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Strategy for Increasing Added Value and Determining the Selling Value of Ceramic Product Differentiation, Case in Denpasar City, Bali, Indonesia

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ABSTRACT

The purpose of this study is to determine strategies for increasing added value, sales value, and revenue from ceramic product differentiation. The methods used are trend-based cost-plus pricing, the difference between two paired sample means, and product relevance for differentiation. The methods used are: trend-based cost-plus pricing, the difference between two paired sample averages, and product relevance for differentiation. The results showed: 1) the average selling value of ceramic products of various shapes without decoration & photocatalyst was IDR 106,629.30, decorated without photocatalyst was IDR 224,735.37, and decorated & photocatalyzed was IDR 711,489.19 per piece. The provision of decorations increased the selling value by 111.00% and the creation of decorations & photocatalysts increased the selling value by 567.00%; 2) there is a real and significant difference in the average selling value of ceramic products without decoration & photocatalyst with those decorated without photocatalyst and decorated & photocatalyzed with a Sig (2-Tailed) value of 0.002 and 0.000 respectively, which is less than an Alpha value of 0.05 ; and 3) decorations and photocatalysts add to the role of products into disposable, display, and functional objects as a form of differentiation to increase revenue with selling value in the form of: lampshades, ashtrays, flower vases, flower pots, and decorated & photocatalyst tiles.

Keywords: ceramic, differentiation, income, selling price, value-added

INTRODUCTION

Indonesia is a country that is active in encouraging world economic growth and also takes part in global competition. The industrial development of a country greatly supports economic growth, one of the strategies taken by the government is to empower and grow Micro, Small and Medium Enterprises (MSMEs) (Diah, M.P., 2019:162). Reality has proven that not only large industries are able to support the country's economy but also

MSMEs. This group has an important role in the development of a country (Jasra, 2011). MSMEs are considered as one of the drivers of economic growth throughout the world. One of the important roles of MSMEs is poverty alleviation in the form of opening employment opportunities through innovation and creativity as well as human resource development (Agyapong, 2010). However, Indonesia's current economic fundamentals are not yet solid, prompting the government to continue to empower MSMEs.

The current economic challenges are very heavy. Various elements are affected, namely restaurants, markets, shopping centers, online transportation, to MSME owners. Goldman Sachs data shows that as many as 96% of MSME owners in the United States stated that they had felt the impact of the Covid-19 pandemic and 75% of their businesses experienced a decline in sales. Meanwhile, as reported by online media, the General Chair of HIPMI JAYA, Afifuddin Suhaeli Kalla said that Indonesia's MSME turnover had decreased by 70% in the past week (https://www.wartaekonomi.co.id/read277929/hai-pelaku-ukm-ini -5-strategy-deal-the-impact-covid-19: downloaded Friday/February 16, 2022).

Creative ceramic products are closely related to the tourism and transportation sectors. The spread of COVID-19 has so far caused the tourism and transportation sectors to experience setbacks and even stoppages in the sub-sectors below them. Hotels, restaurants, restaurants, and other tourism businesses have started to reduce and/or stop their operations, due to the drastic reduction in tourists, reduced movement of people to/from within and outside the country, so they have to lay off or temporarily stop their office activities. This condition will affect the production and sales of ceramic creative products produced by MSMEs which are usually concentrated in certain regional centers or regions. During the COVID-19 pandemic, ceramic MSMEs in Bali experienced very poor conditions as indicated by a decline in average sales of 75.77% and even 59.72% have closed their businesses.

So far, ceramic MSME products have been mass-produced, have similar variations, and have relatively cheap selling values, especially during the COVID-19 pandemic, making it difficult to compete in the market. This condition requires new product innovation breakthroughs, so that MSME products have a high selling value by combining decoration techniques and photocatalysts on MSME products as a form of product advantages that act as disposable, display, and functional objects that have never been done before. A business without creativity and innovation will never progress and consumers feel bored buying the resulting product (Virdianasari, N. M. A., 2021).

MSMEs as companies that are identical to others are an organization that aims to seek profit whose management is carried out by a group of people, each of whom has responsibilities according to the classification of functions ranging from management to operational employees (Purnamawati & Yuniarta, 2014: 507). Company performance is a description of the company's financial condition which is analyzed with financial analysis tools, so that it is known whether the company's financial condition is good or bad which reflects work performance in a certain period (Artatik & Rupa, 2014:9). The main goal of the company is to maximize the welfare of the owner by increasing the value of the company (Kherismawati, et al, 2016:132). Martusa & Armando (2010) argue that companies must be able to face and win the competition, therefore the company's task is not only to produce and market their products, but to consider the size of the costs that will occur in order to be effective and efficient. If the actual input is used, the greater the savings, the higher the efficiency level, but the smaller the input that can be saved, the lower the efficiency level (Wijaya & Kanca, 2014: 86).

The main problems of research on ceramic products without decoration & photocatalyst, decorated without photocatalyst, and decorated & photocatalyzed are: what is the cost of production and selling price? is there a significant difference in the selling price of the product, and what is the role of differentiation in supporting the existence of SMEs? This research is expected to be useful in the development of science and business related to decorative ceramic products and photocatalysts, which so far are still new in the ceramics field as an opportunity to increase MSME income from the high economic value of the product.

THEORETICAL UNDERPINNINGS AND HYPOTHESIS

Determining the selling price of a product requires various integrated considerations (Rudianto, 2013: 127), ranging from production costs, operating costs, profit targets desired by the company, people's purchasing power, competitors' selling prices, general economic conditions, product price elasticity, and so on. Although there are many aspects to consider, often the cost factor is used as a starting point in determining the selling price of a product. Product selling price and cost policies are always changing in line with changes in product costs and market conditions. The method of determining the selling price according to Mulyadi (2013: 350) is: a) determining the normal selling price (cost-plus pricing): by adding future costs with an additional percentage above the total cost, selling price = estimated full cost + profit which are expected; b) determination of the selling price in a cost-type contract: a contract for the manufacture of products or services in which the buyer agrees to buy the product or service at a price based on the total costs actually incurred by the producer plus a profit calculated at a certain percentage of the actual total cost, selling price = actual cost of making and marketing the product + profit. Profit

= certain % of the actual cost of making and marketing the product; c) determining the selling price of special orders: differential accounting information is the basis used as the basis for determining the selling price, if the selling price requested by the customer is greater than the differential cost in the form of variable costs to produce and market the special order, then the special order can be considered for acceptance; and d) determining the selling price of products or services produced by the company which is regulated by a Government Regulation: products and services produced to meet the basic needs of the wider community, such as electricity, water, telephone & telegraph, transportation, and postal services are regulated by a Government Regulation. The selling price of these products and services is determined based on future full costs plus expected profits.

The combination of direct material costs, direct labor costs, and factory overhead costs form production costs (Rudianto, 2013: 95). Production costs are the total costs incurred by the company to produce a number of products that are ready to be sold. The cost of goods that have been completed during one period is called the cost of goods produced, abbreviated as the cost of goods manufactured (Soemarso, 2014: 295). This cost consists of manufacturing costs plus work-in-process inventory at the beginning of the period minus work-in-process inventory at the end of the period.

The selling price and the cost of production are determined by the technology used in making a product. The process of making ceramic products in this study uses two basic techniques as elements of differentiation that can increase the economic value of the product, namely decoration techniques and photocatalysts. The technology for making classic ceramics can be seen in the shape and decoration of the ceramic body. In general, classical ceramics rarely have a layer of glaze on their body surface, although it is possible that some have a layer of glaze on their body surface. Classical ceramic decoration techniques basically have characteristics similar to contemporary ceramics, because in classical ceramics the formation and decoration techniques are still the same as contemporary ceramics. Classical ceramic decorations also recognize the terms scratch, cut, carving or using tools, such as brushes, beads or simple tools made by the artist who made them. Classical ceramics usually have the nuances of one color, but it does not reduce the beauty of its shape, it sometimes adds to the classic and elegant feel of a ceramic work (Yustana, P., 2020:188).

Leather hard clay-body decoration is a ceramic object decoration that is applied to a raw ceramic body in a semi-dry condition, with conditions like this, not all types of decoration can be applied to ceramic objects. The clay-body leather hard decoration consists of various techniques (http://www.studiokeramik.org/2011/12/dekorasi-keramik-dekorasi-clay-body.html, downloaded on Thursday/17-02-2022), namely the technique: carving, incising, filling, overlaying, rubbing, and embossing.

Photocatalyst is generally defined as a chemical transformation process in the presence of a catalyst and the help of light (Sutanto and Wibowo, 2015). Photocatalysis was first discovered by Renz in 1921, namely on the surface of metal-oxide semiconductors (Sani, Rostika et al. 2009). The photocatalytic process occurs when photons with energy hv equal or exceed the amount of energy in the band gap owned by the catalyst material, then electrons (e-) from the valence band will be excited to the conduction band leaving a positive hole (h+) resulting in an electron-hole pair. (Sutanto and Wibowo, 2015). Ceramic material has the potential to be used as a photocatalyst medium. Ceramic is the optimum photocatalyst medium to compare with stainless steel and aluminum, because ceramic has a texture that is able to bind more composites. Clay pottery that has been modified and coated with TiO2 can be used as a photocatalytic reactor in the water purification process (Ediputra, Hermansyah Aziz et al. 2017).

According to Kotler (2009: 385) product differentiation is the company's efforts to differentiate its products from competitors. According to Kotller and Armstrong (2008:211) product differentiation includes: shape, features, performance quality, reliability, easy repair, design, durability, and uniqueness. Product differentiation is another strategy within a company including advertising and other forms of sales effort that can be used to create consumer confidence in a product brand (Tarida, Y., 2012: 128). Companies differentiate their products through advertising, sales efforts, and changing the design or packaging of the product (Martin, 1994:241). Consumers will be more interested in differentiation because the goods produced by the company are considered different, there are many choices in terms of taste, color, shape and packaging that are presented or are unique according to consumers so that consumers are interested in buying the products produced.

Previous related studies are: a) Wibowo, S., et al (2015) examined the analysis of value added and product business income, resulting in a high value ratio because it has a percentage of >40% with an income of Rp. 2,446,725,- per month; b) Nur, C., (2018) researched efforts to increase the selling value of pottery products in the Pagerjurang hamlet, resulting that design development on pottery products is needed so that there is a novelty in design as an alternative to functional pottery product designs that utilize local materials to increase the selling value of the product; c) Diah, M. P. (2019), researching the role of creativity and innovation in increasing the productivity of MSMEs, results that the lack of creativity and innovation makes business productivity decline; d) Virdianasari, N. M. A. (2021), examines the analysis of the influence of creative and innovative in the entrepreneurial business world in the perspective of Islamic economics, resulting that the use of ideas will have great opportunities to face

challenges and increasingly fierce business competition; e) Garside, A. K. (2007), examined the improvement of the quality of ceramic products with a six sigma approach in the Dinoyo-Malang Ceramic Industry, resulting that the implementation of alternative improvements to the ceramic manufacturing process resulted in an increase in the sigma level from 2.8 to 3 followed by a decrease in DPMO from 104,167 to 65,625, while the percentage of costs due to poor ceramic quality (COPQ) to total sales decreased from 16.48% to 9.93%; f) Waskito, M. A. (2014), researching the visual semantic approach as a product design development method with a case study of mug products in the small ceramic industry, resulted that visual semantic quality analysis will be used as the basis for extracting form innovation values from a ceramic product. Product differentiation, brand image, product quality, and price simultaneously have a significant effect on purchasing decisions for BSM Malang consumers (Sholeh, F., et al, 2020).

This study differs from previous research in terms of: 1) The time of the study occurred in 2021; 2) The scope of the research includes increasing selling value, ceramic products, use-aesthetic-functional objects, product differentiation of MSMEs; 3) Research objects related to the selling value of ceramic creative products without decoration & photocatalyst, decorated without photocatalyst, and decorated & photocatalyst; 4) Research targets related to the application of decorated ceramic products and photocatalysts with high selling value as product differentiation for MSMEs to survive and continue to operate; 5) Research problems related to the urgency of increasing sales value to differentiate MSME products during/after the pandemic; and 6) The data analysis technique uses a two-way difference test of paired sample averages whose selling price is obtained using the cost-plus pricing method. The research hypothesis is formulated as follows: 1) H1: It is assumed that the selling value of decorated ceramic products without photocatalyst > selling value of ceramic products without decorations & photocatalysts; and 2) H2: It is suspected that the selling value of decorated & photocatalyzed ceramic products > the selling value of ceramic products without decoration & photocatalyst.

METHODOLOGY

The materials used in this research are ceramic products without decoration & photocatalyst, decorated without photocatalyst, and decorated & photocatalyst. Types of data used: 1) qualitative data, namely fixed assets, organizational structure, main functions, job descriptions, manufacturing processes, types of raw materials, and other product manufacture; and 2) quantitative data, fixed asset depreciation costs, material quantity, material prices, electricity costs, telephone costs, water costs, labor costs during the production process, material composition, machine hours, direct labor hours, product size, City Minimum Wage Denpasar, and others.

Sources of data come from: 1) primary data, namely: size of ceramic products, fixed assets, depreciation costs, electricity costs, telephone costs, water costs, machine hours, direct labor hours, composition of raw materials, use of raw materials, maintenance costs , the number of workers directly involved, and others in product processing; and 2) secondary data, namely: the minimum wage for Denpasar city from the Bali Provincial Government, the type of raw material for making body mass from the Bandung Ceramics Industry Center, and water infiltration standards that meet the requirements for stoneware from the American Standard Testing Material (ASTM).

The methods used in this analysis are: 1) identifying the production process of disposable ceramic products (without decoration & photocatalyst); 2) identify the production process of display ceramic products (decorated without photocatalyst); 3) identify the production process of functional ceramic products (decorated & photocatalyst); 4) calculate the cost of production and selling price; 5) calculate the increase in the selling value of display ceramic products (decorated without photocatalyst) and functional (decorated & photocatalyst); 6) Performing a difference test of two average selling values of paired samples; 7) predict the increase in MSME income from the increase in selling value; and 8) provide alternative product differentiation for MSMEs. The data analysis techniques used are: the difference test of two paired sample averages, a standard cost system with a full cost approach, a cost-based selling price method, and the concept of differentiation to recommend product differentiation.

RESULTS

The Selling Value of Decorative and Photocatalyst Ceramic Products

The average selling value of ceramic products without decoration and photocatalyst from 16 product samples was Rp. 106,629.30, the lowest selling value was Rp. 56,250.00 for tube-shaped GP lampshades and the highest was Rp. 154,522.03 per piece for GH MPU ashtrays (D20.0- T18,0). The average selling value of decorated ceramic products without photocatalyst is Rp. 224,735.37, the lowest selling value is Rp. 84,000.00 for tube-shaped GP lampshades and the highest is Rp. 504,094.74 per piece for GH MPU ashtrays (D20.0-T18.0). The average selling

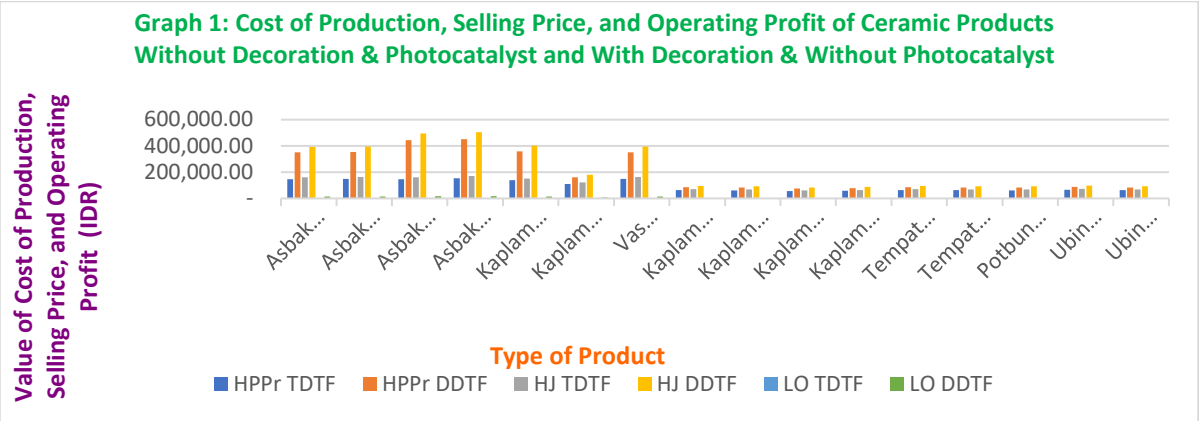
value of decorated and photocatalyzed ceramic products is Rp. 711,489.19, the lowest selling value is Rp. 533,835.35 for tube-shaped GP lampshades and the highest is Rp. 1,030,789.75 for, GH MPU ashtrays (D20.0-T18,0). The selling value, cost of production, and operating profit of ceramic products without decoration & photocatalyst, decorated without photocatalyst, and decorated & photocatalyst are shown in Table 1.

Table 1. Selling Value, Cost of Production, and Operating Profit of Ceramic Products Without Decoration & Photocatalyst, Decorated Without Photocatalyst, and Decorated & Photocatalyst (IDR)

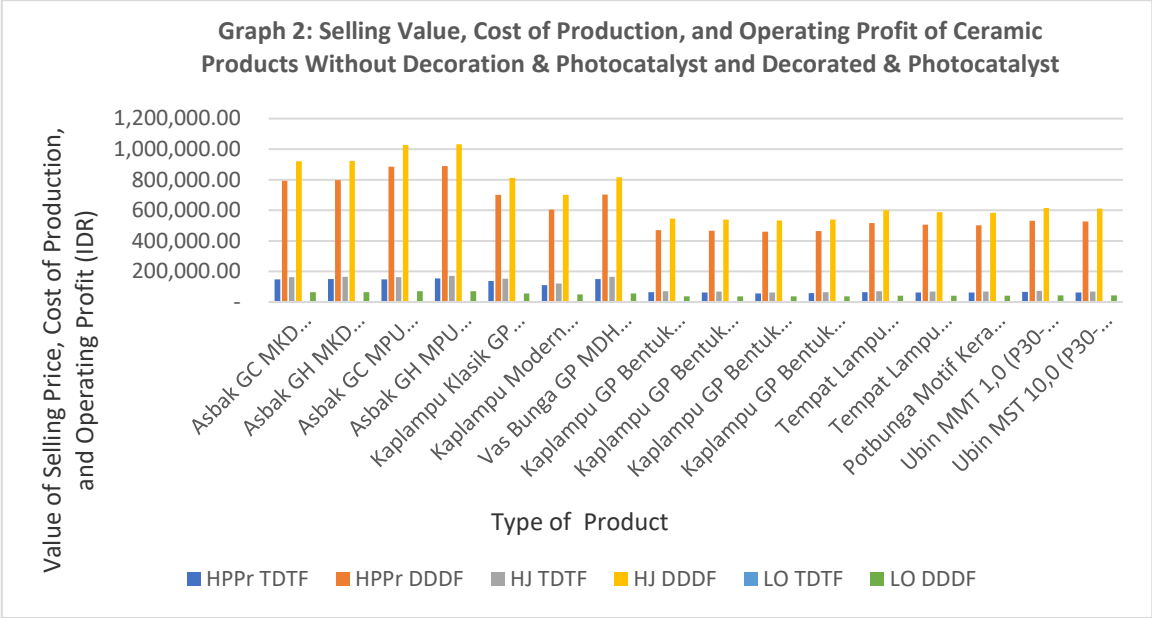
NO	PRODUCT NAME	Without Decoration & Photocatalyst			Decorated Without Photocatalyst			Decorated & Photocatalyst		
		Cost of Good Manufactured	Selling Price	Operating Pofit	Cost of Good Manufactured	Selling Price	Operating Pofit	Cost of Good Manufactured	Selling Price	Operating Pofit
1	GC MKD Ashtray (D20.0-T18.0)	147,022.03	161,724.24	2,940.44	350,241.26	392.270,21	14,009.65	792,888.59	919,750.76	63,431.09
2	GH MKD Ashtray (D20.0-T18.0)	149,522.00	164,474.24	2,990.44	352,741.26	395,070.21	14,109.65	796,268.52	923,671.48	63,701.48
3	GC MPU Ashtray (D20.0-T18.0)	147,022.03	161,724.24	2,940.44	442,584.59	495,694.74	17,703.38	885,667.41	1,027,374.20	70,853.39
4	GH MPU Ashtray (D20.0-T18.0)	154,522.03	169,974.24	3,090.44	450,084.59	504,094.74	18,003.38	888,611.85	1,030,789.75	71,088.95
5	Classic GP ML Lampshades (D25.0-T26,0)	137,869.53	151,656.48	2,757.39	359,541.45	402,686.42	14,381.66	700,611.11	812,708.89	56,048.89
6	Modern GP ML Lampshades (D25.0-T26,0)	110,166.53	121,183.18	2,203.33	161,913.93	181,343.60	6,476.56	604,561.27	701,291.07	48,364.90
7	GP MDH Flower Vases (D20.0-T37.5)	148,839.84	163,723.82	2,976.80	352,036.70	394,281.10	14,081.47	703,665.79	816,252.32	56,293.26
8	Round Shape GP Lamp	63,750.00	70,125.00	1,275.00	85,000.00	95,200.00	3,400.00	470,202.89	545,435.35	37,616.23
9	Pyramid Shape GP Lampshades	61,500.00	67,650.00	1,237.50	82,000.00	91,840.00	3,280.00	465,202.89	539,635.35	37,216.23
10	Tube Shaped GP Lampshades	56,250.00	61,875.00	1,125.00	75,000.00	84,000.00	3,000.00	460,202.89	533,835.35	36,816.23
11	Urn Shaped GP Lampshades	58,500.00	64,350.00	1,170.00	78,000.00	87,360.00	3,120.00	464,202.89	538,475.35	37,136.23
12	Pottery Paste Lamp Holders	63,201.29	69,521.42	1,264.03	84,286.39	94,400.76	3,371.46	517,202.89	599,955.35	41,376.23
13	Pottery Lampstand	62,436.29	68,679.92	1,248.73	83,248.39	93,238.20	3,329.94	505,702.89	586,615.35	40,456.23
14	Pottery Ape Motif Flower Pots	62,004.16	68,204.58	1,240.08	82,672.22	92,592.89	3,306.89	502,202.89	582,555.35	40.,76.23
15	Tiles MMT 1.0 (P30-L30-T15.0)	65,869.50	72,456.45	1,317.39	87,826.00	98,365.12	3,513.04	530,473.33	615,349.06	42,437.87
16	Tiles MST 10.0 (P30-L30-T15.0)	62,496.39	68,746.03	1,249.93	83,328.52	93,327.94	3,333.14	525,975.85	610,131.99	42,078.07
	Total	1,550,971.62	1,706,068.84	31,026.94	3,210,505.30	3,595,765.93	128,420.22	9,813,643.95	11,383,826.97	785,091.51
	Average	96,935.73	106,629.30	1,939.18	200,656.58	224,735.37	8,026.26	613,352.75	711,489.19	49,068.22

Sources: Data Processing Research, 2021.

The increase in selling value of ceramic products without decoration and photocatalyst to decorated without photocatalyst is 111.00%. The graphs of selling value, cost of production, and expected profit on ceramic products without decoration & photocatalyst and decorated without photocatalyst are shown in Graph 1.



The increase in selling value of ceramic products without decoration and photocatalyst to decorated and photocatalyst is 567.00%. The graphs of selling value, cost of production, and expected profit on ceramic products without decoration & photocatalyst and decorated & photocatalyst are shown in Graph 2.



Testing on The Increase in Selling value of Decorative Ceramic Products and Photocatalysts

Testing the significance of differences in the selling value of ceramic products without decoration & photocatalyst, decorated & without photocatalyst, and decorated & photocatalyst using the two-sample difference test of paired averages with the SPSS program. The results of the first test related to the selling value of ceramic products without decoration & photocatalyst with decoration without photocatalyst with a significance level of 95% resulting in a Sig (2-tailed) value of 0.002 which is < Alpha value of 0.05, this means that there is a difference in the average selling value ceramic products without decoration & photocatalyst (Rp 106,629.18) and decorated without photocatalyst (Rp 224,735.37). Test results can be shown in Table 2.

Table 2. Test Results Average Selling Value of Ceramic Products Without Decoration & Photocatalyst with Decorated Without Photocatalyst

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	CCP NDNP (NonDecorated Non Photocatalyst)	106629.1875	16	46524.13585	11631.03396
	CCP WDNP (With Decorated Non Photocatalyst)	224735.3750	16	169102.38091	42275.59523

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	CCP NDNP (NonDecorated Non Photocatalyst) & CCP With Decorated Non Photocalalyst)	16	.974	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	CCP NDNP (NonDecorated Non Photocatalyst) & CCP With Decorated Non Photocalalyst)	-118106.18750	124212.60275	31053.15069	-184294.41142	-51917.96358	-3.803	15	.002

Sources: Data Processing Results. 2022.

The results of the second test are related to the selling value of ceramic products without decoration & photocatalyst with decorated & photocatalyst with a significance level of 95% resulting in a Sig (2-tailed) value of 0.000 whose value is < Alpha value of 0.05, this means that there is a difference in the average selling value ceramic products without decoration & photocatalyst (Rp 106,629.18) with decorated & photocatalyst (Rp 711,489.00). Test results can be shown in Table 3.

Table 3. Test Results of Average Selling Value of Ceramic Products Without Decoration & Photocatalyst with Decorated Without Photocatalyst

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	CCP NDNP (NonDecorated Non Photocatalyst)	106629.1875	16	46524.13585	11631.03396
	CCP WDWP (With Decorated with Photocatalyst)	711489.0000	16	181517.94768	45379.48692

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	CCP NDNP (NonDecorated Non Photocatalyst) & CCP WDWP (With Decorated with Photocatalyst)	16	.953	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	CCP NDNP (NonDecorated Non Photocatalyst) & CCP WDWP (With Decorated with Photocatalyst)	*-604859.81250*	*13788.02505*	*3447.00626*	*-678335.15458*	*-531384.47042*	*-17.546*	*15*	*.000*

Sources: Data Processing Results. 2022.

Product Differentiation as an MSME Choice to Survive and Improve Financial Conditions

Decorating techniques and photocatalysts can increase the benefits of ceramic products that were originally only useful as disposable objects into disposable, display, and functional objects. MSMEs have so far been more inclined to produce ceramic products that are practical, single variation, bulk, relatively low selling price, and only act as disposable objects, such as ceramics for eating and drinking utensils, ceremonial facilities, building complements, and so on. To increase their selling value, MSMEs need to add to the production process of ceramic products through decoration and photocatalyst techniques that produce superior products so that they can add to the role of the product as disposable, display (ornamental) and functional objects that are urgently needed at this time, especially during the COVID-19 pandemic. Benefits as a display object is the application of ceramic decoration techniques that can add to the aesthetic value and technical/economical age of the product as one of the characteristics of consumer satisfaction in product use. Benefits as a functional object is the application of photocatalyst techniques that place ceramics as one of the good media for photocatalyst activation as air purifier, bacteria/virus reduction, dust absorber which plays a very important role in the health sector. Several research ceramic products that can be differentiated by MSMEs are shown in Table 4.

Table 4. Ceramic Products Research Results that Can Be Differentiated by MSMEs

No	Product Name	Glazur	Decorated	Photocatalyst
1	GC MKD Ashtray (D20,0-T18,0)	Brown	Leaf coral motif carving	Complete range
2	GH MKD Ashtray (D20,0-T18,0)	Green	Leaf coral motif carving	Complete range
3	GC MPU Ashtray (D20,0-T18,0)	Brown	Carving patra ulanda motif	Complete range
4	GH MPU Ashtray (D20,0-T18,0)	Green	Carving patra ulanda motif	Complete range

5	Classic GP ML Lampshades (D25.0-T26,0)	White	Hole pattern	Complete range
6	Modern GP ML Lampshades (D25.0-T26,0)	White	Hole pattern	Complete range
7	GP MDH Flower Vases (D20.0-T37.5)	White	Leaf pattern color	Complete range
8	Round Shape GP Lamp	White	Flat hole pattern	Complete range
9	Pyramid Shape GP Lampshades	White	Plain circle-rod pattern	Complete range
10	Tube Shaped GP Lampshades	White	Plain square pattern	Complete range
11	Urn Shaped GP Lampshades	White	Plain loop-capsule hole motif	Complete range
12	Pottery Paste Lamp Holders	-	Circle-star motif engraving	Complete range
13	Pottery Lampstand	-	Four-cross floral carving	Complete range
14	Pottery Ape Motif Flower Pots	-	Monkey motif carving	Complete range
15	Tiles MMT 1.0 (P30-L30-T15.0)	White	Painting the middle meru motif	Complete range
16	Tiles MST 10.0 (P30-L30-T15.0)	White	Painting songket motifs	Complete range

Sources: Data Processing Results. 2022.

The results of the research on decorated ceramic products and photocatalysts at the Ceramic Research Group-BRIN have been documented in the form of photographs that describe the shape and structure of the ceramic product. The photos are expected to provide an overview of the real product as the object of research for this activity. The photos are shown in Figure 1 below.

Differentiation

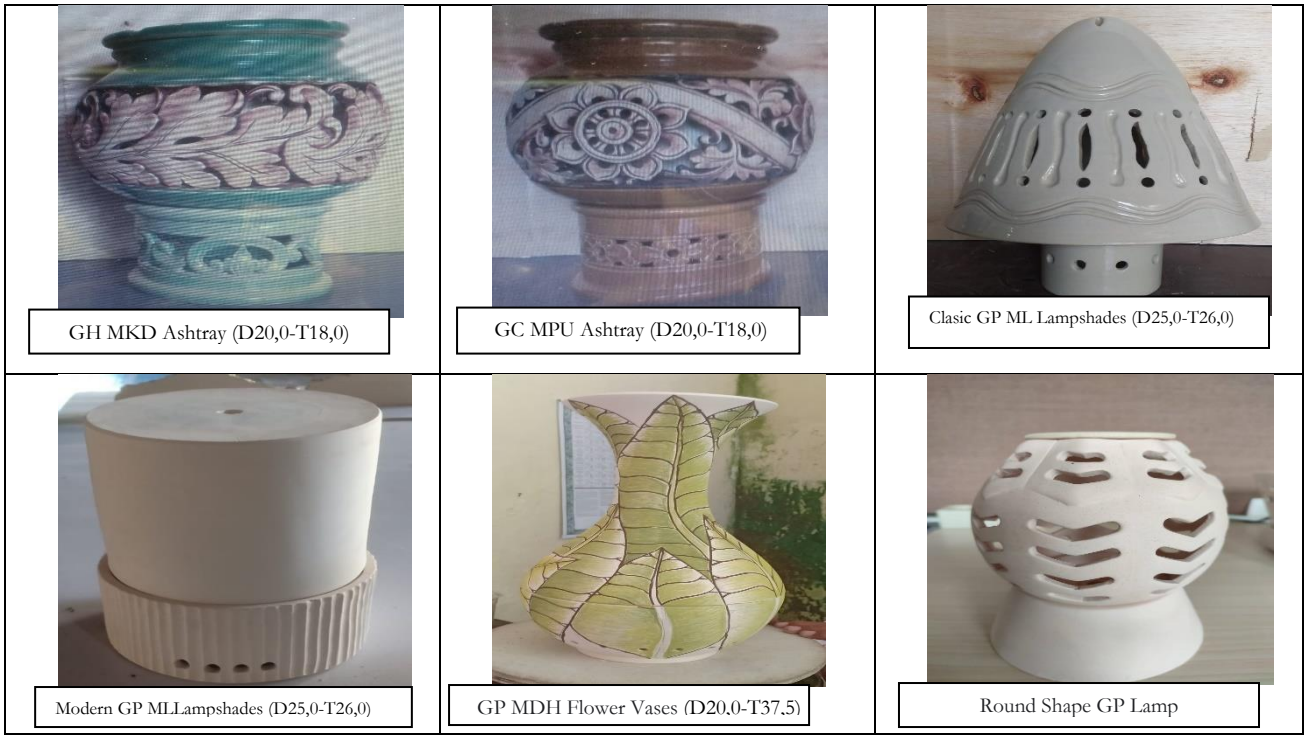


Figure 1. Photos of Research Results of Ceramic Products that Can Be Developed as MSME Product

DISCUSSIONS

The selling price is the amount used to get the goods to be purchased. Pricing is influenced by several factors such as the condition of the goods, market prices or other matters related to the goods. The owner of the goods must really pay attention to the price that will be offered, in order to still get a profit, not a loss. Determination of the selling price of ceramic products using the cost-plus pricing method. The selling price of ceramic products from 16 samples of products without decoration and photocatalyst results from the BTIKK-BRIN research ranged from Rp. 56,250.00 to Rp. 154,522.03 with an average of Rp. 106,629.30 per piece. The price is still relatively low because there is no decoration and photocatalyst touch as an effort by SMEs to create products with practical, mass, single-role, fast, and relatively inexpensive characteristics.

In an effort to increase the selling value of ceramic products, decoration techniques such as carving, terawang, incisors, and others that are relevant can be used to create ceramic products that are more aesthetic, attractive, beautiful, and have a higher selling value. The application of carving and overlay decoration techniques in the research of BTIKK-BRIN ceramic products can increase the selling value by 111.00%. The lowest price is Rp. 84,000.00 for tube-shaped GP lampshades and the highest is Rp. 504,094.74 per piece for GH MPU ashtrays (D20.0-T18.0). The consequences of pouring decoration techniques on products are the addition of auxiliary materials (glaze, dye, water, etc.), direct labor costs, depreciation and maintenance costs from the use of factory fixed assets, and other overhead costs. All of the above cost components reflect the cost of production of ceramic products. The use of the cost-based selling price method makes the cost of production as the basis for determining the selling price. From this concept, the selling price of decorated ceramic products without photocatalyst can be formed which increases compared to without decoration & photocatalyst with an increase of 111.00%.

Another effort that can be made to increase the selling value of decorated ceramic products without a photocatalyst is to place a photocatalyst on the ceramic body. Ceramic material has the potential to be used as a photocatalyst medium. Ceramic is the optimum photocatalyst medium compared to stainless steel and aluminum. This is because ceramics have a texture that is able to bind more composites. Clay pottery that has been modified

and coated with TiO2 can be used as a photocatalytic reactor in the water purification process (Ediputra, Hermansyah Aziz et al. 2017). Ceramic products which originally functioned as disposable and ornamental objects, when filled or coated with photocatalysts, will add a more unique role, namely as functional objects. Functional objects in this case are intended as a very important role related to the ability of ceramic products to filter (clean) dusty dirty air in the room and kill or reduce levels of bacteria around. The application of photocatalyst techniques in the research of BTIKK-BRIN ceramic products can increase the selling value by 567.00%. The lowest price is Rp. 533,835.35 for tube-shaped GP lampshades and the highest is Rp. 1,030,789.35 per piece for GH MPU ashtrays. The consequences of pouring decoration techniques on products are the additional cost of photocatalyst preparation materials (TiO2, mini fans, electric circuits, LED lights, etc.), direct labor costs, depreciation and maintenance costs from ultrasonic use, and other overhead costs. All of the above cost components reflect the additional cost of production of decorated ceramic products and photocatalysts. The use of the cost-based selling price method makes the cost of production as the basis for determining the selling price. From this concept, the selling price of decorated ceramic products and photocatalyst can be formed which increases compared to without decoration & photocatalyst with an increase of 567.00%.

The average selling value of ceramic products without decoration & photocatalyst is Rp. 106,629.30, decorated without photocatalyst Rp. 224,735.37, and decorated & photocatalyst Rp. 711,489.19 per piece. The results of the statistical test of two different paired average samples showed that there was a significant difference in the selling value of ceramic products without decoration & photocatalyst with decoration without photocatalyst with a Sig (2-tailed) value of 0.002 which value < Alpha value 0.05, meaning Ho is rejected. or H1 is accepted. Thus, with a 95% confidence level, there is a significant and significant difference between the selling value of ceramic products without decoration & photocatalyst and those decorated without photocatalyst, meaning that decorated without photocatalyst is greater than that without decoration & photocatalyst. This shows that in an effort to anticipate the low selling value and the role of ceramic products that are singular only as disposable objects, MSMEs can increase the selling value of their products by adding a touch of carved decoration (terawang) so as to increase the dual benefits of being used as a disposable object as well as a display object (aesthetic).

The results of the statistical test of two different pairs of average samples showed that there was a significant difference in the selling value of ceramic products without decoration & photocatalyst with decoration and photocatalyst with a Sig (2-tailed) value of 0.000 whose value was < Alpha value of 0.05, meaning Ho was rejected. or H1 is accepted. Thus, with a 95% confidence level, there is a significant and significant difference between the selling value of ceramic products without decorations & photocatalysts and those with photocatalyst decorations, meaning that those decorated and photocatalyzed are greater than those without decorations & photocatalysts. This shows that in an effort to anticipate the low selling value and the role of ceramic products that are singular only as disposable objects, MSMEs can increase the selling value of their products by adding a touch of carving decoration (terawang) and photocatalyst so that it adds triple benefits other than as disposable objects, displays, as well as as a functional object.

MSMEs have so far been more inclined to produce ceramic products that are practical, single variation, bulk, relatively low selling price, and only act as disposable objects, such as ceramics for eating and drinking utensils, ceremonial facilities, building complements, and so on. The existence of the COVID-19 pandemic which had an impact on most of the tourism sector experienced setbacks and business terminations, resulting in the tourism sector's demand for ceramic products produced by MSMEs drastically decreasing, even reaching nil. As an MSME business actor, you cannot stay silent, because it will have a much more severe impact than before. One of the efforts that can be done is to differentiate products that are relevant to current conditions, namely creating multi-functional ceramic products as disposable, display (ornamental) and functional objects. Some forms of product differentiation that can be recommended are: 1) Glazed ashtray (green, brown, blue, etc.) coral leaf motif (patra ulanda): as a place for ash and cigarette butts (as disposable objects), as a place for table decorations/displays because of the shape carved decorations resembling colored leaves (green, brown, blue, etc.) (as decorative/aesthetic objects), and as a means of filtering or cleaning indoor air and killing or reducing the percentage of bacteria when people are smoking indoors; 2) Lampshades of various shapes and decorations: as a lamp holder that illuminates the room (as a disposable object), a place for decoration/display in the room in the form of a very aesthetically decorated lamp holder (decorative/display object), and as a means of filtering/cleaning the air and reducing the level of bacteria in the room when people are enjoying a bright room due to the installation of a lamp holder; 3) Flower vase decorated with glazed leaves: as a place to put flowers on indoor tables (usable objects), as aesthetic objects with leaf motif decorations and a very attractive combination of green and yellow glazes (decorative/display objects), and as a filter /cleans the air and reduces the levels of bacteria in the room when people are enjoying the beauty of the indoor flower vase; 4) Flower pots of various shapes: as a place to plant relatively small flowers (usable items), as attractive decorations placed on the veranda of the house to plant flowers (decorative/display objects), and as a means of filtering/cleaning the air and reducing the levels of bacteria in the house. the veranda of the house when people are planting flowers; and 5) Meru and songket patterned tiles:

as disposable objects in the form of tiles that are attached to the wall, as display objects decorated with glazed and attractively colored meru and songket, and as functional objects that can purify/filter the air and reduce bacteria in the room.

CONCLUSION

Based on the discussion, the following conclusions can be drawn: 1) The average selling value of ceramic products without decoration & photocatalyst is Rp. 106,629.30, decorated without photocatalyst Rp. 224,735.37, and decorated & photocatalyst Rp. 711,489.19 per piece. The provision of decorations on ceramic products increased the selling value by 111.00%, as well as the creation of decorations & photocatalysts increased the selling value by 567.00%; 2) The results of the significant increase in the selling value of ceramic products with a 95% confidence level showed that there was a real and significant difference in the average selling value of ceramic products without decoration & photocatalyst with those decorated without photocatalyst and decorated & photocatalyzed with a Sig (2-Tailed) value. respectively 0.002 and 0.000 which is less than the Alpha value of 0.05; and 3) The provision and creation of decorations and photocatalysts on ceramic products that can add to the role of the product into use, display, and functional objects is an effort that can be made to carry out product differentiation in an effort to increase revenue from higher selling values. Product differentiation can be done in various relevant forms, such as: lampshades, ashtrays, flower vases, flower pots, and decorated & photocatalyst tiles.

Based on the conclusions, the following can be suggested: (1) To the Ceramic Research Group-National Research and Innovation Agency, to immediately identify ceramic products that need to be added decorations & photocatalysts so that they can add to their roles other than as disposable objects, as well as display objects. /ornamental and functional; (2) To ceramic craftsmen or entrepreneurs, to immediately differentiate ceramic products with low selling value by increasing the role of the product as disposable, display/decorative, and functional objects so as to increase income and survive in the midst of the current financial downturn; and (3) To researchers, engineering technicians, engineers, academics, and other parties (continued), to immediately develop research based on functional creative products that are needed by the community.

LIMITATIONS AND FUTURE RESEARCH DIRECTION

This study has its limitations. The samples were selected about 16 ceramic products only. Future research may include the other sample with the bigger. In addition, this study uses only recent year product as the object of analysis. Future research could analize other years as object of research, such as five or ten years. Finally, the study focuses only selling price caused by decorated and photocatalyst. Future research may consider the other variable which influence of the selling price and use more than 16 products.

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