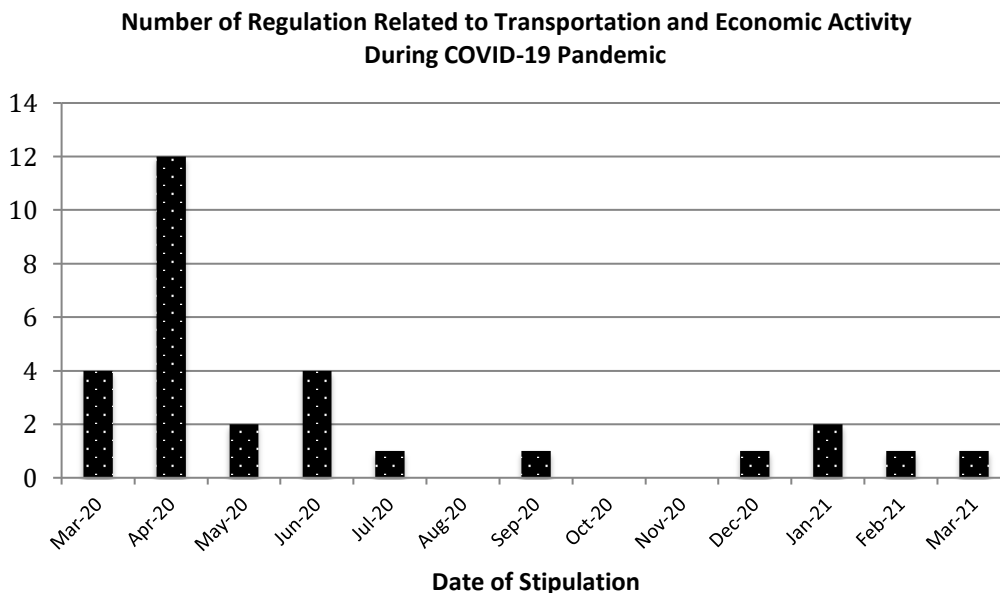


Figure 5. Historical Response Affecting to Bamboo Business in Tasikmalaya

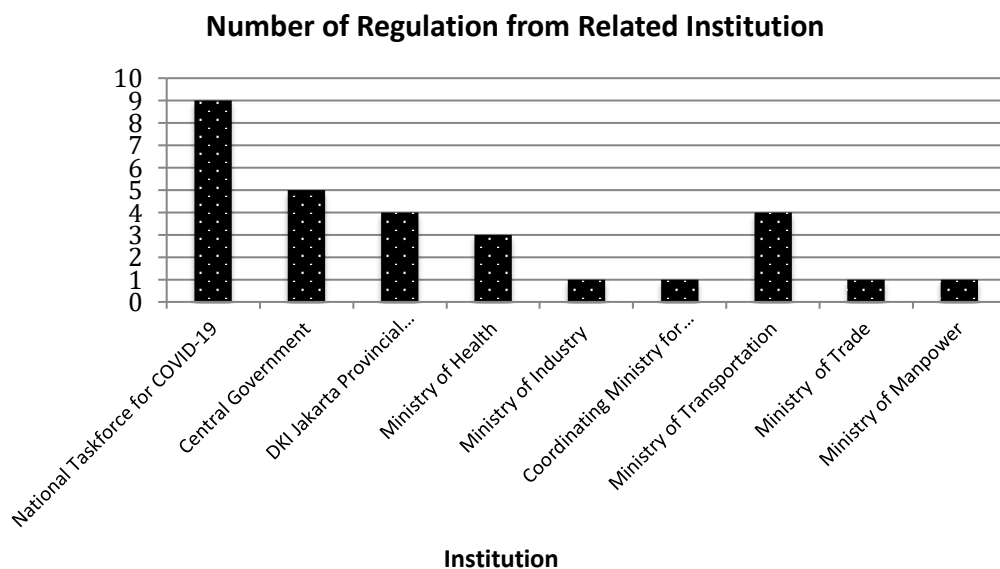


Figure 6. Regulatory Issuing Institution Affecting Bamboo Business in Tasikmalaya

The Indonesian government reacted by implementing more stringent measures to reduce its spread after the World Health Organization termed the corona virus a global pandemic on 11th March 2020. On 13th March 2021, National Taskforce for COVID-19 was established, which further led to the few regulations that affected the bamboo business in Tasikmalaya. The regulations restrict people's movement, and it directly affected bamboo product transportation. Some checkpoints

were erected mainly in the borders between regencies. DKI Jakarta province, which has the most significant number of positive cases, was categorized as a black zone. From March to May 2021, the enforcement of transport restrictions was strict.

According to Boone et al., (2020) and Killian et al. (2020), the pandemic hit the business sector hard. Fortunately, the main problem of the bamboo business is only on product transportation to a neighboring province via DKI Jakarta, which is one of the central issues in economic activity (Gray, 2020; Mogaji, 2020). Since April 2020, the Central Government, Ministry of Trade, Ministry of Industry, and Coordinating Ministry of Economic Affairs have anticipated the negative impact of the pandemic for the business and economic sectors, which impact on the relaxation of products transportation. From June 2021 to date, transportation is no longer an issue for the bamboo industry in Tasikmalaya.

3.4 Sustainable Livelihoods Analysis of Bamboo-based Industry in Tasikmalaya Regency

In terms of the vulnerability context of the bamboo craftsmen, the common source of vulnerability comes from the changing trends. However, the current vulnerability comes from the pandemic effect and the following responses from the government through their regulations. Table 3 shows the performance of the artisans' livelihood capitals during the pandemic. The big artisans that provide jobs or orders to the small artisans experienced challenges related to transporting the final products, which affected the physical and financial capital. When the travel ban was lifted, transporting matter was no longer an issue.

Table 3. Five Livelihoods Capitals of Bamboo Artisans During COVID-19 Pandemic

Capital	Description	Impacted by COVID-19 pandemic and its response	Strategy to strengthen the capital
Human	<ul style="list-style-type: none"> • Skillful artisan • Patience • Determined to the job 	No	<ul style="list-style-type: none"> • Keep accepting new orders. They make it adequate after learning to replicate in a day.
Physical	<ul style="list-style-type: none"> • Do not require a decent workshop • Do not require hi-tech equipment and tool. • Work individually in their house. • Transport service depends on the third party. 	Yes, particularly in transporting products to Jakarta	<ul style="list-style-type: none"> • Cooperate with a travel agent that keeps providing service events during travel ban periods.
Natural	<ul style="list-style-type: none"> • Nearby bamboo forests in Mount Galunggung Protection Forest Region • The bamboo forest is healthy and able to produce the required bamboo pole specification. No seasonality 	No	<ul style="list-style-type: none"> • Keep maintaining a good relationship with the bamboo pole provider
Social	<ul style="list-style-type: none"> • Well-established social relationship/partnership (<i>gotong royong</i>) 	No	<ul style="list-style-type: none"> • Keep maintaining a good partnership with the employer
Financial	<ul style="list-style-type: none"> • The ability of big artisan (employer) to provide down payment for smaller artisans (worker) • The ability of big artisan to maintain business with buyers outside Tasikmalaya 	Yes, particularly during travel ban periods. They allocated more money for final product transportation	<ul style="list-style-type: none"> • Keep maintaining a good partnership with the customers

3.5 Why Bamboo Business Remains Exist During the COVID-19 Pandemic?

The bamboo-based handicraft business has become the main source of livelihood for a significant population in Mandalagiri Village with comparative and competitive advantages. This means that the products produced are not only able to meet the needs of their region, they are able to have the ability to supply the needs of other regions.

In general, bamboo raw materials are still relatively easy to obtain by craftsmen because the majority obtains it from suppliers around Tasikmalaya Regency. The origin of this raw material is very important because it is related to the purchasing price. Furthermore, the closer they are to the source of raw materials, the more efficient the cost of supplying raw materials. Generally, the craftsmen do not have difficulties accessing capital because the working relationship between medium and small-scale craftsmen is well established. Medium-scale craftsmen (big artisan) always support capital for the craftsmen that are under the agreement for the product to be paid up to the capital provider. The ease of raw materials, access to capital, and market demand increase the public's interest in the bamboo handicraft business. This shows that the social capital owned by the associated parties is relatively reasonable and acts as an asset that is less important in encouraging business stability.

Recently, there is an increase in demand for working as a bamboo craftsman by the people of Mandalagiri Village due to its cost-effectiveness and high profits. One type of handicraft product, on average, generates a profit of 50% of the value of the product, excluding labor. However, this condition shows that working as a bamboo craftsman is more profitable than working outside the region. In addition, 100% of the respondents stated that the businesses fulfill their monthly needs.

The inception of the COVID-19 pandemic has, directly and indirectly, changed people's lifestyles, especially in densely populated urban areas. People are mandated to stay at home more and avoid crowded areas. The bamboo handicraft products produced by the people of Mandalagiri Village have responded to changes in people's consumption behavior in the new normal era. For example, products were manufactured for people's needs in urban areas used for culinary sales in the pandemic era.

The pandemic is a blessing in disguise for this industry. Moreover, SMEs are more flexible to adapt the new business environment than large firms (Soriano & Dobon, 2009), and their power of survival is strong (Liñán et al., 2019). The changing pattern of people-to-people communication and relationship also triggered and hastened the development of e-commerce. Supported by social media platforms, distance is no longer an issue. Almost all business activities are carried out on technological gadgets, such as window shopping, placing an order, and paying bills. The bamboo business in Tasikmalaya is capitalizing on this new era, and the products answer the demand of the market, especially the modern market in the cities. This condition was proven during the COVID-19 pandemic with an increase in the demand for bamboo handicrafts. Through the handy artisans, bamboo products remain a market share in this modern era.

4. Conclusions

Research related to the impact of the COVID-19 pandemic in Indonesia has not been adequately conducted in aspects of health, tourism, and education, while the impact on small and medium enterprises (SMEs) such as bamboo handicrafts is still limited. Therefore, this research determined the effect of the pandemic on the economic condition of bamboo craftsmen and the influencing factors.

The research showed that the COVID-19 pandemic positively impacted the income of bamboo craftsmen in Mandalagiri Village with an average income increase of 2% due to demanding factors, availability of raw materials, and public interest in businesses ease of access to capital. However, at Leuwisari, the bamboo handicraft center is still in the category of livelihood activities and has not yet led to micro-enterprises. This indicates a weakness in their ability to determine the type of product and selling price. This research only determines the economic aspect of an increase or decrease in income. Further research is needed to determine the effect of the pandemic on other economic aspects such as employment and also related to efforts to keep the craft business sustainable. For example, through digitalization technology innovation or other efforts to increase performance and contribute to business sustainability and the challenges of socio-economic and cultural behavior faced by handicraft businesses related to the acceptance of these digital technology innovations. Similar research also needs to be carried out in other craft industry centers, such as Bali, Yogyakarta, which are well-known tourist attractions.

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Appendix 1. Homoscedicity test result

Model	Coefficients ^a						
	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
	B	Std. Error				Tolerance	VIF
(Constant)	18.980	54.115		.351	.729		
Age	1.446	.570	.604	2.539	.017	.381	2.624
Marital Status	-23.528	13.811	-.287	-1.704	.100	.758	1.319
Gender	-16.490	14.330	-.176	-1.151	.260	.920	1.086
Education Background	.490	2.905	.033	.169	.867	.574	1.741
Side Job	8.702	15.699	.084	.554	.584	.928	1.078
Working Experience	-.443	.695	-.148	-.638	.529	.402	2.486
Number of Family Member	2.285	6.149	.059	.372	.713	.858	1.166

a. Dependent Variable: Income

Appendix 2. Durbin-Watson test result

Model	Model Summary ^b				
	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
	.647 ^a	.418	.267	28.46105	1.448

a. Predictors: (Constant), Number of Family Member, Age, Side Job, Gender, Marital Status, Education Background, Working Experience

b. Dependent Variable: Income

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