

Improving Performance of Culinary Business through Quadruple Helix



Irany Windhyastiti¹, Umu Khouruh², Eko Aristanto³, Syarif Hidayatullah⁴, Christina Sri Ratnaningsih⁵

^{1,2,3,4,5}Faculty of Economics and Business, University of Merdeka Malang, Jl. Terusan Raya Dieng 62-64 Malang, Indonesia

ABSTRACT: This research aims to analyze the effect of Quadruple Helix (media, community, academics and governments) in improving performance of MSME's. The population in this research were members of the Samudra Jaya group of MSMEs. The Samudra Jaya group was established in 2020. The numbers of registered members are 45 business actors. The samples are 30 business actors, was taken from active members Data analyzed used a regression method. The result shows that the community and the media have a significant effect in improving performance of MSME's. In the community and media aspect, marketing cooperation, which can be done for example through media social community (Instagram or web of group). This joint promotional effort amplifies market reach and positively contributes to the overall performance of small and medium enterprises.

KEYWORDS: Academics, Community, Government, Media, MSME's, Performance

I. INTRODUCTION

Based on information provided by the Ministry of Cooperatives and Small and Medium Enterprises (Kemenkop and UKM), the Covid-19 pandemic had a significant impact on 1,875 cooperatives and 163,713 MSMEs (Micro, Small, and Medium Enterprises) (1). In East Java, the number of food and beverage SMEs reached 746,732, making it the second largest region in Indonesia in this sector. Specifically, food and beverage SMEs in East Java, including home-based industries and coffee shops, experienced an average decline of 63% (2). The pandemic-induced uncertainty led regional governments to implement periodic PPKM (Enforcement of Restrictions on Public Activities) policies based on Covid-19 spread levels. This situation caused fluctuating incomes for MSMEs. According to a survey on culinary businesses, during level 4 of PPKM (100% Work From Home), 37% of business owners experienced a sales decrease of more than 50%. At level 3 (50% Work From Home), 43% of business owners faced a sales decline ranging from 25% to 50% (3). To sustain culinary businesses, collaboration among various stakeholders is crucial, including academics, government bodies, media, and communities, forming what is known as the Quadruple Helix. Windhyastiti et al.'s research emphasizes the essential roles of the government, academics, and communities in supporting the sustainability of small business owners (4). Despite experiencing reduced sales, most SMEs managed to survive. This study aims to investigate the impact of the Quadruple Helix (media, community, academics, and government) on enhancing SME performance.

II. LITERATURE REVIEW

In the context of research within this field, the Quadruple Helix model holds greater relevance compared to the Triple Helix model. This is due to the involvement of more than three key players, including the government, universities, and industry. The addition of the community, often referred to as the user, as the fourth actor, distinguishes the Quadruple Helix model. As outlined by Delman and Madsen (2007), this fourth helix actor in the Quadruple Helix structure represents an independent, non-profit, and member-based organization (5). Yawson (2009) emphasizes that innovation arises from the needs of users, a concept known as user-driven innovation. This perspective formalizes users as the fourth helix in the model, underscoring their crucial role in the innovation process (6). The Triple Helix concept is fundamentally defined as an approach illustrating that innovation emerges through reciprocal, balanced, and sustainable relationships among business professionals, government entities, and academics.

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These relationships serve as transformative conduits, fostering the process of innovation (7). Moreover, this model evolved into a Quadruple Helix with the incorporation of media as the fourth helix (8)(9)(7). The findings highlight the significance of the university, industry, government, civil society, media, and culture-based society, along with society and the natural environment in the context of the quintuple helix. This integrated framework has the potential to enhance the competitiveness of Small and Medium Enterprises (SMEs), strengthen human resource capabilities, and elevate the quality and competitiveness of products manufactured by these SMEs (10). Carayannis and Campbell (8) have defined the fourth helix in two aspects: culture and media, and the involvement of civil society in generating knowledge and innovation. According to their perspective, the Quadruple Helix model requires more strategic community engagement. The community's role is recognized as a vital source of innovation. Conceptually, the Quadruple Helix represents an advancement from the Triple Helix by incorporating civil society and integrating knowledge and innovation into the framework (11). This aligns with the findings of Mulyaningsih's research, which identifies the fourth helix as the community, playing a pivotal role in driving the innovation process. This involvement is characterized by creating demand for goods and services, emphasizing the community's active contribution to fostering innovation (12). Additional research supports the idea that assistance provided by the business community to creators in the culinary creative economy is directly correlated with the emergence of innovation. This support aids creative economy creators in enhancing the quality of their production to meet consumer satisfaction, highlighting the crucial link between business support and innovative outcomes in the creative economy sector (13). The findings of Windhyastiti et al. underscore the essential roles of government, academics, and communities in supporting the sustainability of small business actors. Their research highlights the collaborative efforts required from these stakeholders to ensure the long-term viability and success of small business (3). The research conducted by Muzaqi and Hanum in a tourist village in Trenggalek City demonstrates that Quadruple Helix synergy plays a crucial role as valuable capital in fostering creativity and innovation. This synergy, involving collaboration between government, academia, industry, and the community, emerges as a fundamental factor in driving creative and innovative initiatives within the context of the tourist village (14). Similarly, studies conducted in the MSME sector in Malang City reveal the significance of the Quadruple Helix Model. This model serves as a framework that enables the emergence of more optimal and effective innovations among the actors within the helix. The collaborative engagement of government, academia, industry, and the community proves instrumental in enhancing innovation processes and outcomes within the MSME sector (15). Other research emphasizes the importance of partnerships between intellectuals, government, and businesses in enhancing the creativity and innovation capabilities within the Small and Medium Enterprises (SMEs) environment. Such collaborations are viewed as essential for nurturing innovative practices, fostering creativity, and strengthening the overall innovation landscape within SMEs (16). Innovation is one of indicators of business performance (17).

In line with previous research, the hypothesis is formulated:

- H1: The community has a significant effect in improving performance of MSME's
H2: The media have a significant effect in improving performance of MSME's
H3: The academics have a significant effect in improving performance of MSME's
H4: The government has a significant effect in improving performance of MSME's

III. METHOD

In this study, the respondents were drawn from the Samudra Jaya group of Small and Medium Enterprises (SMEs), which was founded in 2019. This particular MSME group focuses on accommodating small business entities involved in fish processing, producing items such as catfish nuggets, shredded tuna, shrimp dumplings, catfish "rambak", catfish bone sticks, catfish "amplang", tuna tofu, and other related products. The group consists of 45 registered members. The sample for the study was derived from 30 active members within this group. The data collected were analyzed using the regression method. Indicator of quadruple helix was adapted from some research of Carayannis & Campbell (2012), Leydesdorff (2012), Ivanova (2014) (8) (7) (9). Indicator of business performance was adopted from some research of Porter (1991), Barney (1991) and Chen (2019) (17) (18) (19). Business performance indicators are measured by innovation, service, price, quality, image, sales growth, and profit.

IV. RESULT

Based on Table 1, the majority of business actors have been in business for 4 to 6 years (30%) and only 2 business actors have been in business for more than 10 years. Meanwhile, when viewed from the average turnover of income per month (Table 2), most of the business actors (46.7%) have an average income < 2,500,000; 33% of the business actors have an average income of IDR 2,500,000 to IDR 5,000,000 per month and only 2 business actors have income above IDR 10,000,000

Table 1. Business Age

<u>Business Age</u>	<u>Total</u>	<u>%</u>
< 2 years	2	7%
2 - 4 years	8	27%
4 - 6 years	9	30%
6 - 8 years	6	20%
8 - 10 years	3	10%
<u>> 10 years</u>	<u>2</u>	<u>7%</u>
Total	30	100%

Table 2. Average of Income per Month

<u>Average of Income</u> <u>per</u> <u>(IDR)</u>	<u>Total</u> <u>Month</u>	<u>%</u>
< 2,500,000	14	46.7
2.,500,000 - 5,000,000	10	33.3
5,000,000 - 7,500,000	4	13.3
7,500.,000 - 10.000.000	2	6.7
<u>> 10,000,000</u>	<u>30</u>	<u>100.0</u>
Total	30	100%

Based on the data presented in Table 3, it is evident that the majority of business actors, specifically 63.3%, experienced an increase in their sales following the pandemic. The breakdown of this increase is as follows: 9% of the business actors saw their sales increase by less than 25%, 26.7% of the business actors reported a sales increase ranging from 25% to just under 50%, and 6.7% of the business actors experienced a sales increase of more than 50%.

Table 3. Sales Data after Pandemic

<u>Sales</u>	<u>Number</u>	<u>(%)</u>
No increase	11	36.7
Up < 25%	9	30.0
Up 25% until <50%	8	26.7
<u>Up > 50%</u>	<u>2</u>	<u>6.7</u>
Total	30	100.0

Based on Table 4, shows : 1) The community has a significant effect in improving performance of MSME's (sig = 0.039 < 0.05); 2) The media have significant effect in improving performance of MSME's (sig = 0.041 < 0.05); 3). The academics have nosignificant effect in improving performance of MSME's (sig = 0.776 > 0.05); 4) The government has no significant effect in improving performance of MSME's (sig = 0.85 > 0.05).

Table 4 Analysis Results

ANOVA ^a					
Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	4.624	4	1.156	11.311	.000 ^b
Residual	2.555	25	.102		
Total	7.179	29			
a. Dependent Variable: Performance					
b. Predictors: (Constant), Community, Media, Academics, Government					

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.606	.567		1.070	.295
Community	.379	.174	.459	2.173	.039
Media	.344	.160	.347	2.151	.041
Academics	.051	.177	.064	.288	.776
Government	.027	.143	.031	.191	.850
a. Dependent Variable: Performance					

V. DISCUSSION

According to survey, most of MSME's in the Samudra Jaya Group make innovations. Some of the innovations made were making new variants such as tuna fried rice seasoning, fish noodles, making several packaging sizes, changing plastic mica packaging to vacuum packaging and conducting online marketing.

Based on data analysis, show that the community has a significant effect for improving performance of MSME's in the Samudra Jaya Group. This is due in the community regular meetings are held to discuss business development and new ideas for product development. This result relevant with research of Imanto et al (20). To access valuable knowledge resources, SMEs are encouraged to collaborate with community networks, government bodies, and universities, forming what is commonly referred to as an innovation ecosystem. This approach aligns with Mulyaningsih's research, which emphasizes the fourth helix as the community, playing a central role in driving the innovation process by generating demand for goods and services. Collaborative efforts within this innovation ecosystem facilitate the exchange of knowledge and ideas, stimulating innovation and supporting the growth of SMEs (12). Certainly, the importance of knowledge in driving innovation is a common theme in research across various sectors, including Small and Medium Enterprises (SMEs). Additionally, other studies emphasize the significant impact of support provided by the business community in the culinary creative economy. This support is directly linked to the innovation process of creative economy creators, leading to improvements in the quality of their products and ensuring consumer satisfaction. These findings collectively highlight the pivotal role of knowledge exchange and external support in fostering innovation and enhancing product quality across different industries (13). In the community context, marketing collaboration can be facilitated through social media platforms such as Instagram and websites. Additionally, communities can collaborate by collectively purchasing raw materials to benefit from bulk discounts, making it more cost-effective. Another form of cooperation involves joint storage of inventory, especially for frozen products, which helps reduce electricity costs when stored in shared refrigeration facilities. These collaborative efforts not only enhance cost efficiency but also promote mutual support and sustainability within the community, fostering a conducive environment for business growth (21).

In accordance with data analysis, show that the media has a significant effect for improving performance of MSME's in the Samudra Jaya Group. This is because the media helps market products at a cheaper cost, especially if done jointly with MSME groups (Web or Instagram of MSME groups). Indeed, the findings align with research demonstrating that civil society, media, culture-based society, and the natural environment within the concept of the quintuple helix contribute significantly to improving the competitiveness of Small and Medium Enterprises (SMEs). This involvement enhances human resources capabilities, elevates product quality, and boosts the overall competitiveness of products produced by SMEs. The synergy created by incorporating these elements into the quintuple helix model underscores the multifaceted nature of innovation and development within the SME sector (22).

Based on data analysis, show that academics and government have no significant effect in improving performance of SME's. This is due to academic and government involvement is still instant and not continuous. Almost academics just help provide insight into product development trends in the future but did not accompany it until it was realized. In the dynamic global economy, this interaction between small firms and universities has become crucial, a fact exemplified by the experience in Finland. Small

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firms engage with universities to develop technology related to their primary and supporting business domains. Given their limited resources, small firms often strive to optimize the utilization of any available resources due to their resource constraints. This collaboration with universities allows them to access expertise and innovations they might not otherwise afford, enabling them to remain competitive and innovative in a challenging global economic landscape (23). Other research states intellectuals have a positive significant effect to capability of innovation (16).

Furthermore, the community can serve as a platform for facilitating cooperation and dialogue between the government, academics, and businesses. Just like the components of the Quadruple Helix, collaboration between academics, government, and communities can be more effective. Government involvement in providing support has been demonstrated to significantly enhance the competitiveness of Micro, Small, and Medium Enterprises (MSMEs). By fostering this tripartite collaboration, initiatives can be developed and implemented more efficiently, leading to a stronger and more competitive MSME sector (15) (24). In this context, the government assumes a pivotal role in facilitating collaboration among various stakeholders (24). Partnerships between intellectuals, government, and businesses are essential for enhancing the creativity and innovation capabilities within the Small and Medium Enterprises (SMEs) environment. This collaborative effort fosters an environment where expertise, resources, and policies align, promoting innovation, and driving the growth of SMEs. The active involvement of the government in these partnerships strengthens the overall support system for innovation and creativity in the SME sector (16).

VI. CONCLUSION

The findings indicate that both community engagement and media presence exert a significant positive impact on the performance of MSMEs. Regular community meetings facilitate discussions on business development and brainstorming for new product ideas, fostering an environment of collaboration and innovation. Additionally, the influence of media on MSME performance is noteworthy. Media platforms enable cost-effective product marketing, especially when conducted collectively through MSME group channels, such as websites or Instagram accounts. This joint promotional effort amplifies market reach and positively contributes to the overall performance of small and medium enterprises.

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