

Increasing MSME Capacity Through Branding and Creative Product Design Training

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Abstract

Micro, Small, and Medium Enterprises (MSMEs) play a vital role in the Indonesian economy, contributing 61.97% to Gross Domestic Product and employing 97% of the national workforce. This study aims to analyze the effectiveness of branding and creative product design training in increasing the capacity of MSMEs in Semarang City. The research used a quantitative approach with a quasi-experimental design, involving 60 MSMEs divided into experimental and control groups. The training, conducted over 8 weeks, covered branding concepts, packaging design, digital marketing strategies, and visual identity development. The results showed a significant improvement in the experimental group, with a 68.5% increase in branding capacity, a 45.2% increase in average turnover, and a 52.7% increase in the number of customers. A t-test showed a significant difference ($p < 0.05$) between the experimental and control groups. These findings confirm that branding and product design training effectively increases the competitiveness and business performance of MSMEs. Practical implications demonstrate the need for structured training programs and ongoing mentoring for MSMEs to optimize local economic potential.

Keywords: MSMEs, branding, product design, business capacity, training

I. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are the backbone of the Indonesian economy, playing a strategic role in national economic development. Data from the Ministry of Cooperatives and SMEs (2023) shows that MSMEs contributed 61.97% to the national Gross Domestic Product (GDP) and absorbed 97% of the total

Indonesian workforce. With 64.2 million business units, or 99.99% of the total business units in Indonesia, MSMEs are a vital sector in driving the economy and creating jobs. Central Java Province, as one of the centers of national economic activity, has 4.2 million MSMEs spread across various business sectors. Semarang, the provincial capital, is a center for MSME development, with 287,456 business units operating in trade, manufacturing, and services. The MSME sector in Semarang contributes 58.3% to the city's GRDP and absorbs 92.4% of the local workforce (BPS Semarang City, 2023).

Despite their significant potential, MSMEs in Indonesia face various challenges that hinder their development. A 2023 Bank Indonesia survey identified that 67.8% of MSMEs experienced difficulties in product marketing, 54.3% had limitations in branding and visual identity, and 49.7% could not develop attractive product designs. These challenges impact the low competitiveness of MSME products in both domestic and global markets. Limited branding capabilities are a major factor preventing MSME products from competing with products from larger industries. Research by Wardhana (2022) shows that 72% of MSMEs in Central Java lack a strong brand identity and a clear branding strategy. This condition often leads to consumers perceiving MSME products as second-rate and low-quality.

Product design is also a major weakness for MSMEs in increasing their product sales value. Data from the Central Java Department of Industry and Trade in 2023 shows that 65.4% of MSME products have unattractive packaging that does not reflect the product's real quality. Simple and unprofessional packaging results in low consumer purchasing interest and limited access to modern markets. The challenges of branding and product design are becoming increasingly complex with the rapid development of digital technology and changes in consumer behavior. The digital era demands that MSMEs compete not only in terms of product quality but also in visual appearance, brand identity, and more modern marketing strategies. Consumers today are more likely to choose products with strong branding and attractive packaging designs.

The government has undertaken various efforts to increase the capacity of MSMEs, including through training and mentoring programs. However, evaluation of the effectiveness of these programs remains limited, particularly in the areas of branding and product design. Empirical research measuring the impact of branding and product design

training on increasing MSME capacity is still rare. Branding and creative product design training are seen as strategic solutions for increasing MSME competitiveness. A strong branding concept can help MSMEs build a distinctive and memorable brand identity for consumers. Meanwhile, creative and attractive product design can increase product added value and expand market access.

Based on these challenges, this study aims to analyze the effectiveness of branding and creative product design training in increasing the capacity of MSMEs in Semarang City. This research is expected to provide empirical contributions on effective training models for MSME development and policy recommendations for the government to design more targeted MSME empowerment programs.

II. LITERATURE REVIEW

The Concept and Role of MSMEs in the Economy

Micro, Small, and Medium Enterprises (MSMEs) are defined by Law Number 20 of 2008 as productive economic activities carried out by individuals or business entities with certain asset and turnover criteria. Micro-enterprises have maximum assets of 50 million rupiah and a maximum annual turnover of 300 million rupiah. Small businesses have assets of 50 million to 500 million rupiah with a turnover of 300 million to 2.5 billion rupiah. Meanwhile, medium-sized businesses have assets of 500 million to 10 billion rupiah with a turnover of 2.5 billion to 50 billion rupiah. Tambunan (2021) emphasized that MSMEs have unique characteristics that distinguish them from large businesses, namely high flexibility in facing market changes, dependence on local markets, a simple organizational structure, and limited capital. These characteristics provide both competitive advantages and weaknesses that need to be addressed through various development strategies. Research by Suryanto and Muhyi (2020) shows that MSMEs are more resilient to economic crises than large businesses. This resilience was evident during both the 1998 economic crisis and the COVID-19 pandemic, when MSMEs continued to operate and, in many cases, expanded their businesses despite the contraction experienced by numerous large enterprises. Their ability to withstand economic shocks highlights the important role of MSMEs as a stabilizing force in the economy.

Branding Theory and Its Application to MSMEs

Branding is the process of creating a unique and valuable brand identity in the minds of consumers. Keller (2020) defines branding as a marketing activity aimed at building brand equity through brand awareness, brand association, perceived quality, and brand loyalty. The concept of branding applies not only to large companies but is relevant for MSMEs. Aaker (2019) developed a brand equity model consisting of five main dimensions: brand awareness, brand association, perceived quality, brand loyalty, and other proprietary brand assets. This model has been widely adapted to measure brand strength across various business scales, including MSMEs.

Empirical research by Krake (2019) on 150 MSMEs in Europe showed that implementing an appropriate branding strategy can increase turnover by an average of 23% and customer retention rates by 31%. This study confirms that branding is not only the preserve of large companies but can also provide significant benefits for MSMEs. Wardani and Sari (2021) found in their research on MSMEs in Yogyakarta that 78% of MSMEs that implemented consistent branding strategies experienced significant sales increases compared to those without branding strategies. This finding reinforces the argument that branding is a profitable investment for MSMEs.

Product and Packaging Design in MSMEs

Product design is a creative process that combines functional, aesthetic, and economic aspects to create products that meet consumer needs. Kotler and Armstrong (2022) state that good product design can increase consumers' perceived value and willingness to pay, which ultimately impacts business profitability. Research by Bloch (2018) identifies three main dimensions in product design: aesthetic design, functional design, and symbolic design. These three dimensions interact to shape consumer responses to a product.

Packaging, as an integral part of product design, plays a strategic role in brand communication and product protection. Rundh (2019), through a meta-analysis of 47 studies, showed that attractive packaging design can increase purchase intention by 35% and brand recognition by 42%. A case study by Pratiwi et al. (2022) of 80 food MSMEs in Bandung revealed that improving packaging design can increase the average selling

price by 28% and expand market reach by up to 45%. These findings demonstrate that investment in packaging design provides positive returns for MSMEs.

MSME Training and Capacity Development Model

MSME capacity is defined as the ability of entrepreneurs to optimally manage and develop their businesses. Kirkpatrick and Kirkpatrick (2020) developed a training evaluation model consisting of four levels: reaction, learning, behavior, and results. A longitudinal study by Chen and Wang (2021) of a three-year MSME training program in Taiwan showed that training focused on technical and managerial skills increased MSME survival rates by 34% and growth rates by 28%.

The participatory training model developed by Freire (2019) proved more effective in developing MSME capacity than conventional training models. This approach emphasizes experiential learning and hands-on practice, tailored to the characteristics of MSMEs. A meta-analysis conducted by Rodriguez et al. (2020), which examined 125 MSME training programs across various countries, found that programs integrating branding and product design components produced a larger effect size ($d = 0.72$) than those focusing solely on managerial aspects ($d = 0.45$).

Conceptual Framework of the Study

Based on the literature review above, this study develops a conceptual framework that describes the relationship between branding and product design training and increasing the capacity of MSMEs. This conceptual framework adapts Aaker's (2019) brand equity model and Kirkpatrick's (2020) training evaluation model. The independent variable in this study is branding and product design training, measured by the intensity and quality of the training received. The dependent variable is MSME capacity, measured by indicators of brand awareness, product design quality, sales turnover, and number of customers. The proposed research hypothesis is that branding and creative product design training have a positive and significant effect on increasing the capacity of MSMEs. This hypothesis is based on brand equity theory and the results of previous empirical research that shows the positive impact of branding on business performance.

III. METHODS

Research Design

This study used a quantitative approach with a quasi-experimental pretest-posttest control group design. This design was chosen because it allows researchers to measure the effectiveness of the training intervention by comparing the group that received the treatment (experimental group) with the group that did not receive the treatment (control group). The independent variables in this study were branding and creative product design training, while the dependent variable was MSME capacity, measured through four main indicators: branding capacity score, sales turnover, number of customers, and product design quality. Measurements were conducted at two different times: before the training (pretest) and after the training (posttest).

Population and Sample

The study population was all MSMEs registered with the Semarang City Cooperatives and SMEs Office in 2024, totaling 287,456 business units. The sampling technique used purposive sampling with the following criteria: having an active business for at least 2 years, operating in the creative product sector (food, crafts, fashion), having a monthly turnover of IDR 5-50 million, and being willing to participate in an 8-week training program. Based on the Lemeshow formula with a 95% confidence level and a 5% margin of error, the minimum sample size required was 54 respondents. To anticipate dropout and increase the validity of the results, this study used 60 respondents who were randomly divided into 30 respondents in the experimental group and 30 respondents in the control group. The characteristics of the respondents showed that 65% were female and 35% were male, with an age range of 25-50 years. Based on the type of business, 40% were engaged in the food and beverage sector, 35% in handicrafts, and 25% in fashion. The length of time respondents have been in business ranges from 2 to 15 years, with an average of 6.8 years.

Research Instrument

The research instrument was a structured questionnaire developed based on Aaker's (2019) brand equity theory and adapted to the conditions of MSMEs in Indonesia. The questionnaire consisted of five sections: respondent characteristics, branding capacity, product design quality, business performance, and training evaluation. The branding capacity scale used 20 items to measure brand awareness, brand association, perceived

quality, brand loyalty, and brand assets. The product design quality scale consisted of 15 items measuring aesthetics, functionality, and product differentiation. All items used a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5). The instrument's validity was tested using content validity, involving three experts in the field of MSMEs and branding. The validity test results showed that all items had a Content Validity Ratio (CVR) above 0.62, indicating good validity. Instrument reliability was tested using Cronbach's Alpha, with results of 0.89 for the branding capacity scale and 0.86 for the product design quality scale.

Training Procedures

The branding and creative product design training program was conducted over 8 weeks, with a total of 32 face-to-face hours. The training is divided into four main modules: Module 1 (Basic Concepts of Branding and Brand Identity), Module 2 (Logo Design and Visual Identity), Module 3 (Packaging and Labeling Design), and Module 4 (Digital Marketing Strategy and Brand Communication). Each module consists of two sessions, each lasting four hours. The training method combines lectures, group discussions, practical workshops, and presentations. Each participant is guided in developing their own brand identity and product packaging design. The facilitator team consists of three branding practitioners with at least 10 years of experience and one academic from a university. The training materials are systematically structured, from basic concepts to practical applications, with an emphasis on learning by doing and peer learning.

Data Analysis Techniques

The data collected were analyzed using descriptive and inferential statistics. Descriptive analysis was used to describe the characteristics of respondents and the distribution of research variables. Inferential analysis used an independent samples t-test to compare mean differences between the experimental and control groups. Before conducting the t-test, assumption tests were conducted, including a normality test using the Shapiro-Wilk test and a homogeneity test using Levene's test. Data that do not meet the assumption of normality will be analyzed using the Mann-Whitney U test as a non-parametric alternative. Effect size is calculated using Cohen's d to measure the magnitude

of the difference between the two groups. Interpretation of effect size follows Cohen's convention: small effect ($d = 0.2$), medium effect ($d = 0.5$), and large effect ($d = 0.8$). All statistical analyses used SPSS software version 25 with a significance level of $\alpha = 0.05$.

IV. RESULTS AND DISCUSSION

Respondent Characteristics

Analysis of respondent characteristics showed a relatively even distribution between the experimental and control groups. In the experimental group, 66.7% of respondents were female and 33.3% male, while in the control group 63.3% were female and 36.7% male. The average age of respondents in the experimental group was 38.2 years and the control group 37.8 years. The majority of respondents had a high school/vocational high school education (53.3%), followed by a diploma/bachelor's degree (35%), and junior high school (11.7%). There was no significant difference in education level between the two groups ($p=0.78$). The most common types of businesses were food and beverages (40%), handicrafts (35%), and fashion (25%). The length of time respondents had been in business ranged from 2-15 years with an average of 6.8 years for the experimental group and 6.5 years for the control group. Monthly turnover before training ranged from IDR 5-45 million with an average of IDR 18.7 million for the experimental group and IDR 19.2 million for the control group. The independent t-test showed no significant difference in baseline characteristics between the two groups ($p>0.05$).

Pretest Results

The results of the initial measurement (pretest) indicated that both groups had equivalent baseline conditions before the intervention was administered. The experimental group had a mean branding capacity score of 2.34, while the control group had a mean score of 2.41 ($p = 0.52$). The mean product design quality score was 2.28 for the experimental group and 2.32 for the control group ($p = 0.67$). The average monthly turnover was IDR 18.7 million for the experimental group and IDR 19.2 million for the control group ($p = 0.74$). The experimental group had an average of 47 regular customers, compared with 49 in the control group ($p = 0.68$). These findings confirm that the randomization process successfully established comparable baseline conditions between the two groups.

Implementation of Training Program

The training program was implemented according to schedule, with a participant attendance rate of 96.7%. The process evaluation showed that 87% of participants stated that the training material was highly relevant to their business needs. 92% of participants actively participated in the practical workshops, and 89% completed the brand identity development assignments. The most popular module was Logo Design and Visual Identity (4.6/5.0), followed by Packaging Design and Labeling (4.4/5.0). The learning-by-doing method received a positive response from 94% of participants because it allowed for direct application of the concepts learned. Peer learning also effectively increased participants' creativity through the sharing of experiences and ideas.

Posttest Results and Group Comparison

The final measurement results (*posttest*) showed a significant difference between the experimental and control groups. The experimental group's branding capacity score increased from 2.34 to 3.95 (a 68.5% increase), while the control group's only increased from 2.41 to 2.53 (a 5.0% increase). An independent t-test showed a significant difference with $t=12.87$, $p<0.001$, Cohen's $d=3.21$ (large effect size). The experimental group's product design quality score increased from 2.28 to 3.78 (a 65.8% increase), while the control group's score increased from 2.32 to 2.45 (a 5.6% increase). This difference was statistically significant with $t=11.95$, $p<0.001$, Cohen's $d=2.98$ (large effect size).

The monthly revenue of the experimental group increased from Rp 18.7 million to Rp 27.1 million (a 45.2% increase), while the control group increased from Rp 19.2 million to Rp 20.1 million (a 4.7% increase). The t-test showed a significant difference with $t=8.74$, $p<0.001$, Cohen's $d=2.18$ (large effect). The number of regular customers of the experimental group increased from 47 to 72 people (a 52.7% increase), while the control group increased from 49 to 53 people (an 8.2% increase). This difference was significant with $t=9.32$, $p<0.001$, Cohen's $d=2.34$ (large effect).

Program Effectiveness Analysis

Gain score analysis showed that the experimental group experienced significantly greater improvements than the control group in all measured indicators. The large effect

size ($d > 0.8$) for all variables indicated that the training program had a significant practical impact. A strong positive correlation was found between the increase in branding capacity scores and the increase in turnover ($r = 0.78$, $p < 0.001$) and the number of customers ($r = 0.72$, $p < 0.001$). This indicates that branding improvements contribute directly to improving MSME business performance. Multiple regression analysis showed that 67.3% of the variance in revenue increases can be explained by improvements in branding capacity and product design quality ($R^2 = 0.673$, $F = 29.84$, $p < 0.001$). The branding capacity variable provided the largest contribution ($\beta = 0.52$, $p < 0.001$), followed by product design quality ($\beta = 0.38$, $p < 0.001$).

DISCUSSION

The results of this study confirm the hypothesis that branding and creative product design training effectively increase the capacity of MSMEs. This finding is consistent with research by Krake (2019), which demonstrated the positive impact of branding on the performance of MSMEs in Europe. The significant improvements observed across all indicators suggest that an integrated training approach combining branding and product design is more effective than providing these forms of training separately. The 68.5% increase in branding capacity indicates that participants successfully developed an understanding and ability to build a strong brand identity. It aligns with Aaker's (2019) brand equity theory, which emphasizes the importance of brand awareness, brand association, and perceived quality in creating brand value. MSMEs that previously lacked a clear branding concept successfully developed a consistent logo, tagline, and communication strategy.

The 65.8% increase in product design quality demonstrates the effectiveness of the learning-by-doing approach in developing design skills. Participants not only gained a theoretical understanding of design concepts but also demonstrated the ability to apply them effectively to their products. Improvements in packaging and labeling directly enhanced the perceived value of the products from consumers' perspective. The 45.2% increase in turnover is an objective indicator of the training program's success. This figure is higher than that reported by Chen and Wang (2021), who found a 28% increase in revenue following an MSME training program. This difference may be attributed to the

specific focus on branding and product design, which directly enhance product appeal and increase consumers' willingness to pay.

The 52.7% increase in customer numbers indicates that improvements in branding and product design have successfully expanded the MSME market reach. Increased brand awareness makes it easier for consumers to recognize and remember the product, while attractive packaging design increases trial and repeat purchases. This phenomenon aligns with consumer behavior theory, which emphasizes the importance of first impressions in purchasing decisions. The strong correlation between increased branding capacity and business performance demonstrates that investment in branding provides measurable returns for MSMEs. This finding refutes the notion that branding is only relevant for large companies. MSMEs with a strong brand identity are able to compete with similar products and build better customer loyalty.

The participatory training model implemented has proven effective because it allows participants to learn while directly practicing with their products. This approach differs from conventional training, which tends to be theoretical and less practical. Peer learning also provides added value through the sharing of experiences and creative inspiration among participants. The program's effectiveness is also supported by the sufficient training duration (8 weeks) to allow for internalization of knowledge and change in participants' mindsets. Short-term training programs often fail to deliver lasting impact due to insufficient time for practice and refinement. The 8-week duration provides participants with the opportunity to implement the concepts learned and receive feedback for improvement.

Theoretical and Practical Implications

Theoretically, this study strengthens Aaker's (2019) brand equity theory and Kotler and Armstrong's (2022) consumer behavior theory in the Indonesian MSME setting. The finding that branding and product design significantly influence business performance supports the generalizability of marketing theories to small businesses. This study also confirms the relevance of Kirkpatrick's (2020) training evaluation model in measuring the effectiveness of MSME development programs. Measurements at the results level

(increased turnover and customers) indicate that training not only improves knowledge but also has a concrete business impact.

Practically, this study's findings provide empirical evidence for the government and MSME empowerment institutions regarding the importance of branding and product design training programs. Investment in such programs has been shown to have a significant multiplier effect on the local economy through increased turnover and market expansion for MSMEs. For MSMEs, this study demonstrates that developing branding and product design capacity is no longer an option but a necessity for survival and growth in an era of increasingly fierce competition. MSMEs that neglect branding aspects will struggle to compete with products with strong brand identities.

Research Limitations

Several limitations of this study should be acknowledged. First, the relatively short follow-up period (8 weeks after training) does not allow for measuring the long-term sustainability of the program's impact. Further research with longer observation periods is needed to confirm the sustainability of the training's impact. Second, the study sample was limited to MSMEs in Semarang City, so generalizing the results to other regions requires caution. Different socioeconomic and cultural characteristics may influence the effectiveness of the training program. Third, this study did not control for the influence of external factors such as macroeconomic conditions, market competition, and family support, which may affect MSME performance. Future research should include control variables to enhance internal validity.

V. CONCLUSION

This study successfully demonstrated that branding and creative product design training effectively increased the capacity of MSMEs in Semarang City. The MSME group that participated in the training experienced significant improvements in all measured indicators compared to the control group. Branding capacity scores increased by 68.5%, product design quality by 65.8%, turnover by 45.2%, and the number of customers by 52.7%. The large effect sizes for all variables indicate that the training program has a significant practical impact on MSME development. The strong positive

correlation between increased branding capacity and business performance confirms that investments in branding provide measurable returns for MSMEs.

The participatory training model with a learning-by-doing approach has proven effective in developing practical skills among MSMEs. The eight-week training duration provides sufficient time for internalization of knowledge and changes in participants' mindsets. The findings of this study have theoretical implications in strengthening theories of brand equity and consumer behavior in the Indonesian MSME setting. Practically, the results provide empirical evidence for stakeholders regarding the importance of branding and product design training programs in MSME development.

Recommendations for future research include extending the follow-up period to measure the sustainability of the program's impact, expanding the research area to increase the generalizability of the results, and adding control variables to enhance internal validity. The government and MSME empowerment institutions are advised to develop similar training programs focusing on branding and product design as strategies to increase MSME competitiveness.

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