

THE ROLE OF PRODUCT DIVERSIFICATION, TECHNOLOGY, AND DIGITAL LITERACY IN INCREASING THE INCOME OF LAMONGAN SOTO TYPICAL FOOD UMKM WITH CONSUMER SATISFACTION AS A MEDIATION VARIABLE

Moch Deddy Koesbagio¹, Abid Muhtarom², Mohammad Yaskun³, Muhammad Imam Syairozi⁴

¹ Faculty Economy And Business , Islamic University of Lamongan

² Faculty Economy And Business , Islamic University of Lamongan

³ Faculty Economy And Business , Islamic University of Lamongan

⁴ Faculty Economy And Business , Islamic University of Lamongan

Correspondence: Dedykoesbagio@unisla.ac.id

Article Info

Article history:

Received Feb 12th, 2025

Revised Feb 21th, 2025

Accepted Feb 26th, 2025

Keyword:

Analyze The Effect Of Product Diversification, Technology, And Digital Literacy , Lamongan Specialty Food

ABSTRACT

MSMEs play an important role in the Indonesian economy, especially in the regional specialty food sector which not only supports the local economy but also strengthens cultural identity. In Lamongan Regency, one of the famous specialty products is soto Lamongan. MSMEs that manage this soto business play an important role in maintaining the authenticity and extinction of specialty culinary delights while making a significant economic contribution. This study aims to analyze the effect of product diversification, technology, and digital literacy in increasing MSMEs income. The model used in this study is Partial Least Squares Structural Equation Modeling (PLS-SEM). This study uses the object of MSMEs of Soto Lamongan specialty food. The research population is all visitors to MSMEs of Soto Lamongan specialty food. The sample will be selected randomly with the specified inclusion and exclusion criteria to ensure sample representativeness. Data will be collected through a survey using a structured questionnaire. This study resulted in: 1) Product diversification has a significant positive effect in increasing the income of Soto Lamongan specialty food MSMEs. 2) Product diversification has a significant positive effect on consumer satisfaction of Soto Lamongan specialty food MSMEs. 3) Technology has a significant positive effect in increasing the income of Soto Lamongan specialty food MSMEs. 4) Technology has a significant positive effect on consumer satisfaction of Soto Lamongan specialty food MSMEs. 5) Digital literacy has a significant positive effect in increasing the income of Soto Lamongan specialty food MSMEs. 6) Digital literacy has a significant positive effect on consumer satisfaction of Soto Lamongan specialty food MSMEs. 7) Consumer satisfaction has a significant positive effect in increasing the income of Soto Lamongan specialty food MSMEs.



© 2025 The Authors. Published by CV Kreatiftechinnovations . This is an open access article under the CC BY NC license (<https://creativecommons.org/licenses/by-nc/4.0/>)

INTRODUCTION

MSMEs (Micro, Small, and Medium Enterprises) play an important role in the Indonesian economy, especially in the regional specialty food sector which not only supports the local economy but also strengthens cultural identity. In Lamongan Regency, one of the famous specialty products is soto Lamongan. MSMEs that manage this soto business play an important role in maintaining the authenticity and sustainability of specialty cuisine while making a significant economic contribution. However, in the era of ever-growing digitalization, MSMEs in Lamongan, including soto Lamongan, face various challenges in increasing income and competitiveness. To face these challenges, product diversification strategies, technology, and digital literacy are important, with consumer satisfaction as a variable that strengthens the relationship between these three factors and increased income.

Product diversification includes variations in the menu, recipe innovation, and unique presentation so that consumers have more choices and reasons to return (Hidayati & Dwiridotjahjono, 2024) . Technology helps MSMEs manage operations more efficiently, improve product quality, and expand access to wider markets through digital platforms. In a study conducted by Saputra & Asfahani (2024) . Digital literacy is also a crucial factor in supporting the success of technology and digital

marketing among MSMEs. Digital literacy includes the ability to understand and use digital tools, as well as develop appropriate marketing strategies on online platforms (Kader et al., 2024).

In today's era, customers tend to prioritize convenience and ease in transactions, so digital literacy allows MSMEs to meet these needs. Consumer satisfaction acts as a mediating factor that strengthens the impact of various management strategies on increasing revenue. Good consumer satisfaction will encourage customer loyalty, which will ultimately increase sales volume and MSME revenue. In the context of Soto Lamongan, maintaining cleanliness, friendliness, and speed of service can increase customer satisfaction and increase the likelihood of customers recommending the product to others.

RESEARCH METHODS

The population in this study were consumers in the UMKM of Lamongan Soto specialty food. The population in this study was obtained in May 2023, the data obtained were as follows Sunday First data obtained as many as 45 visitors, week second data obtained from 50 visitors, week third data obtained as many as 56 visitors, week fourth data was obtained from 70 visitors. So the total population as many as 221 visitors. The sampling technique in this study used random sampling, then a sample of 142 people was obtained from the existing population.

The outer model in this research will be valid if validity convergent with mark outer loading on 0.70 and the average variance inflation factor (AVE) value must more big from 0.5 And discriminant validity with mark indicator Which more significant from construct other (Ghozali et al, 2015). It is said reliable if the Cronbach Alpha value is more than 0.60 and Composite Reliability must more big from 0.70 (Ghozali et al., 2015). Inner model is model which is used to guess the cause and effect of a relationship between variable latent, Model This Also as condition in test SEM (Ghozali I, 2014). Then test hypothesis counted with use method bootstrapping on Smart PLS 4 software. Submission the hypothesis is accepted if the t-statistic value is higher than mark t-table. (1.96) and the p-value is less than 0.05 (Ghozali et al, 2015). Instrument Which used is questionnaire Which containing statements on each variable indicator. Hypothesis in study This is :

1. It is suspected that the product diversification variable has a significant positive effect in increasing the income of the Lamongan Soto specialty food UMKM.
2. It is suspected that the product diversification variable has a significant positive effect on satisfaction with the Lamongan Soto specialty food UMKM.
3. It is suspected that the technology variable has a significant positive effect in increasing the income of the Lamongan Soto specialty food UMKM.
4. It is suspected that the technology variable has a significant positive effect on satisfaction with the Lamongan Soto specialty food UMKM.
5. It is suspected that the digital literacy variable has a significant positive effect on increasing the income of the Lamongan Soto specialty food MSME.
6. It is suspected that the digital literacy variable has a significant positive effect on satisfaction with the Lamongan Soto specialty food UMKM.
7. It is suspected that the satisfaction variable has an influence on increasing the income of the Lamongan Soto specialty food UMKM.

RESULTS AND DISCUSSION

3.1.1 Analysis Outer Model

Table 1. Results Composite Reliability and Convergent Validity

Construct	Item	Factor Loading	AVE	Composite Reliability	Cronbach's Alpha
Diversification Product (X1)	X1.1	0.915	0.857	0.960	0.945
	X1.2	0.944			
	X1.3	0.914			
	X1.4	0.929			
Technology (X2)	X2.1	0.872	0.830	0.936	0.912
	X2.2	0.970			
	X2.3	0.889			
Literacy (X3)	X3.1	0.945	0.776	0.932	0.903
	X3.2	0.837			
	X3.3	0.783			
	X3.4	0.947			
Increase Income (Y)	Y1	0.953	0.869	0.946	0.949
	Y2	0.979			
	Y3	0.848			
	Y4	0.943			
Satisfaction Consumer (Z)	Z1	0.899	0.843	0.946	0.954
	Z2	0.938			
	Z3	0.907			
	Z4	0.920			
	Z5	0.926			

Table on show mark indicator from each variable on Loading Factor on 0.70 And mark Average Variance Extracted (AVE) above 0.50. from statement the results validity to variable which is shown in table 2 can be said to be valid. Table 2 Also show mark indicator from each variable on Cronbach Alpha on 0.70 And mark Composite Realizability on 0.70. from statement the results mark test validity to the variables displayed can it is said reliable .

3.1.2 R-Square Test

Square value is the coefficient of determination of the endogenous structure used for observation to easily obtain solutions and resolutions. According to Ghazali, Imam (2006) in Muhtarom, Abid, et al. (2022) , an R- Square value of 0.67 is said to be strong, 0.33 is said to be moderate and 0.19 is said to be weak.

Table 2 R-Square Test

	R Square	R Square Adjust
Increase Income (Y)	0.826	0.821
Satisfaction Consumer (Z)	0.439	0.427

Judging from the R- Square test table above, it shows that the diversification variable (X1), technology (X2), digital literacy towards increasing income (Y) by 0.826 And mark R- Square Adjust of 0.439 is stated strong .

3.1.3 Test Hypothesis

According to Muhtarom, Abid, et al (2022) Mediation test functions to mediate between independent variables and dependent variables and also leads to mediating variables (intervening). There are 3 groups in mediation, namely Non Mediation if the relationship between Exogenous and Endogenous variables is positive and the mediating variable is negative, Full Mediation occurs if the Exogenous and Endogenous variables are negative and the mediating variable is positive, Partial Mediation occurs if the Exogenous and Endogenous variables are positive and the mediating variable is also positive. It can also be seen if the P Value on Specific Indirect Effect > 0.05 is negative and vice versa.

Table 3 Path Analysis

	<i>Sample Mean (M)</i>	<i>T Statistics (O/STDEV)</i>	<i>P Values</i>
X1 -> Y	-0.323	3,471	0,000
X2 -> Y	0.126	1,923	0.028
X3 -> Y	0.160	4,922	0,000
X1 -> Z	-0.720	7,485	0,000
X2 -> Z	0.251	3,298	0.001
X3 -> Z	-0.130	1,661	0.049
Z -> Y	0.790	13,657	0,000

Table 4 Specific Indirect Effect

	<i>Original Sample (O)</i>	<i>Sample Mean (M)</i>	<i>Standard Deviation (STDEV)</i>	<i>T Statistics (O/STDEV)</i>	<i>P Values</i>
X1 -> Z -> Y	-0.571	-0.568	0.088	6,518	0,000
X2 -> Z -> Y	0.210	0.199	0.067	3,135	0.001
X3 -> Z -> Y	-0.099	-0.103	0.062	1,615	0.053

In table 3 Path Analysis of the diversification variable on increasing income shows a positive relationship because P Value = 0.000 < 0.05, and in table 4 the Specific Indirect Effect of the Diversification Variable towards increasing sales mediated by consumer satisfaction there is a positive relationship because P Value = 0.000 which means <0.05. So in this relationship it can be called Partial Mediation .

In table 3 Path Analysis of technology variables towards increasing income shows a positive relationship because P Value = 0.028 < 0.05, and in table 4 Specific Indirect Effect Technological variables towards increasing sales mediated by consumer satisfaction there is a positive relationship because P Value = 0.001 which means <0.05. So in this relationship it can be called Partial Mediation.

In table 3 Path Analysis of digital literacy variables on increasing income shows a positive relationship because P Value = 0.000 <0.05, and in table 4 Specific Indirect Effect of digital literacy

variables on increasing sales mediated by consumer satisfaction there is a negative relationship because P Value = 0.053 which means <0.05 . So in this relationship it can be called Non Mediation.

The Influence of Product Diversification on Increase Income

The diversification variable on increasing income shows that the coefficient value is $-0.345 < 0.000$ with T- statistics $> T$ -table ($7.485 > 1.977$) and P- value $0.000 < 0.05$, so H_0 is rejected and H_{a1} is accepted, meaning that there is a positive and significant influence. Product diversification has a significant positive effect on increasing sales in UMKM of typical Lamongan food, especially Soto Lamongan. By expanding product variations, such as offering flavor variants, menu packages, presentation innovations, or additional products such as typical side dishes, Product diversification helps Soto Lamongan UMKM reach a wider market segment, including customers who may have specific needs, such as healthy menus, instant menus, or variations for certain events.

The results of this study are supported by Yuliawan, Dedy, et al (2021) that Diversification of Dairy Cattle Products to Increase Farmers' Income in Air Kubang Village, Air Naningan District, Tanggamus Regency has been implemented according to schedule. This service has a positive impact on farmers, which is marked by the increase in farmers' knowledge of marketing, making kefir and packaging and labeling.

The Influence of Product Diversification on Consumer Satisfaction

The diversification variable on consumer satisfaction shows that the coefficient value is $-0.732 < 0.000$ with T- statistics $> T$ -table ($3.471 > 1.977$) and P- value $0.000 < 0.05$, so H_0 is rejected and H_{a2} is accepted, meaning that there is a positive and significant influence. The results of the statistical analysis in this study support this assumption, where diversification indicators such as product variety, service innovation, and flexibility of choice have a significant positive coefficient on consumer satisfaction. This is in line with marketing theories that state that the more relevant and quality choices offered to consumers, the higher their level of satisfaction.

This finding is consistent with previous research conducted by Budiman, Budiman, et al (2022) shows that diversification not only creates positive experiences but also builds customer loyalty. By providing a more complete experience and meeting diverse needs, companies are able to create better long-term relationships with consumers. Diversification is an important strategy that companies like Labuan Cafe must continue to optimize to increase customer satisfaction and ensure sustainable competitiveness .

The Impact of Technology on Increasing Sales

The technology variable for increasing income shows that the coefficient value is $0.144. > 0.000$ with T- statistics $< T$ -table ($1.923 < 1.977$) and P- value $0.028 < 0.05$ then H_0 is rejected and H_{a3} is accepted, meaning there is a positive and significant influence. Through digital technology such as social media, websites, and food delivery applications, Soto Lamongan UMKM can introduce their products to a wider range of consumers. Digital marketing strategies, such as promotions through Instagram or Facebook, as well as the use of paid advertising, allow UMKM to target consumers more specifically, thereby increasing visibility and sales. Adoption of ordering technology through applications such as GoFood , GrabFood , or e- commerce specifically for food makes it easier for customers to buy Soto Lamongan without having to come directly to the location. This not only increases convenience for customers but also helps MSMEs reach consumers outside the local area.

The results of this study are supported by Ramadhani, Yunita, et al (2024) stated that Mr. Hendro's ability had increased, and he had begun to utilize technology using the social media platform Instagram by uploading product images to expand product marketing.

The Influence of Technology on Consumer Satisfaction

The variable of technology on consumer satisfaction shows that the coefficient value is $0.269 > 0.000$ with T- statistics $> T$ -table ($3.298 > 1.977$) and P- value $0.001 < 0.05$, so H_0 is rejected and H_{a4} is accepted, meaning that there is a significant positive influence. The implementation of technology in various aspects of operations and interactions with consumers has proven to be able to improve the overall customer experience. Technology serves as a tool that makes it easier for consumers to access services, obtain information, and complete transactions more quickly and efficiently. Technology indicators such as ease of use, speed of service, and accessibility of digital features are key factors contributing to a better consumer experience. Consumers feel that technology reflects the professionalism and modernity of the company, which in turn creates a positive perception of the brand.

The results of this study are supported by Azhar, Fauzul, et al (2022) information technology simultaneously and partially has a positive and significant effect on customer satisfaction. The results of this study support the second hypothesis (H a4) which states that technology has a significant positive effect on customer satisfaction.

The Impact of Digital Literacy on Increasing Income

The digital literacy variable on increasing income shows that the coefficient value is $0.165 > 0.000$ with T- statistics $> T$ -table ($4.299 > 1.977$) and P- value $0.000 < 0.05$, so H0 is rejected and Ha5 is accepted, meaning that there is a significant positive influence. In the context of MSMEs such as Soto Lamongan, digital literacy enables business owners to utilize digital technology in various operational aspects, such as marketing, sales, and customer relationship management. For example, the use of social media such as Instagram, Facebook, and WhatsApp Business allows UMKM Soto Lamongan to reach wider consumers and promote products effectively. By utilizing features such as photos, videos, or customer reviews, product appeal can be increased, thereby supporting increased sales.

The results of this study are supported by Nugraheni, Edlin Yanuar, et al (2021) who stated that the digital literacy of housewives who are the target of activities in processing Sasirangan-based products, which is expected to support in obtaining additional income for the family. The results of this study support the second hypothesis (H a5) which states that digital literacy has a significant positive effect on increasing income.

The Influence of Digital Literacy on Consumer Satisfaction

The digital literacy variable on consumer satisfaction shows that the coefficient value is $-0.127 < 0.000$ with T- statistics $< T$ -table ($1.661 < 1.977$) and P- value $0.049 < 0.05$, so H0 is rejected and Ha6 is accepted, meaning that there is a positive but not significant influence. In the context of Soto Lamongan UMKM, digital literacy allows business actors to provide faster, more efficient, and more relevant services to consumer needs. The use of technology such as social media, food delivery platforms, or digital ordering systems makes it easier for consumers to access products. For example, consumers can easily view menus, read reviews, place orders, and pay online, which increases their convenience and satisfaction.

The results of this study are supported by Lisawanto, Lisawanto, et al. (2023) stated that the digitalization of PT Pos has a good influence and makes customers feel satisfied. The results of this study support the second hypothesis (H a6) which states that digital literacy has a significant positive effect on consumer satisfaction.

The Influence of Consumer Satisfaction on Increasing Income

In the variable of consumer satisfaction towards increasing income, it shows that the coefficient value is $0.781 > 0.000$ with T- statistics $> T$ -table ($13.657 > 1.977$) and P- value $0.000 < 0.05$, then H0 is rejected and Ha7 is accepted, meaning that there is a significant positive influence. Consumer satisfaction of UMKM soto Lamongan influenced by various factors, such as taste quality, appropriate price, friendly service, comfort of place, and ease of accessing services, both directly and through digital platforms. If consumers are satisfied with the products and services provided, they tend to return or make repeat purchases, which will ultimately increase business revenue.

The results of this study are supported by Pratama, Teddy Adya, et al (2021) stated that consumer satisfaction has a significant effect on income. The results of this study support the second hypothesis (H a7) which states that consumer satisfaction has a significant positive effect on increasing income.

CONCLUSION

Study This use data primary, that is data Which collected direct from field with spread questionnaire structured to 142 respondents. The respondents of this study were UMKM soto actors in Lamongan . Based on results research conducted obtained a number of conclusion that is The product diversification variable has a positive and significant influence on increasing income. The product diversification variable has a positive and significant influence on consumer satisfaction. The technology variable has a positive and significant influence on increasing income. Technology variables have a significant positive influence on consumer satisfaction. The digital literacy variable has a significant positive influence on increasing income. The technology variable has a positive but not

significant influence on consumer satisfaction. The consumer satisfaction variable has a significant positive influence on increasing income.

REFERENCES

- Azhar, F., Ibrahim, A., & Riza, A. (2022). The Influence of Information Technology and CONSUMER SATISFACTION on Customer Satisfaction of Banda Aceh Syariah Bank. *Scientific Journal of Islamic Economics and Business Students* , 3 (1), 9–21.
- Budiman, B., Yunia, N., & Badrotusabila, B. (2022). The Effect of Product Diversification on Consumer Satisfaction of Rabbani Instant Veil in Rangkasbitung Lebak. *Ad-Deenar: Journal of Islamic Economics and Business* , 6 (01), 89. <https://doi.org/10.30868/ad.v6i01.2246>
- Ghozali Imam. (2014). *Partial Least Squares: Concept, Technique, And Application Use Program SmartPLS 3.0*. University Diponegoro Semarang.
- Ghozali Imam, & et al. (2015). *Partial least squares draft, technique And application use SmartPLS 3.0 program for empirical research (2nd ed.)*. University Diponegoro.
- Hidayati, N., & Dwiridotjahjono, J. (2024). As-Syirkah: *Islamic Economics & Financial Journal* . 3 , 1503–1508. <https://doi.org/10.56672/assyirkah.v3i3.289>
- Kader, MA, Prawiranegara, B., Ananda, R., Setiawan, P., Shelyanti, A., & Pratama, MBY (2024). Digitalization of MSMEs Through Digital Literacy and Digital Marketing in Improving Product Quality and Sales Volume . 349–362.
- Lisawanto, L., Mantri, YM, Yusuf, R., & Mohdari, M. (2023). Digitalization of PT Pos in Increasing Customer Satisfaction of PT Pos Indonesia. *Ekonomis: Journal of Economics and Business* , 7 (1), 667. <https://doi.org/10.33087/ekonomis.v7i1.1072>
- Muhtarom, A., Syairozi, MI, & Yonita, HL (2022). Analysis of Price Perception, Location, Facilities, and Service Quality on Customer Loyalty Mediated by Purchasing Decisions (Case Study on UMKM SKCK (Canditungga Kalitengah Culinary Station) Structural Equation Modeling (SEM) Method - Partial Least. *EKOMBIS REVIEW: Jurnal Ilmiah Ekonomi Dan Bisnis* , 10 (S1), 391–402. <https://doi.org/10.37676/ekombis.v10is1.2018>
- Nugraheni, EY, & Rahmatullah, M. (2021). Increasing Digital Literacy and Sasirangan Product Innovation for Housewives to Improve Family Economy During the Covid 19 Pandemic. *Bakti Banua: Journal of Community Service* , 2 (1), 1–7. <https://doi.org/10.35130/bbjm.v2i1.201>
- Pratama, TA, Susanto, BF, Management, P., & Indragiri, UI (2021). FRESYA JAYA LAUNDRY IN TEMBILAHAN HULU VILLAGE, DISTRICT. *Ubhara Scientific Journal of Management* , 160–172.
- Ramadhani, Y., Nafi'ah, & Fathoni, K. (2024). *Social Science Academic*. *Social Science Academic* , 2024 , 757–768.
- Saputra, & Asfahani. (2024). Marketing Strategy through Marketplace Shoppe Training to Increase Sales of Home Industry Pecel Sauce in Prajegan Village, Sukorejo. 719–724.
- Yuliawan, D., & Wanniatie, V. (2021). Diversification of Dairy Cattle Products to Increase Farmers' Income in Air Kubang Village, Air Naningan, Tanggamus Regency. *Community Service Animal Husbandry* , 1 (1), 1–7. <http://www.jurnal.unsyiah.ac.id/petamas/article/view/23465%0Ahttp://www.jurnal.unsyiah.ac.id/petamas/article/viewFile/23465/150>