

THE INFLUENCE OF E-COMMERCE, PRICE, CAPITAL, BUSINESS TRAINING, AND REGIONAL ORIGIN ON THE INCOME OF CULINARY MSMEs IN DENPASAR CITY

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Abstract: Micro, Small, and Medium Enterprises (MSMEs), particularly in the culinary sector, play a crucial role in supporting regional economic growth, especially in Denpasar City, which serves as the center of economic and tourism activities in Bali Province. The advancement of digital technology, urbanization, and shifting consumption patterns require MSME actors to adapt rapidly and innovatively in order to increase their business income. This study aims to examine the simultaneous and partial effects of e-commerce, pricing, capital, business training, and regional origin on the income of culinary MSMEs in Denpasar City. Data collection was conducted through questionnaires distributed to 100 culinary MSME business owners in Denpasar. This study employed a non-probability sampling method using accidental sampling as the sampling technique. The data were analyzed using multiple linear regression analysis. The findings reveal that, simultaneously, e-commerce, price, capital, business training, and regional origin have a significant effect on MSME income. Partially, the variables of e-commerce, price, capital, and business training have a positive and significant influence on MSME income. Culinary MSMEs originating from Denpasar City tend to have higher incomes compared to those from outside the city.

Keywords: E-commerce, Price, Capital, Business Training, Regional Origin, Income

INTRODUCTION

A country's economic development largely depends on the structure and strength of the real sector that supports grassroots growth. Amidst various global uncertainties that contribute to national economic vulnerability, the Micro, Small, and Medium Enterprise (MSME) sector has proven to be a resilient and flexible pillar. The role of MSMEs as drivers of the national economy has been tested during various crises, such as the 1998 monetary crisis and the global health crisis caused by the COVID-19 pandemic (Gustina & Triadi, 2022).

Even under the most challenging conditions, MSMEs have managed to survive and continue contributing to economic growth (Abdullah & Mulyanto, 2019). In the context of regional development, MSMEs serve as a tool for equitable economic distribution, employment generation, and the formation of new entrepreneurs. According to Rifani (2022), MSMEs hold substantial potential as job providers, users of local resources, and flexible business entities that can adapt to market dynamics.

One MSME subsector that has demonstrated excellent performance is the culinary sector. This sector not only meets the basic needs of the community but also contributes

significantly to Gross Regional Domestic Product (GRDP) in several regions of Indonesia, including Bali Province, particularly Denpasar City. According to data from Statistics Indonesia (BPS), the contribution of MSMEs to the national Gross Domestic Product (GDP) has consistently increased from year to year.

Table 1. Contribution of the MSME Sector to Indonesia's GDP in 2019–2023

Year	GDP (Trillion Rupiah)	MSME Contribution (Trillion Rupiah)	MSME Contribution (Percent)
2019	17,085.3	10,433.9	61.07%
2020	16,907.4	10,321.9	61.05%
2021	18,407.2	11,394.0	61.90%
2022	19,573.7	12,180.3	62.23%
2023	20,813.2	13,016.4	62.54%

Source: BPS Indonesia, 2024

These data indicate that the MSME sector is a major contributor to the national GDP, demonstrating a positive growth trend even during times of global crisis. This reflects the resilience and adaptability of MSMEs in responding to changes in both macroeconomic and microeconomic conditions. One region that significantly contributes to the growth of the national MSME sector is Bali Province. This region not only serves as a center of tourism but has also evolved into a stronghold of MSMEs, particularly in the culinary sector. The culinary sector's contribution to the Gross Regional Domestic Product (GRDP) in Bali Province is further evidence of the sector's vital role in the local economic system.

Denpasar City, as the capital of Bali Province, holds a strategic role in government, economic, and social activities. This position makes Denpasar the primary consumption hub on the island of Bali, especially in the food and beverage sector. The high mobility of the population, including both local residents and domestic and international tourists, generates a steady demand for culinary services. This, in turn, has driven the growth of various types of culinary businesses, ranging from traditional food stalls and modern cafés to high-end restaurants offering both local and international cuisine.

The culinary sector is one of the largest contributors to the GRDP of Denpasar City, accounting for 19.61 percent of the city's total GRDP, thereby reinforcing its role as a key pillar of the urban economy. Culinary businesses also play a crucial role in the regional economic value chain, from raw material processing and distribution to food preparation and service, creating employment opportunities across various skill levels. Moreover, this sector reflects the richness of local culture and the ongoing innovation within the community.

Table 2. Distribution of Denpasar City's GRDP Based on Applicable Constant Prices By Business Sector in 2023 (Percentage)

Type of Commodity	2023 (%)
Agriculture, Forestry, and Fisheries	6.57
Mining and Quarrying	-
Manufacturing Industry	6.45
Electricity and Gas Supply	0.58
Water Supply, Waste Management, and Recycling	0.23
Construction	11.13
Wholesale and Retail Trade; Repair of Motor Vehicles	10.05
Transportation and Warehousing	2.95
Accommodation and Food and Beverage Services	23.84
Information and Communication	4.73
Financial and Insurance Services	7.01
Real Estate	4.09
Business Services	2.04
Public Administration, Defense, and Mandatory Social Security	4.99
Education Services	10.96
Health Services and Social Activities	2.72
Other Services	1.66
Gross Regional Domestic Product (GRDP)	100.00

Source: BPS Denpasar City, 2024

The culinary sector occupies a dominant position in the MSME landscape in Denpasar City with a total of 10,814 business units or around 33.1% of all recorded MSMEs and as many as 8,172 culinary business units that have used e-commerce in their sales process. This figure confirms the strategic position of the culinary sector as the backbone of the micro, small and medium economy in the capital city of Bali Province. The dominance of the culinary sector is not surprising considering that Denpasar City plays a role as a center of economic, governmental and tourism activities which generates high demand for various food and beverage services as primary needs.

Table 3. Number of MSME Business Units by Sector in Denpasar City

No	MSME Business Sector	Number of Units
1	Culinary	10,814
2	Fashion	7,865
3	Education	443
4	Automotive	2,681
5	Agribusiness	6,053
6	Internet Technology	1,059

No MSME Business Sector Number of Units

7 Others	3,711
Total	32,629

Source: Denpasar City Cooperatives and UMKM Service, 2024

The large number of culinary business units reflects the broad and strategic role this sector plays in driving regional economic growth. This sector has experienced rapid development, particularly due to the adoption of digital technologies such as e-commerce, social media, and online payment systems. Denpasar City, which has the highest percentage of internet users in Bali Province—reaching 81.55 percent—possesses extraordinary potential for developing a digital MSME ecosystem. However, not all MSME actors are able to fully utilize technology in managing their businesses. Previous studies by Paryatmana & Arka (2024) and Dewi & Bendesa (2023) indicate that delayed adaptation to digital technology remains a major challenge for MSMEs in Denpasar. In fact, the limited use of e-commerce can directly impact business income due to the restricted reach of their market.

In addition to e-commerce, capital is another crucial factor. Capital serves as a fundamental component in supporting business operations, ranging from the procurement of raw materials and employee salaries to business expansion. Research conducted by Polandos & Tolosang (2019) and Antara & Wenagama (2023) confirms that capital has a positive and significant influence on MSME income. In Denpasar City, limited access to capital remains a primary obstacle for many MSMEs, particularly for new entrepreneurs who have not yet accessed financing facilities such as the People's Business Credit (KUR) program.

Another important factor is business training. Training serves as a key instrument to enhance the knowledge and competencies of MSME actors. With appropriate training, entrepreneurs can better understand financial management, marketing strategies, and the effective use of digital technology. Studies by Andiana and Yuliarmi (2022), as well as Rahmiyanti and Sari (2022), demonstrate that business training has a significant impact on improving MSME productivity and income in Denpasar City.

Furthermore, one aspect that is often overlooked in previous studies is the regional origin of MSME actors. In Denpasar, many culinary entrepreneurs come from outside the city or even outside the island. This phenomenon brings cultural diversity, unique taste preferences, and varied business strategies. Local entrepreneurs tend to have social advantages due to their closeness with the consumer community and strong social networks. In contrast, newcomers often bring innovation and product variation, yet frequently face challenges in building social networks and understanding the local market.

Considering these dynamics, this study is essential to examine the extent to which e-commerce, pricing, capital, business training, and regional origin affect the income of culinary MSMEs in Denpasar City. This approach not only contributes to the academic literature on the determinants of MSME success but also provides significant policy implications for local governments and other economic stakeholders.

METHOD

This study adopts a quantitative research design using an associative method. The research was conducted in Denpasar City, focusing on respondents who are actors or owners of culinary MSMEs. The dependent variable in this study is MSME Income (Y), while the independent variables include E-commerce (X₁), Price (X₂), Capital (X₃), Business Training (X₄), and Regional Origin (D).

MSME income is defined as the average monthly revenue earned by culinary MSME actors, measured in rupiah. E-commerce refers to the average number of transactions per month conducted through e-commerce platforms such as GoFood, GrabFood, and ShopeeFood. Price refers to the average selling price of products, measured in rupiah. Capital refers to the total funds owned by culinary MSME actors to operate their business, also measured in rupiah. Business Training is education aimed at improving business management skills, measured using a Likert scale. Regional Origin refers to the geographical origin of the MSME actors, represented using dummy variables: dummy 1 for MSME actors originating from Denpasar City, and dummy 2 for those from outside Denpasar City.

The population of this study consists of 8,712 culinary MSMEs in Denpasar City that utilize e-commerce in their sales. The sample includes 100 MSME respondents selected using a non-probability sampling technique with incidental sampling. The data used in this study include both quantitative and qualitative data obtained from primary and secondary sources. Data collection methods consist of observation and structured interviews.

The data were analyzed using multiple linear regression with the assistance of SPSS version 25 to examine the effect of E-commerce (X₁), Price (X₂), Capital (X₃), Business Training (X₄), and Regional Origin (D) on the Income of Culinary MSMEs (Y) in Denpasar City. The multiple linear regression equation used in this study is as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 D + e \dots \dots \dots (1)$$

Information:

Y	: Income of UMKM in the culinary sector
α	: Constant
$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$: Regression Coefficient
X ₁	: E-commerce
X ₂	: Price
X ₃	: Capital
X ₄	: Business Training
D	: DummyRegion of Origin
e	: Error

RESULTS AND DISCUSSION

Table 4. Descriptive Statistical Analysis

Variable	N	Minimum	Maximum	Mean	Std. Deviation
E-commerce	100	400	800	655.16	87.739
Price	100	10,000	35,000	20,180.00	4,746.886
Capital	100	5,200,000	20,610,000	12,622,400.00	4,121,443.338
Business Training	100	21	35	28.58	4.738
Regional Origin	100	0	1	0.50	0.503
Income	100	10,100,000	26,700,000	18,144,000.00	4,653,147.517

Source: Processed Primary Data, 2025

Referring to Table 4, it is shown that from a total sample of 100 respondents, the descriptive statistical analysis indicates the following: the e-commerce variable has a minimum value of 400 transactions per month and a maximum of 800 transactions per month, with a mean of 655.16 transactions. The price variable ranges from a minimum of IDR 10,000 to a maximum of IDR 35,000, with a mean of IDR 20,180. The capital variable has a minimum value of IDR 5,200,000 per month and a maximum of IDR 20,610,000, with an average of IDR 12,622,400. The business training variable has a minimum score of 21 and a maximum of 35, with a mean score of 28.58. The regional origin variable ranges from 0 to 1, with a mean value of 0.50.

Based on the results of the multiple linear regression analysis, the following multiple linear regression equation was obtained:

Through the results of multiple linear analysis, a multiple linear regression equation was obtained, namely.

$$Y = -1893086.393 + 4523.050 X_1 + 66.032 X_2 + 0.983 X_3 + 90282.944 X_4 + 1500386.205 D$$

$$\text{See} = (1657962.742) (1750.430) (31.574) (0.044) (37147.773) (299283.566)$$

$$t = (-1.142) (2.584) (2.091) (22.461) (2.430) (5.013)$$

$$\text{sig} = (0.256) (.011) (.039) (0.000) (.017) (0.000)$$

$$F = (187,191)$$

$$R^2 = (0.909)$$

Table 5. Normality Test Results

One-Sample Kolmogorov-Smirnov Test		Unstandardized Residual
N		100
Normal Parameter ^{a,b}	Mean	0.0000000
	Std.Deviation	1405727.803
Most Extreme Differences	Absoluted	.079
	Positive	.079
	Negative	-0.45
Test Statistic		.079
Asymp. Sig. (2tailed)		0.123 ^c

a. Test distribution is normal

b. Calculated from data

c. Lilliefors Significance Correction

Source: Processed Primary Data, 2025

Referring to Table 5, it was found that the data in this study had a normal distribution because the residual value was greater than the significance level of 0.05 or $0.123 > 0.05$, therefore, the data can be used in hypothesis testing.

Table 6. Multicollinearity Test Results

Variable	Tolerance	VIF	Explanation
E-commerce	0.891	1.122	No multicollinearity
Price	0.936	1.069	No multicollinearity
Capital	0.646	1.548	No multicollinearity
Business Training	0.679	1.474	No multicollinearity
Regional Origin	0.929	1.076	No multicollinearity

Source: Processed Primary Data, 2025

Referring to Table 6, it is known that all independent variables used in this study have a tolerance value of > 0.1 and a VIF value of < 10 . Thus, it can be concluded that there is no multicollinearity in the independent variables in this study.

Table 7. Results of Heteroscedasticity Test

Variable	Sig	Explanation
E-commerce	0.813	No Heteroscedasticity
Price	0.201	No Heteroscedasticity
Capital	0.130	No Heteroscedasticity
Business Training	0.329	No Heteroscedasticity
Regional Origin	0.730	No Heteroscedasticity

Source: Processed Primary Data, 2025

Referring to Table 7, it is known that the independent variables in this study have a significance value $> \alpha = 5$ percent. Thus, it is concluded that there is no heteroscedasticity in the regression model.

Table 8. Model Feasibility Test Results

Model	Sum of Squares	dF	Mean Square	F	Sig.
Regression	1.948E+15	5	3.896E+14	187.191	.000 ^b
Residual	1.956E+14	94	2.081E+12		
Total	2.144E+15	99			

Source: Processed Primary Data, 2025

Table 8 shows the results of the F-test significance of 0.000, therefore it can be concluded that e-commerce variables, prices, capital, business training, and region of origin simultaneously influence the income of culinary MSMEs in Denpasar City.

Table 9. Hypothesis Test Results

Model	Unstandardized Coefficients		Standardized Coefficients		Sig
	B	Std. Error	Beta	t	
(Constant)	-1893086.393	1657962.742		-1142	.256
E-Commerce	4523.050	1750.430	.085	2.584	.011
Price	66.032	31.574	.067	2.091	.039
Capital	.983	.044	.871	22.461	.000
Business Training	90282.944	37147.773	.092	2.430	.017
Regional Origin	1500386.205	299283.566	.162	5.013	.0000

Source: Processed Primary Data, 2025

The results of partial testing show that the e-commerce variable (X1) has a positive and significant effect on the income of culinary MSMEs in Denpasar City. The use of e-commerce can help MSMEs expand their market reach, simplify the digital product marketing process, speed up transactions, facilitate more efficient non-cash payments, and reduce promotion costs compared to conventional methods. Digital platforms also make it easier to conduct real-time market and consumer behavior analysis. This finding is in line with previous studies such as by Irayani and Ayuningsasi (2021), Dewi and Indrajaya (2023), Firmansyah and Husna (2021), and Saputra and Suasih (2023).

The results of partial testing show that the price variable (X2) has a positive and significant effect on the income of culinary MSMEs in Denpasar City. Competitive prices that are in accordance with product quality can increase consumer appeal, which ultimately has an impact on sales volume. In addition, price also functions as an indicator of the value received by consumers, so that it can influence perceptions of the quality of the products offered. Optimal pricing not only contributes to increasing demand but also builds positive perceptions of brands and products, which in turn can create consumer loyalty. This finding is in line with research by Bernik and Haq (2019), Erawati and Pramelia (2022), Luthfiyaji and Rachman (2023), and Sintiawati and Purbadarmaja (2024).

The results of partial testing show that the capital variable (X3) has a positive and significant effect on the income of culinary MSMEs in Denpasar City. This shows that the greater the capital owned by MSME actors, the higher their ability to run and develop their business, which has a direct impact on increasing income. Adequate capital allows business actors to ensure smooth operations from the early stages of production, including purchasing quality raw materials, procuring production equipment and supplies, to paying labor wages on time. The ability to maintain production continuity and meet market demand consistently contributes to increasing production capacity and income generation. This finding is in accordance with the Cobb-Douglas theory which states that capital affects output, and is in line with research by Antara and Wenagama (2023) and Wirawan and Indrajaya (2019).

The results of partial testing show that the business training variable has a positive and significant effect on the income of culinary MSMEs in Denpasar City. Business training plays an important role in strengthening the knowledge, technical skills, and managerial competence of MSME actors, especially in aspects of financial management, marketing strategies, improving product quality, and adapting to digital technology. With this increased capacity, MSME actors are able to run their businesses more efficiently and professionally. In addition, training helps business actors recognize market opportunities, implement innovations, and improve operational systems that have an impact on improving the quality of products and services. This directly contributes to increasing customer satisfaction, consumer loyalty, and business competitiveness in the midst of increasingly competitive market competition. The efficiency and innovation obtained from training will ultimately drive sustainable income increases. This finding is in line with the research of Rahmiyanti and Sari (2022) and Andiana and Yuliarmi (2022).

The results of the parial test show that regional origin (D) has a positive and significant effect on the income of culinary MSMEs in Denpasar City. This is because culinary MSME actors from Denpasar City have an understanding of the local market, consumer preferences, and strong social capital such as networks, trust, and community support that facilitate access to resources and business opportunities. This finding is in line with the theory of social capital which emphasizes the importance of social networks in supporting economic activities.

CONCLUSION

This study shows that e-commerce, price, capital, business training, and regional origin simultaneously significantly affect the income of culinary MSMEs in Denpasar City. Partially, e-commerce, price, capital, and business training have a positive and significant effect. MSMEs from Denpasar City have higher incomes than those from outside the region.

From the results of this study, there are several suggestions for related parties. For MSMEs, it is recommended to make optimal use of e-commerce to expand market reach and increase the number of sales transactions. On the other hand, business actors also need to actively participate in business training in order to improve their entrepreneurial skills and the quality of their human resources. For the Denpasar City government, it is hoped that they can routinely hold relevant business training programs, such as digitalization, marketing, and financial management training, as well as monitor business actors who have participated in training. The government also needs to work with related parties to improve the security of e-commerce platforms and ensure the protection of public data, so that business actors and consumers feel safe in making transactions. On the other hand, access to capital needs to be continuously expanded through easy financing so that MSMEs can increase their business scale. For subsequent researchers, it is hoped that the findings of this study can act as a reference in developing further studies, by adding other variables that have not been studied, considering that there are still other factors that influence the income of culinary MSMEs in Denpasar City.

REFERENCES

- Gustina, L., Novita, W., & Triadi, Y. (2022). The Influence of E-Commerce on Increasing the Income of Micro, Small and Medium Enterprises in Padang City. *Journal of Technology and Business Information Systems*, 4(1), pp. 152–161.
- Rifani, J. (2022). The Role of Micro, Small and Medium Enterprises (MSMEs) in Absorbing Labor in Amuntai City, Hsu Regency (Case Study on Mr. H. Majid's Wooden Furniture MSME). *Inovatif Journal of Business Administration*, 4(1), pp. 27–34.
- Abdullah Oekan & Mulayanto Dede. (2019). *Development Issues: A Theoretical Introduction*. Jakarta: PT. Gramedia Pustaka.
- Paryatmana, INR, & Arka, S. (2024). Analysis of Factors Affecting the Income Level of MSMEs in the Culinary Sector in Kuta District. *E-Journal of Development Economics*, Udayana University, 13(1), pp. 53-66.
- Dewi, NPAP, & Bendesa, IKG (2023). The Influence of People's Business Credit (KUR) and Technology Utilization on the Productivity and Income of Culinary MSMEs in Denpasar City. *E-Journal of Development Economics*, Udayana University, 12 (11), pp. 771-785.
- Polandos, PM, Engka, DS, & Tolosang, KD (2019). Analysis of the Influence of Capital, Length of Business, and Number of Workers on the Income of Micro, Small and Medium Enterprises in East Langowan District. *Scientific Periodical Journal of Efficiency*, 19(4), pp.36–47.
- Andiana, IKAK & Yuliarmi, NN (2022) The Effect of Training and Use of Technology on the Productivity and Sustainability of MSMEs in Denpasar City. *E-Journal of Development Economics*, Udayana University, 11(4), pp. 1369-1389.
- Rahmianti, D., & Sari, D. (2022). The Influence of Training, Mentoring and Guidance of PLUT-KUMKM Kupang City on Increasing MSMEs. *JIMB Economic Journal*, 18(1), pp. 151-168.
- Irayani, IGA, & Ayuningsasi, AAK (2021). The Influence of Education Level and Product Type on the Utilization of E-Commerce and Sales Turnover of MSMEs in Denpasar City. *E-Jurnal EP Unud*, 10(2), pp. 658-685.
- Dewi, IAPP, & Indrajaya, IGB (2023). The Influence of E-Commerce Usage, Number of Customers, and Business Capital on the Income of Culinary MSMEs. *E-Journal of Economics and Business*, Udayana University, 12(11), pp. 2268-2278.
- Saputra, IWA, & Suasih, NNR (2023). The Effect of Capital, Working Hours, Length of Business, and E-Commerce on Income of Suckling Pig Business in Denpasar City. *E-Journal of Development Economics*, Udayana University, 12(11), pp. 748-758.
- Firmansyah, D., & Husna, R. (2021). The Influence of E-commerce on Increasing the Income of Micro, Small and Medium Enterprises (Case Study of Chips Business in Bireuen Regency). *Scientific Journal of Almuslim University*, 13(3), pp.135–141.
- Erawati, T., & Pramelia, N. (2022). E-commerce, Innovation, Pricing, and MSMEs Income during the Covid-19 Pandemic. *Reslaj: Religion Education Social Laa Roiba Journal*, 4(6), 1429–1444

- Bernik, M., & Haq, MD (2019). Pricing Analysis to Increase Product Sales (Case Study of Sate Hadori Bandung). *Al Tijarah*, 5(1), 1–14.
- Sintiawati, NPA, & Purbhadharmaja, IBP (2024). Analysis of the Influence of Labor, Capital, Price, and Technology on MSME Income in Denpasar City. *E-Journal of Economics and Business*, Udayana University, 13(4), pp. 668-681.
- Luthfiah, W., & Rachman, AN (2023). The Influence of Capital, Labor, Price and Length of Business on the Income of Culinary MSMEs in Surakarta City. *Student Research Scientific Journal*, 1(3), pp. 60–69.
- Antara, IMS, & Wenagama, IW (2023). Analysis of Factors Affecting the Income of MSMEs in the Trade Sector, Case Study of Grocery Stores in South Denpasar. *E-Journal of Development Economics*, Udayana University, 12(12), pp. 843-864.
- Wirawan, NGD & Indrajaya, IGB (2019). The Influence of Capital and Labor on Production and Income at Milk Pie SMEs in Denpasar. *E-Journal EP Unud*, 8 (2), pp. 453-485.