



Analysis of producer behavior in the creative hair craft industry in Purbalingga due to the covid-19 pandemic

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Abstract. The creative hair craft industry is a famous product in Purbalingga Regency. Its performance has already declined during the Covid-19 pandemic, like other businesses in general. The aim of this research was to analyze the microeconomic field of this creative industry, namely the perspective of producer behavior. The method used in this research was profitability and efficiency analysis. Based on purposive random sampling, 96 respondents from hair craft entrepreneurs were taken as samples. The research found that: (1) Under normal conditions, on average a hair craft entrepreneur could earn IDR 5 million per month, in fact, one of them was able to achieve the highest profit of IDR 25 million, and the lowest was IDR 500 thousand. Conversely, when the pandemic, on average each entrepreneur dropped to a loss of IDR300 thousand per month, whereas there were entrepreneurs who could still earn a profit of IDR 4.5 million but had a loss of IDR 400 thousand; (2) Under normal conditions, the average R/C ratio showed 1.6, meaning that the revenues could cover the costs. Contrarily, during the pandemic, the average R/C ratio showed 0.96, lower than 1, meaning that there were not enough revenues to cover the costs (inefficiency). Therefore, this research found that the pandemic had an impact on disrupting the behavior of hair craft entrepreneurs, especially on the production side. Hence, it needs full support to restore its performance from various parties, namely local government, investors, banking, social media, local communities, etc. Thus, this local industry continues to exist as a leading one.

Keywords: Producer Behaviour, Creative Hair Craft, Covid-19

1. Introduction

At the close of 2019, a new pneumonia disease, known as Covid-19 and originating from Wuhan, China, rapidly disseminated worldwide, including in Indonesia [1][2][3]. Consequently, various countries implemented a range of strategies in response to Covid-19, such as lockdowns and measures to enforce social and physical distancing, which were referred to as Large-Scale Social Restrictions (PSBB) in Indonesia [4]. This particular policy led to a significant decrease in the revenue of micro, small, and medium-scale industries, causing many to suspend their operations [5][6].

The hair craft creative industry in Purbalingga Regency, which has provided employment for a significant workforce, has also experienced the effects of the Covid-19 pandemic. According to information from the Purbalingga Manpower Office in 2020, a total of 1,300 employees across nine companies in Purbalingga were let go, with a substantial portion originating from factories and creative hair craft enterprises.



The impact of the PSBB policy in 2020, transitioning into the PPKM in 2021, was keenly felt by individuals employed in the hair craft industry. Not only did this result in reduced or entirely absent incomes, as these workers became victims of layoffs, but it also necessitated cutbacks in their household finances [7][8][9]. In other words, as members of households, they found themselves compelled to alter their consumption patterns and diligently seek alternative income sources. This study primarily focuses on investigating the changes in the economic behavior of hair craft industry workers due to the Covid-19 pandemic, with particular emphasis on their roles as producers (sub-producers/workers).

2. Literature Review

According to reports from the World Bank and the International Monetary Fund (IMF), a substantial downturn in the global economy occurred in the first quarter of 2020, resulting in the impending recession of numerous countries [10][11]. Nonetheless, this quarter saw a number of nations continue to have positive economic development [12]. Global crises have generally resulted from the Covid-19 epidemic in the first quarter of 2020, with the economy contracting by 6% when compared to the same quarter the previous year [13].

In Indonesia, the Covid-19 pandemic has had detrimental effects on various industries, particularly those at a micro, small, and medium scale, such as tourism and retail trade. According to data from the Central Statistics Agency in 2020, the number of foreign tourists visiting Indonesia in the first quarter plummeted by 34.9 percent, totaling only 2.61 million visitors, compared to the same period in the previous year as reported by Pakpahan [14]. This decline in foreign tourist numbers directly impacted the income of businesses operating within these smaller scales because tourists typically contribute significantly by purchasing local crafts, as highlighted by [15]. The weakened state of the tourism and retail sectors has a cascading effect on the overall performance of micro, small, and medium scale industries nationwide, leading to a decrease in state tax revenues [16].

Additionally, the pandemic's impact extends to the export sector, particularly concerning oil, gas, and non-oil products sent to China, one of the world's major crude oil importers. Indonesia, being one of China's significant trading partners, faced challenges due to reduced exports [17]. This situation was exacerbated by negative corrections in Chinese production, disrupting global trade supply chains [13].

3. Research Methodology

In this research, primary data is employed, targeting all entrepreneurs operating in the creative hair craft industry residing in Purbalingga Regency. Ascertaining the exact population size is challenging, so a method known as incidental sampling is utilized. This approach involves selecting samples based on chance, meaning anyone encountered by the researcher can be considered as a potential sample, assuming that the individuals met are suitable data sources (referred to as non-probability sampling), following the guidelines outlined by Lemeshow [18]. The selection of workers as samples is determined by applying the Lemeshow formula from 1997, as follows:

$$n = \frac{p(1-p)\left(\frac{Z\alpha}{2}\right)^2}{D^2}$$

$$n = \frac{p(1-p)\left(\frac{Z\alpha}{2}\right)^2}{D^2}$$

$$n = \frac{0,5(1-0,5)(1,96^2)}{0,1^2}$$

$$n = 96$$



where:

n = minimum sample size

Z = distribution of standard value

p = outcome prevalence (maximum estimation)

D = tolerance of error

Hence, the sample size for this study comprises 96 entrepreneurs, chosen with the consideration that this number adequately represents the entire population. The survey method employed in this research encompasses two techniques: deep interviews and questionnaires.

Profitability is computed as the difference between Total Revenue (TR) and Total Cost (TC), expressed as:

$$\text{Profit} = \text{TR} - \text{TC}$$

Furthermore, economic efficiency is assessed through the Revenue/Cost (R/C) ratio, which reflects the relationship between revenue and costs incurred by hair craftsmen. The R/C ratio is determined by dividing the total revenue by the total cost, as defined by Soekartawi [19].

$$\text{R/C ratio} = \text{TR/TC}$$

In this equation, Total Revenue (TR) accounts for all income generated from the sales of hair craft products, while Total Cost (TC) represents all the expenses associated with each stage of hair craft production. A higher R/C ratio signifies greater profit potential, achievable through more efficient allocation of production resources, as suggested by Soekartawi [19].

4. Results and Discussion

In order to assess profitability, it is essential to consider two key variables: total revenue (TR) and total cost (TC). This study aims to compare the profitability levels before and during the pandemic. Table 1 presented below illustrates these comparative conditions.

Table 1. Business condition of hair craft industry before the pandemic (million IDR/month)

Statistical value	Revenue (R)	Cost (C)	Profitability	R/C Ratio
Total	1,266	790	476	1.6
Average	13	8	5	1.6
Maximum	34	9	25	
Minimum	3	2	1	

Prior to the pandemic, the average monthly earnings of each hair craft entrepreneur amounted to approximately IDR 5 million. Some entrepreneurs even achieved maximum profits of up to IDR 25 million, while others only managed to earn a modest profit of IDR 1 million. This diversity in profit levels held promise and served as the primary source of livelihood for many. Overall, the total revenue generated by all the surveyed entrepreneurs (96 in total) was approximately IDR 1,266 million, with total costs amounting to around IDR 790 million. These figures represented significant economic activity for a hub of micro and small industries, and some entrepreneurs even reached sales figures of up to IDR 34 million. Nevertheless, some entrepreneurs still struggled to achieve minimal profits, such as IDR 1 million per month, highlighting the need for support to enhance their performance.

However, when the pandemic struck, the situation took a sharp turn. Total revenue for these entrepreneurs plummeted by nearly 60 percent, dropping from about IDR 13.18 million to approximately IDR 8.32 million per month. Interestingly, their total costs actually increased from around 8.22 million rupiah to 8.62 million rupiah per month. Consequently, on average, entrepreneurs faced a monthly loss of approximately 305 million rupiah. The financial challenges they encountered during the pandemic are detailed in Table 2 below.

Table 2. Business condition of hair craft industry during the pandemic (IDR million /month)

Statistical value	Revenue (R)	Cost (C)	Profitability	R/C ratio
Total	799	828	-29	0.96
Average	8.3	8.6	-0.3	0.96
Maximum	16.3	10.8	5.5	
Minimum	1.2	1.5	-0.3	

Nonetheless, amidst this challenging situation, there were entrepreneurs who managed to maintain a total revenue of approximately IDR 16.3 million. Among the entrepreneurs experiencing an average monthly loss of IDR 0.3 million, there were those facing a slightly higher loss of IDR 0.3 million. This situation underscores a stark contrast in profit, where, prior to the pandemic, they could generate substantial revenues, but during the pandemic, they found themselves incurring losses.

The subsequent analysis focuses on economic efficiency, aiming to assess the effectiveness of their business operations. To address this question, the R/C (Revenue/Cost) ratio is employed. A ratio value of 1 indicates a reasonable level of efficiency, and values exceeding 1 indicate better efficiency. Conversely, when the ratio is less than 1, it signifies inefficiency. These conditions are presented in Tables 1 and 2 above.

Before the pandemic, the average R/C ratio for each entrepreneur was 1.6, indicating that their revenues exceeded their costs by a factor of 1.6. However, during the pandemic, the average R/C ratio for entrepreneurs dropped below 1, specifically to 0.96. This suggests that their revenues were insufficient to cover their costs, reflecting a state of inefficiency. In other words, they faced significant challenges during the economic downturn and had to make every effort to sustain their business, as temporarily closing their businesses might have been a reasonable option.

6. Conclusion

In conclusion, the advent of the pandemic has led to a notable decline in the performance of micro and small enterprises, including those in the hair craft creative industry. The average profitability of entrepreneurs has seen a sharp downturn. Whereas substantial profits were attainable before the pandemic, they now face losses during this period. Similarly, their economic efficiency has taken a significant hit. The R/C (Revenue/Cost) ratio, which was at 1.6 before the pandemic, signifying those revenues comfortably covered costs, has plummeted to less than 1 during the pandemic, specifically 0.96, indicating that costs surpass revenues. Given this situation, it is imperative to garner comprehensive support from various stakeholders to ensure the continuity of this creative industry as a leading sector.

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