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## **Prediction On Difference In Micro, Small Medium Enterprises-Revenue After Getting Vacuum Frying And Spinner Assistance**

Prediksi Perbedaan Pendapatan Usaha Mikro, Kecil dan Menengah Setelah mendapatkan Bantuan Peralatan Mesin Vacuum Frying dan Spinner

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### **ABSTRACT**

*Doktor Mengabdikan is a community service program at Universitas Brawijaya that is carried out to improve the welfare of the community. One of the efforts to help the community in completing its packaging is by providing assistance in the form of business equipment. The purpose of this study is to investigate the difference in income of Small medium enterprises, Lele Sehat (IGF) which has been provided with the help of vacuum frying and spinners machines. Data retrieval was done through interviews and live observations. The data were tested for its normality and further analyzed using a paired t-test. The results showed that there was a difference in income of small-medium enterprises difference between before and after getting tool assistance. Prior income was IDR 3,007,000. It was increased to IDR. 4,097,000. This indicates that providing tools to small-medium enterprises will increase income and indirectly improve their welfare.*

### **ABSTRAK**

Doktor mengabdikan adalah program pengabdian masyarakat di Universitas Brawijaya yang dilakukan untuk meningkatkan kesejahteraan masyarakat. Salah satu usaha untuk membantu masyarakat dalam menyelesaikan permasalahannya adalah dengan memberikan bantuan berupa peralatan usaha. Tujuan dari studi ini adalah mengetahui perbedaan pendapatan UMKM Lele Sehat (IGF) yang telah di berikan bantuan alat *vacuum frying* dan *spinner*. Pengambilan data dilakukan melalui wawancara dan pengamatan langsung. Data di uji normalitasnya dan di lakukan pengujian paired t test. Hasil pengujian menunjukkan bahwa terdapat perbedaan pendapatan small medium enterprises antara sebelum dan sesudah mendapatkan bantuan alat. Pendapatan yang sebelumnya Rp. 3.007.000 meningkat menjadi sebesar Rp. 4.097.000. Hal ini menunjukkan bahwa pemberian alat pada UMKM akan dapat meningkatkan pendapatan dan secara tidak langsung meningkatkan kesejahteraannya.

### **KEYWORDS**

***Diversification, Micro Small medium enterprises, Revenue, Vacuum frying, t-test***

### **INTRODUCTION**

Micro, small and medium Enterprises based on Law No. 20/2008 on MSMEs (Micro, Small and Medium Enterprises) is a productive

business owned by individuals and/or individual business entities that meet the criteria of Micro enterprises as stipulated in this Law [1]. MSMEs is a forum for joint venture activities for producers

and consumers who play a role in expanding the provision of jobs, making a significant contribution to economic growth, and equalizing the increase in income. Micro Small and Medium Enterprises are a strategic business area to accelerate structural changes to improve people's living standards and pillars of economic development [2].

Paciran-Lamongan subdistrict is located on the north coast, which is one of the areas that has considerable potential in the field of fisheries and marine, namely, fish/shrimp cultivation. One of the most in-demand and fresh water aquacultured fish is catfish. [3]. One of the MSMEs located in Paciran Sub-District, namely, in Kandangsemangkon Village is MSME Lele Sehat (IGF). This MSME is engaged in the cultivation of catfish, but has a desire to expand its business by diversifying processed catfish.

Some of the problems faced by Lele Sehat (IGF) in diversifying fish and increasing economic activity are (1) abundant catfish cultivation crops, but not absorbed by market demand and; (2) Ignorance in the processing of diversified products. Therefore, in 2020, the program of "DOKTOR MENGABDI" was carried out by providing product processing training and the assistance of production machinery in the form of Vacuum frying and spinner.

Vacuum frying is a frying pan using low pressure in a vacuum. Thus, that the condition will occur evaporation evenly and quickly. This vacuum fryer in principle lowers the moisture content of the product and uses a low temperature to maintain the nutritional content of the product. This vacuum frying uses a low temperature of about 80 - 90 °C (fruit) and a type of meat about 90 – 100°C [4]. Spinner is an oil drainer that uses centrifugal force to remove oil [5].

After the program, there is still no estimation of the profit and revenue changes that will be experienced by MSMEs. The temporary hypothesis is that the provision of vacuum frying and spinner machines will increase the revenue of MSMEs. Therefore, in this study, we analyzed

the changes in MSME revenue before and after obtaining vacuum frying and spinner machines.

## MATERIALS AND METHODS

### Study Location

The location of the conducted study was in The Village of Kandang Semangkon, Paciran District, Lamongan Regency, East Java, Indonesia.

### Research Methods

The research method used was a case study, that is, a method based on a phenomenon that occurs in a region by looking directly at objects or problems that arise in a region. In the case of this study, there was the Vacuum Frying and spinner conferment to MSME Lele Sehat (IGF) with the activities of "Doktor Mengabdi" Brawijaya University.

### Data collection

The population data sample in this study is 11 months of MSME Income. Therefore, sample as much as 11 data. The type of data used in this study was the primary data. The primary data was obtained directly in the form of data from live observations and interviews with MSME Owners.

### Analysis Data

The technique used to analyze the data was Paired T-test. Before testing, the data was tested for its normality using Kolmogorov Smirnov method. All analysis was done using Minitab ver. 17 statistical software.

## RESULTS AND DISCUSSION

### Machines Aid

Vacuum frying and spinner machines were given to MSME Lele Sehat (IGF) through the "Doktor Mengabdi" program of Brawijaya University. The figure of vacuum frying and spinner is depicted in Figure 1. By this program, MSMEs do not need to spend investment funds on their catfish production processing plans. The provision of assistance was done not only on the machinery, but also on packaging and manufacturing of the design of labels and certifications. This assistance, of course, greatly lowers the initial infestation needed for the production process. In the long run of course, it

will have a huge impact on the income that will be received.



**Fig. 1.** Relief Tool for Healthy Catfish SME (IGF). A: Vacuum frying and B: spinner

### Increase in MSME Revenue

T-Paired is one of the statistical tools that uses data before and after treatment, judging by the average sample value in the same population [6]. T-pair tests are used as comparative tests or differences when the data scale of both variables is quantitative (interval or ratio). T-pair test requirements are the difference between two normal distributed data groups [7; 8]. The results of normality testing conducted using Kolmogorov-Smirnov analysis can be seen in Figure 2.

Based on the normality test results obtained information : (a) Income level data prior to the help of normal distribution tools. This can be seen from the probability of Kolmogorov Smirnov test results that the average income level before the assistance of vacuum frying tools and spinners is Rp. 3,007,000 ( $p > 0.05$ ). (b) Income level data after the help of normal distribution tools. This can be seen from the probability of Kolmogorov Smirnov test results that the average income level after tool assistance is Rp. 4,097,000 ( $p > 0.05$ ). These results show that data generated from live interviews with SME owners is normally distributed and can be continued with paired-T testing.

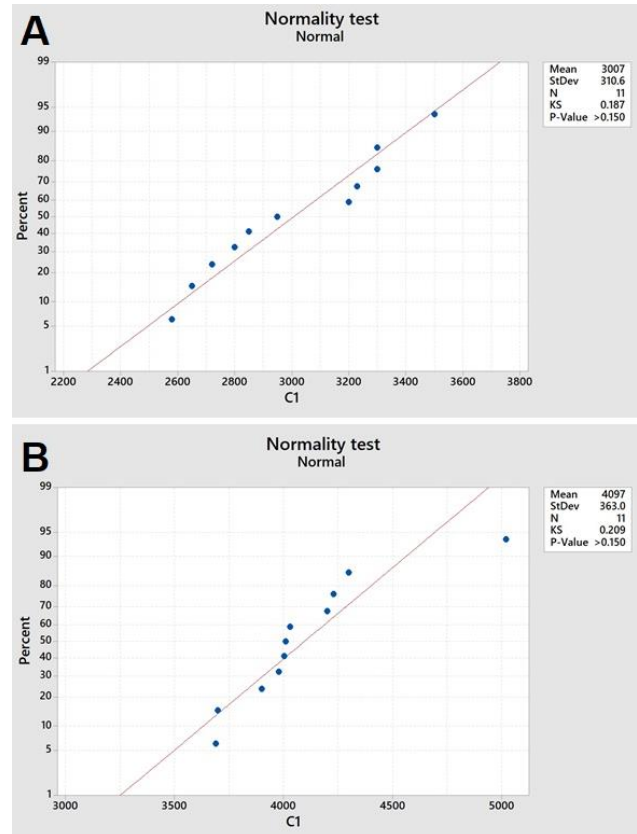
**Table 2.** Paired T-test results.

	N	Mean	StDev	SE Mean
Before	11	3.007	311	94
After	11	4.097	363	109
Difference	11	-1.090	561	169

Note: 95% CI for mean difference: (-1466, -713)

T-Test of mean difference = 0 (vs  $\neq$  0):

T-Value = -6.44 P-Value = 0.000



**Figure 2.** Kolmogorov-Smirnov Normality Test Results. A: Data before Help Tool, B: Data After Help Tool

Paired T-test results can be viewed in Table 1. Test results using a 95% confident showed that there was a noticeable difference between earnings before and after receiving production equipment assistance.

Income difference between before diversification by processing of catfish with catfish crisp and afterwards. These results show that this increase in revenue occurs due to the help of vacuum frying and spinner tools. The provision of free production tools will generally increase the MSME revenue significantly. This result is also in accordance with a report from Prihanto et al. [9] which reported that the provision of smoking tools for free to partners was able to increase the revenue of SME processing smoked fish in tuban area.

Corporate Social Responsibility, which is able to increase revenue by 1.5% per year [10]. Lending and providing business capital are also consistently able to increase SME income [11; 12]. In general, there is a high consistency that

the assistance directly provided by outsiders to increase SME productivity always shows good results

## CONCLUSIONS and SUGGESTIONS

“Doktor Mengabdikan” that provides assistance tools in the form of vacuum frying and spinner to SME Lele Sehat (IGF) is predicted to increase revenue from the previous IDR. 3,007,000 to IDR. 4,097,000. The program is very helpful for MSME for increasing its welfare.

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