

RESEARCH PAPER

Performance and Marketing Strategy of Micro, Small, and Medium Enterprises of Cashew Nut Processing (A Case in CV Hukasari Semesta in Muna, Indonesia)

La Sinaini*¹, Saptana², Bungati³ & Sri Bananiek⁴

Received 10 December 2023; Revised 25 February 2024; Accepted 5 March 2024; © Iran University of Science and Technology 2024

ABSTRACT

Cashew nuts, a plantation commodity from Indonesia, come with a high economic value. Cashew nut processing enterprises are crucial in elevating the value added, broadening the work field, and enhancing labor absorption. This research provides an analysis of the performance and marketing strategy of micro, small, and medium enterprises (MSMEs) of cashew nut processing in Muna. It was a case study using explorative, descriptive, and qualitative methods and involved an informant, i.e., the owner of CV Hukasari Semesta. Results demonstrated that CV Hukasari Semesta contributed to the household economic sector, especially in espousing the cashew nut supply chain, which consisted of cashew nut farmers as the key material suppliers, village collecting traders, transport workers, transportation entrepreneurs, processing workers, and store employees. In operating the cashew nut processing business, parties concerned applied strategies for staple ingredient procurement, processing process, management, packaging, capital procurement, more labor recruitment, processing technology procurement, product innovation by varying product packaging and flavors, market network expansion by distributing products to supermarkets and retailers, and market segmentation. Additionally, among the marketing strategies to escalate cashew nut processing MSMEs in Muna were improving product innovation by developing more attractive product packaging based on national standards, carrying out well-planned branding, developing digital-based product information and marketing systems, honing processing and marketing labor skills, increasing processing industrial tool technology, and bolstering business capital.

KEYWORDS: Cashew nut; Processing; Digitalization; Marketing strategy; Sale.

1. Introduction

MSMEs are unquestionably resilient as they can persist and act as an economic driving force, notably after the economic crisis. Cooperatives and MSMEs are two types of business which play an essential role in promoting the GDI (Gross Domestic Income) of a country, particularly Indonesia, in facing Industry 4.0 [1]. The MSME

sector contributes to the national GDI by 60.34%, absorbs workers by 89.2% of the total worker percentage, and renders 99% of the total work field [2]. However, MSMEs also confront many issues, either technical or non-technical, such as low human resource quality, poor science and capacity, technology-using work constraints, and MSME actors' low managerial capabilities [3]. Besides, MSMEs also face unclear business prospects, poor planning, and unorganized visions and missions. problems break out because MSMEs are incomegathering in nature, as exhibited by the common facts that they are family-owned enterprises, apply relatively simple technology, inadequate capital access (bankable), maintain no particular system to separate business capital from personal needs [4].

Corresponding author: La Sinaini lasi002@brin.go.id

Research Center for Cooperatives, Corporations, and People's Economy - National Research and Innovation Agency.

Research Center for Cooperatives, Corporations, and People's Economy - National Research and Innovation Agency.

^{3.} Research Center for Behavioral and Circular Economy -National Research and Innovation Agency.

^{4.} Research Center for Behavioral and Circular Economy -National Research and Innovation Agency.

The MSME sector can absorb labor significantly and have a chance to develop and compete with capital-intensive companies. It can survive and serve as the economic driving force, specifically after the economic crisis. MSME empowerment, accordingly, is important amidst globalization and severe competition and helps them face global challenges by scaling up product and service innovation, developing human resources and technology, and widening marketing areas [5;6]. Such empowerment can also allow MSMEs to augment sale values and compete with foreign products, progressively flood industrial and manufacturing centers in Indonesia [7].

Most MSMEs (almost 99%) in Indonesia are micro-enterprises running in the informal sector and deploying local primary materials from local markets at large, averting them from being directly affected by the global crisis. The 2010 World Economic Forum (WEF) Report ranks Indonesia's market 15th, indicating that Indonesia is considered a potential market for other countries. Nevertheless, evidence points out that MSMEs in Indonesia capitalize on this potency insufficiently and are facing a variety of problems, breeding poor competitiveness in comparison with imported products [4].

Another issue exacerbating MSME conditions, thereby adding more weaknesses, is a lack of access to information, especially market-related. Bringing about poor market orientation and competitiveness at a global level, it challenges MSMEs in product marketing and deters them from acquiring more clear and focused business advancement, bringing on stagnant development. MSME capacity, notably in facing global competition, should be paid more attention to enable them to survive for the sake of Indonesia's economic stability.

Additionally, the human resource factor also contributes here. Strategies for developing MSMEs and helping them survive, hence, include elevating competitiveness and human resources, making the resources valuable and able to endure the market, by the following actions, i.e., credit distribution (KUR), provision of access to marketing information, micro financial institution training through capacity building, and information-technology development [4].

One of the MSME products in Indonesia is cashew nut. Although Indonesia is named as one of the countries producing and exporting the best quality cashew nuts, the market share remains small, namely 1.2% of the global market, which is in stark contrast to Vietnam with its 34.07%

acquisition of the total global export. This is because of some key challenges in cashew nut market performance in production center areas, which are low production, inefficient marketing systems, and low income, which farmers earn [8]. An analysis with RCA (Revealed Comparative Advantage) shows that Indonesia possesses superiority in terms of cashew nut production but has no capacity in cashew nut processing as optimum as Vietnam, which implements exclusive technology and standards in cashew nut production [9].

Southeast Sulawesi is the second national cashew nut producer, producing 24,496 tons or 18.6% of the total national cashew nut production (131,302 tons), after East Nusa Tenggara (44,107 tons or 33.6%). As regards plant productivity, East Java reaches the highest productivity, i.e., 700 kg/ha, followed by East Nusa Tenggara (527 kg/ha) and South Sulawesi (398 kg/ha). Cashew plant productivity in Southeast Sulawesi, nonetheless, only achieves 281 kg/ha, far below the national productivity of 416 kg/ha [10;11;12;13;14].

Muna is one of the regencies in Indonesia producing quality cashew nuts. Cashew trees suit the soil of Southeast Sulawesi, notably Buton and Muna, where the production centers are located [13]. Data from Statistics Indonesia in 2022 state that cashew nut production development in Muna accrued in the last two years, from 12,883.2 tons in 2019 to 14,003.2 tons in 2022, suggesting a production growth of 8.92%. Cashew trees are suitable to be planted on marginal dry land with a long dry season, flower in June-July, and can be harvested in November-December when the dry season hits [15].

Cashew nut processing fares well in Muna, and one of the notable cashew nut processing MSMEs is CV Hukasari Semesta. The company produces raw and ready-to-serve cashew nuts offered in many different flavors. The products are marketed in various regions, e.g., Raha, Kendari, Bau-Bau, and Kolaka. CV Hukasari Semesta, established in 1998 with an initial capital of IDR20,000.00, has absorbed 23 workers at present. This research provides an analysis of the cashew nut processing business marketing strategy CV Hukasari Semesta applies to confront more evolving business competition. This research can be a reference for developing sustainable cashew nut processing MSMEs with global competitiveness in Muna.

2. Literatur Review

Micro, small, and medium enterprises (MSMEs) play at least three strategic roles in furthering

Indonesia's economy, particularly small community living, i.e., alleviating the community from poverty, leveling the small community's economic levels, and rendering foreign exchange for the country [16]. They can overcome national economic problems by producing goods/services, reducing unemployment rates, and creating work fields [17]. Despite their significant development, MSMEs come with several weaknesses: limited capital, managerial capacity, and marketing [18]. The COVID-19 pandemic loomed large over MSMEs in Indonesia, principally in terms of sales, and the community, who were in distress in finding job opportunities and fulfilling daily needs. The condition impacted Indonesia's economy [19;20].

The household industry is very competitive in terms of consistency yet falls woefully behind if associated with promotion, product quality, price, product diversification, furniture design training, management, and economic scales. The household industry must develop its marketing network, product design and quality, promotion, cost control, and product diversification, which can only be manifested through intensive training in business and investment management [21].

MSME revitalization policies should conducted by enhancing synergy between programs and government institutions, making modern efforts to promote MSME products to domestic and export markets, applying credit concerning policies at a low interest rate through a simple process, and escalating facilities to **MSMS** creativity, causing competitiveness to grow [22]. To confront business competition, specifically in food, MSMEs should be reinforced through human resource utilization, managerial and network development, and professionalism improvement for MSME actors by vesting them with entrepreneurial training and skills, effective and efficient technology socialization, and financial management and production training [23;45].

Long-term strategies germane to preparing a road map for MSME development include building digital technology as a business platform for MSMEs, developing a modern business model for MSMEs, and boosting collaboration between the government and corporations to empower MSMEs [24]. Digital marketing platforms make MSME actors able to provide information easily, interact with consumers directly, broaden market share, raise awareness, and increase sales [25].

Research on the cashew nut MSME Mubaraq Lombe in Kendari brings to light its marketing strategies, i.e., producing many different processed cashew nut products with unique flavors and characters different from its competitors' products, legalizing products from the government, holding a permit issued by the Health Office, undertaking online marketing, and collaborating with cashew nut processing **MSMEs** across Southeast Sulawesi [26]. Concerning marketing strategies to increase cashew nut sales, it implements marketing mix strategies, covering a product, price, location, and promotion strategy [27;28]. Employing ecommerce platforms, e.g., Tokopedia, Bukalapak, Shopee, Lazada, and Blibli, also contributes to significant sales increases, highlighting MSME's necessity to manage and optimize sales using ecommerce platforms [29].

Strategies for developing cashew nut processing MSMEs will be effective if accompanied by a relationship between mutual factory distribution center locations. engendering punctual distribution to meet consumer demand. Likewise, the engagement of retailers who will distribute products, returns, discount policies, and credit terms is imperative to increase sales [30]. Meanwhile, strategies for developing the cashew nut agroindustry are (a) designing a program of cashew nut agribusiness area development through cultivation improvement to promote cashew nut productivity and quality, (b) regulating inter-island log sales and log exports, and (c) designing an incentive program for business actors and other cashew nut-based processing products [31].

Product innovations are continuously made by scaling up knowledge and farmer attitudes in cashew nut processing, therefore augmenting product quality in terms of either flavor or new variants, creating innovative, interesting, and developing products [32]. Marketing strategies for elevating MSME competitiveness are opening up new branches, intensifying market promotion, maintaining the quality of offered products, and leveraging social media as promotion facilities [33]. The main strategy MSMEs in Southeast Sulawesi can implement to thrive is creating more creative and attractive product designs, making their products more acceptable to consumers [34]. Marketing management strategies to increase MSME competitiveness are innovating products, building personal image other without piggybacking on brands. introducing products outside the regions using information and technology, lengthening product life cycle through differentiation, finding another marketing system besides consignation, strengthening/accentuating local product distinctiveness, creating innovative packaging under a unique brand, and introducing business areas with product clusters [35].

A digital marketing strategy should be supported by increasing product durability, providing diverse product flavors, designing interesting packaging and brands, mentioning information about products' nutritional value, fixing products on an affordable price, exploiting suitable information media, choosing suitable promotion media, administering engaging promotions to consumers, displaying consumers' testimonies, product displaying honest images descriptions, and providing various payment tools [36]. One of the strategies is publication through social media [37].

Research in Yunnan demonstrates developing cross-border e-commerce between countries for agricultural products comes with several advantages in terms of location, government policy support, economic exchange, **ASEAN** and trade with countries. Notwithstanding these advantages, it faces some from competitors, pressures low brand awareness, and a lack of professional human resources [38]. The research serves as a theoretical reference to e-commerce companies and the government, allowing them to conduct ecommerce development to promote agricultural products. Furthermore, research on digital marketing adoption and the influences on business successes of MSMEs creative sector in Indonesia and Malaysia exhibits that knowledge significantly affects successful use of digital marketing, and understanding its use, thus, will be fruitful for future business [39].

Digitalization marketing can cut communication costs between geographically organizations, suppliers, and customers. Four advantages of tapping into the internet network in developing business are (1) boosting product and service promotion through direct contact, which rich information and interactive communication with customers; (2) creating a one-stop distribution channel offering available products; (3) saving information delivery costs more efficiently compared to using conventional package or mail services; (4) shortening the time needed to receive or deliver information to minutes or even seconds. It is necessary to build an IT-based MSME development center at district or sub-district levels as most of the MSMEs are based in villages or sub-districts and cannot afford an independent internet network, let alone a personal website [4].

successfully Previous research has MSMEs to use and develop a digital-based market. Digital-based marketing strategies are expected to expand the marketing area of MSME products, which are based on local staple ingredients. Regrettably, a lack of human resources who can make product innovations and capitalize on digital marketing contributes to significant barriers for local MSME products. This research analyzes gaps confronted by CV Hukasari Semesta as a cashew nut processing MSME in Muna, which contributes to labor absorption, and elaborates on strategies for developing cashew nut processing MSMEs in Muna.

3. Methods

The research was performed in July-August 2022 in Muna. Research location and samples were determined using the purposive method, whereby we determined the research location purposively based on certain considerations. The selected research location was Muna, one of the production center regencies for cashew nut processing MSMEs in Indonesia, while the selected research sample was CV Hukasari Semesta. Data collected were qualitative: information or verbal descriptions in relation to the research problems and acquired from the owner of CV Hukasari Semesta. All data and information collected were analyzed using SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis.

This research applied explorative and descriptive approaches by analyzing marketing strategies in a cashew nut processing MSME. It also used a literature review approach and studied various international or national journals. A theoretical/conceptual approach was implemented by referring to several sources, such as books, scientific journals, and the Internet. All descriptions and ideas found were combined into a framework.

Economic and marketing experts zeroed in on marketing concepts and strategies and applied them to develop agriculture [40]. Pertaining to the marketing concept, this research used a micro perspective as it was a case study. From a micro perspective, marketing was reviewed for the aspect of individual company management to find benefits through primary material management, production process, price fixing, distribution, product development, and product promotion [40;41;42]. Two tools to analyze marketing from a micro perspective currently burgeoning were (1) supply chain management (SCM) concept and (2) value chain analysis (VCA). Supply chain management referred to the management of the entire production, distribution, and marketing processes, where consumers were faced with desirable products, while producers would produce products at a suitable number, quality, time, and location [39]. In this research, we performed a SWOT analysis, which many experts had invoked to analyze performance, challenges, and strategies for developing the economic sector [43].

4. Results and Discussion

Cashew Nut Production Processing Activities Cashew nut production processing activities at MSME CV Hukasari Semesta began with the process of staple ingredient procurement, an indispensable factor of quality cashew nut production. Production would be halted if staple ingredients were unavailable. Among the strategies CV Hukasari Semesta undertook to procure staple ingredients was retaining ingredient sustainability by cooperating with farmers and collecting traders operating at markets near the business location. CV Hukasari Semesta bought staple ingredients in a large number during the main harvest, which was in August-November in Muna, to gain more affordable prices. Regular drying was carried out to maintain the supplied staple ingredient durability, retaining the water content and quality of the stored cashew nuts. Staple ingredients stored at the warehouse would remain good and usable within two years. CV Hukasari Semesta would order them from other areas in particular conditions when staple ingredients were lacking. The staple ingredients, cashew nuts, were peeled using a kacip (special scissors made of iron to cut seeds) to separate the nuts from the shells. Three pivotal factors of cutting cashew nuts to acquire products which fulfilled quality standards (intact, clean, and fine) and had high productivity were (1) facilities and supervision concerning work cleanliness/hygiene, (b) discarding/separating rotten or damaged peeled nuts, preventing them from mixing with good ones, and (c) requiring workers/operators' protect their hands to

(wearing rubber handscoons) from adverse effects of cashew nut shell liquid (CNSL), which could irritate the skin, during the cutting [41]. Processing raw cashew nut in CV Hukasari Semesta was conducted in five stages, i.e.:

- 1. Shell peeling. Shell peeling was undertaken using a *kacip* by splitting cashew seeds and separating them from the shells. To facilitate separation and avoid sap sticking, the *kacip* was coated with limestone.
- 2. Cashew nut drying. After peeling, cashew seeds were dried in the sun until reaching a low water level. They should not be overdried in order not to be breakable and brittle. Drying could be 7-8 hours during sunny weather and should be in the sun to yield quality cashew nuts.
- Epidermis peeling. The epidermis could be peeled by hand-rubbing the seeds or using a knife. Epidermis peeling should be done carefully to avoid damaging cashew nuts and degrading their quality.
- Cashew nut sorting and grading. After sun drying, sorting and grading were performed to acquire same-grade cashew nuts by quality and size.
- Packaging. After sorting and grading, cashew nuts were wrapped using plastics of various sizes.

In addition to raw cashew nut processing, readyto-serve cashew nut processing was undertaken by roasting, frying, and spice adding. Following the steps, products were packaged using labeled plastics of different sizes. The packaging contained information about the product name, ingredient company name, net weight, composition, ingredients' nutritional content, product certification, product license, and halal certificate. Two variants of ready-to-serve cashew nut products included roasted cashew nut with two flavors, namely original and salty, and fried cashew nut with palm sugar-coated, sweet, spicy-sweet, and caramel flavors. The weights of the product in packaging were 80 gr, 200 gr, 400 gr, and 500 gr. Figure 1 presents cashew nut products by MSME CV Hukasari Semesta.

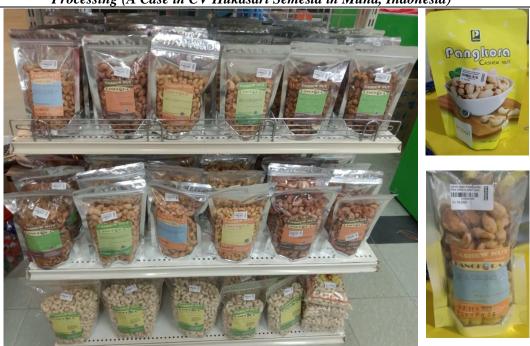


Fig. 1. Products by MSME CV hukasari semesta in muna

4.1. Cashew nut product price

The price of cashew nuts produced by CV Hukasari Semesta was fixed based on the ingredient composition, processing process, and packaging quality. The prices of ready-to-serve cashew nut processing products are demonstrated in Table 1.

Tab. 1. Product types, packaging size, and product prices at CV hukasari semesta

zwst zt z z swart tj pes, paringg size, mie product prices at s + indiasari seinesta						
Variants of Flavors	Price and Packaging Size					
Variants of Flavors	IDR/80 gr	IDR/200 gr	IDR/400 gr	IDR/500 gr		
Original Roasted	14,000.00	35,000.00	70,000.00			
Salty Roasted	14,000.00	35,000.00	70,000.00			
Palm Sugar-Coated	13,000.00	33,000.00	67,000.00			
Sweet	13,000.00	33,000.00	67,000.00			
Sweet-Spicy	13,000.00	33,000.00	67,000.00			
Caramel				75,000.00		

Table 1 exhibits that products came in four sizes, namely 80 gr, 200 gr, 400 gr, and 500 gr. Prices were fixed by the sizes: (1) 80 gr of Original Roasted and Salty variants were fixed at IDR14,000.00 and sold at IDR15,000.00 in the MGM Kota Raha supermarket; 80 gr of Palm Sugar-Coated, Sweet, and Sweet-Spicy variants were fixed at IDR13,000.000 and sold at IDR14,000.00 in th MGM Kota supermarket; 200 gr of Original Roasted and Salty variants were fixed at IDR35,000.00 and sold at IDR37,000.000 in the MGM Kota Raha supermarket; 200 gr of Palm Sugar-Coated, Sweet, and Sweet-Spicy variants were fixed at IDR33,000.00 and sold at IDR35,000.00 in the MGM Kota Raha supermarket; 400 gr of Original Roasted and Salty variants were fixed at IDR70,000.00 and sold at IDR75,000.00 in the

MGM Kota Raha supermarket; 400 gr of Palm Sugar-Coated, Sweet, and Sweet-Spicy variants were fixed at IDR67,000.00 and sold at IDR72,000.00 in the MGM Kota Raha supermarket; 500 gr of the Caramel variant was fixed at IDR75,000.00 and sold at IDR70,000.00 in the MGM Kota Raha supermarket; and 400 gr of mix variants in a sealed jar was fixed at IDR70,000.00 and sold at IDR75,000.00 in the MGM Kota Raha supermarket. Product variation was one of the product diversification strategies to boost product attractiveness and consumer interest. Price was determined based on the interaction between demands at a consumer level and offers at a producer level in the market, while demand was the correlation between goods quantity and price consumers desired, and in this case, the intended goods were cashew nut products.

4.2. Cashew nut distribution and marketing

In marketing, MSMS actors of cashew nut processing in Muna marketed their products to large traders, small traders, or retailers in traditional markets or stores in and outside Muna. Raw cashew nuts wee the most offered because they had more extended durability in comparison with ready-to-serve ones. Three marketing channels of cashew nut processing MSMEsin Muna are indicated in Figure 2.

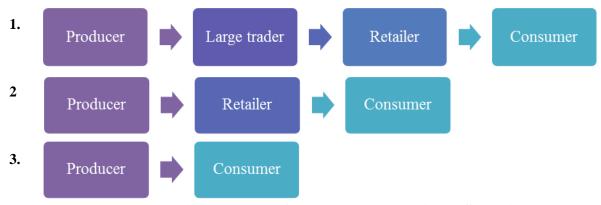


Fig. 2. Marketing channels of cashew nut processing MSMEs in muna

Marketing channel determination strategies were necessary to augment product saleability in cashew nut processing MSMEs. Marketing channels had a great impact on cashew nut product distribution, and the more people involved in marketing activities, the more efficient the product distribution and marketing. Cashew nut processing MSMEs in Muna engaged supermarkets/stores in Raha, Bau-Bau, Kendari, and Kolaka. Spreading the cashew nut product distribution was carried out to enhance sale rates, product competitiveness, and the number of consumers.

4.3. Cashew nut product promotion

To elevate consumer interest in a product, promotion through social media, advertisements, billboards, and others was noteworthy. In product promotion, CV Hukasari Semesta participated in facilitated by the provincial exhibitions government, local government, and village ministry. It also conducted promotion through social media, such as Facebook, WhatsApp, and e-commerce. The promotion strategies gave desired results, e.g., product familiarity, but product demand did not show a significant increase.

Marketing promotion was paramount to enhance sales. During the selling process, producers endeavored to meet consumer needs by offering goods/services. On the other hand, consumers chose goods/services by considering product/service quality, price, marketing place,

and promotion. The better the product quality, the more affordable the product price, and the more suitable the marketing place and promotion media, the higher the consumer interest in purchasing products producers offered. A product marketing activity would stall if the products were out of supply or could not meet consumer expectations/needs. Accordingly, the produced products should be the targets of constant innovation to meet consumers' changing expectations/needs.

Product quality would influence product price levels. Consumers, when desiring to get a product, would take the product price into account. Products discounted when purchased at a specific quantity would heighten consumer interest in buying the offered products in large quantities. Marketing activities also entailed promoting the products offered to a wide range of consumers/customers. The better the promotion media used, the more efficiently the consumers accessed information about the products offered. In promoting cashew nut processing producers offered to consumers, product information regarding the product's nutritional content composition, hygiene, halal certification, price, accessibility, payment methods, product manual, and product safety from health, religious, and community cultural aspects were of crucial importance for consumers.

4.4. Processed cashew nut marketing analysis using a SWOT approach

SWOT analysis identified the internal and external conditions of an organization, which were then used as bases to design work strategies and programs. An internal analysis covered assessing strength and weakness factors, while an external analysis included opportunity and threat factors. SWOT analysis was performed to assess the internal and external conditions of cashew nut processing MSMEs, and the results would act as common grounds for designing marketing strategies and work programs. The results of the SWOT analysis-based identification of cashew nut processing MSMEs are presented below. Strengths (S)

- 1. The produced products were durable.
- The MSMEs had sales agents. 2.
- 3. The MSMEs had personal capital.
- The MSMEs had partners to procure staple 4. ingredients.
- The MSMEs' locations were close to staple 5. ingredients.
- The MSMEs hired workers skilled at 6. processing cashew nuts.

4.5. Weaknesses (W)

- 1. Capital constraints.
- 2. Limited workers.

- Simple processing technology. 3.
- Limited product variants. 4.
- 5. Simple product packaging.
- Limited market reach. 6.
- No massive digital marketing system use. 7.
- Poor accounting records. 8.
- No waste management. 9.
- 10. Poor business marketing management.

4.6. **Opportunities (O)**

- The products attracted consumers. 1.
- 2. The produced products came with a high selling value.
- The products were considered suitable as souvenirs.
- 4. The products were tasty and favorable for the community.
- 5. The products had their own market at all community levels.

4.7. Treaths (T)

- 1. Staple ingredient continuity.
- Fluctuating cashew nut demands. 2.
- 3. Relatively high product prices.
- 4. Seasonal staple ingredient availability.
- 5. Growing competitor companies.

The SWOT analysis matrix of cashew nut processing MSMEs in Muna is shown in Table 2.

Tab. 2. SWOT analysis matrix of cashew nut processing MSMEs in muna

STRENGTHS WEAKNESSES 1. The produced products 1. Capital constraints. were durable. 2. Limited workers. **INTERNAL** 2. The MSMEs had sales 3. Simple processing technology. Limited product variants. agents. 4. 3. The MSMEs had personal 5. Simple product packaging. Limited market reach. capital. 6. 4. The MSMEs had partners No massive digital marketing to procure staple system use. ingredients. 8. Poor accounting records. 5. The MSMEs' locations High staple ingredient price. were close to staple 10. No waste management. **EXTERNAL** ingredients. 6. The MSMEs hired workers skilled at processing cashew nuts. **OPPORTUNITIES** STRATEGIES (S-O) STRATEGIES (W-O) 1. Increase production rates. 1. The products 1. Build cooperation with capital attracted consumers. 2. Bolster the cooperation owners. 2. The produced with sales agents. 2. Recruit and develop workers products came with a 3. Increase business capital. skilled in production fields. high selling value. 4. Reinforce the cooperation 3. Prepare a hygienic and comfortable 3. The products were with cashew farmers. production room for employees to considered suitable 5. Improve production process cashew nuts. processing facilities. 4. Prepare modern equipment to cut as souvenirs.

	The products were tasty and favorable for the community. The products had their own market at all community levels.	6.	Increase the number of workers skilled at processing cashew nuts.	5.	cashew nuts using a <i>kacip</i> , dry, roast, fry, and package the nuts. Produce many different variants of ready-to-serve cashew nut products.
	THREATS		STRATEGIES (S-T)		STRATEGIES (W-T)
1.	Staple ingredient continuity.	1.	Build cooperation with cashew farmers.	1.	Carry out digital product promotion through social media, e-
2.	Fluctuating cashew	2.	Make an official website		commerce, and others.
	nut demands.		owned by the company.	2.	Build cooperation with snack and
3.	Relatively high	3.	Give discounts to sales		beverage distributor companies.
	product prices.		agents.	3.	Conduct product marketing at
4.	Seasonal staple	4.	Give discounts to		places familiar to consumers.
	ingredient		consumers.	4.	Market products at public
	availability.	5.	Recruit and develop		places/city centers/shopping
5.	Growing competitor		workers skilled in		centers.
	companies.		marketing fields.	5.	Collaborate with stores and
					supermarkets.

In scores, the SWOT analysis results of cashew nut processing MSMEs in Muna are shown in Table 3.

Tab. 3. Scores of the internal and external factors of cashew nut processing MSMEs in muna

Internal Factors	Weight	Score	Sub-Total
Strengths			
The produced products were durable.	8	8	64
The MSMEs had sales agents.	8	5	40
The MSMEs had personal capital.	8	5	40
The MSMEs had partners to procure staple ingredients.	8	8	64
The MSMEs' locations were close to staple ingredients.	8	8	64
The MSMEs hired workers skilled at processing cashew nuts.	10	8	80
Total Strength Score	50	42	352
Weaknesses			
Capital constraints	5	5	25
Limited workers	5	5	25
Simple processing technology	5	5	25
Limited product variants	5	8	40
Simple product packaging	5	8	40
Limited market reach	5	8	40
No massive digital marketing system use	5	5	25
Poor accounting records	5	8	40
No waste management	5	8	40
Poor business marketing management	5	8	40
Total Weakness Score	50	68	340
Difference between Strength and Weakness Scores (Axis x)			12
External Factors			
Opportunities			
The products attracted consumers.	8	8	64
The product prices were ever-increasing.	8	8	64
The produced products came with a high selling value.	8	8	64
The products were considered suitable as souvenirs.	8	8	64
The products had their own market at all community levels.	8	8	64
The products were tasty and favorable for the community.	10	8	80
Total Opportunity Score	50	48	400
Threats			

10 Performance and Marketing Strategy of Micro, Small, and Medium Enterprises of Cashew Nut Processing (A Case in CV Hukasari Semesta in Muna, Indonesia)

Staple ingredient continuity	12	8	96
Fluctuating cashew nut demands	13	8	104
Relatively high product prices	12	6	72
Growing competitor companies		6	78
Total Threat Score	50	28	350
Difference between Opportunity and Threat Scores (Axis y)			50

The SWOT analysis results could be illustrated in four quadrants, which were (1) Quadrant 1, the Aggressive Strategy position; (2) Quadrant II, the Diversification Strategy position; (3) Quadrant

III, the Turnaround Strategy position; and (4) Quadrant IV: the Defensive Strategy position. The position of cashew nut processing MSMEs in Muna is stated in Figure 3.

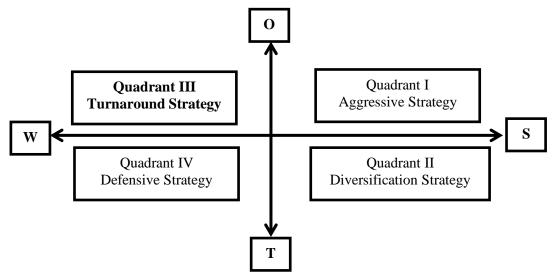


Fig. 3. Position of cashew nut processing MSMEs in muna

Figure 3 suggests cashew nut processing MSMEs in Muna could carry out four alternative marketing strategies, as follows:

- 1. Quadrant I (positive, positive). The position implied that cashew nut processing MSMEs were in a strong position with a good opportunity. The recommended strategy, hence, was the Progressive Strategy, signifying that cashew nut processing MSMEs were in a prime and established condition, allowing them to do business expansion, encourage business growth, and upswings optimally.
- 2. Quadrant II (positive, negative). The position demonstrated that cashew nut processing MSMEs were in a strong position yet confronting a big challenge. The strategy recommended, therefore, was the Diversification Strategy; that is, cashew nut processing MSMEs were in an established condition and facing some serious challenges at the same time. As a result, it was predicted that the marketing cycle of cashew nuts would be challenged to remain rotating if relying only on previous strategies. Thus, cashew nut

- MSMEs were advised to make more tactical strategies.
- 3. Quadrant III (negative, positive). The position was indicative of the situation when cashew nut processing MSMEs were in a weak position but still had opportunities. The recommended strategy, accordingly, was the Turnaround Strategy. Cashew nut processing MSMEs were suggested to alter their previous strategies since they might hinder them from saving the existing opportunities and improving their market performance.
- 4. Quadrant IV (negative, negative). The position indicated that cashew nut processing MSMEs were in a weak position and confronting a significant challenge, thereby being recommended to apply the Defensive Strategy. The recommendation implied that pertinent to internal conditions, cashew nut processing MSMEs were facing dilemmatic options. Applying the Defensive strategy enabled cashew nut processing MSMEs to control internal performance, preventing them from collapsing. The application should be accompanied by self-improvement measures.

According to our observation results, marketing cashew nut processed products was still poorly conducted, generating low demand. Besides, the products produced had no product certification regarding product durability, standard packaging, and market-competitive brands. The MSMEs had to perform effective marketing strategies, e.g., massive promotion by providing internet access to consumers, helping them obtain information about the products offered.

Marketing cashew nuts by CV Hukasari Semesta involved large traders, small traders, and retailers operating in traditional markets, kiosks, stores, Indomaret (convenience stores), supermarkets. Still, the distribution was limited, continuous product research, and development. Strategies for cashew nut marketing were in need of good planning to reach optimum sales. Market planning served as a base for determining the quantity of the produced products. Marketing planning was performed, from planning the market target to implementing marketing to implementing the strategy for market target achievement. In market target planning, the extant market potencies should be identified.

4.8. Marketing strategy by increasing cashew nut processed product competitiveness

The following steps were of crucial importance to promote cashew nut processed product competitiveness.

- 1. Implementing marketing to familiarize consumers with cashew nut products, including their ingredients, features, functions, and other details.
- Identifying consumer desire. Research on marketing was of great importance to collect information about consumer desires and behaviors, making cashew nut processing MSME actors able to meet consumer expectations through their products.
- 3. The marketing activity was the heart of MSMEs. Optimum cashew nut product sales would be only possible with good marketing strategies.
- 4. Building branding. Broadly, consumers would choose products they had used. Building a brand was of importance to introduce cashew nut products to consumers and persuade them to buy them.
- 5. Establishing good communication/relationship with consumers. A good relationship with consumers was of paramount importance to

- maintain customer retention and loyalty, preventing them from turning to competitors.
- **6.** Retaining long-term business growth. A long-lasting business was determined by the brand strength, product quality, and marketing communication.

4.9. Marketing strategy by cashew nut processed product market segmentation

product Cashew nut processed segmentation constituted a process of dividing a market into groups of buyers aligned with market desires by needs, characteristics, or behaviors which needed personal products or marketing mix. In other words, cashew nut processed product market segmentation made up a process of placing consumers into sub-groups in the cashew nut product market, allowing them to give similar responses as planned in the marketing strategy for determining the company position [44]. Market segmentation by cashew nut processing MSMEs was differentiated into four, namely:

- 1. Geographical segmentation. Geographical segmentation referred to market segmentation by layout/region. It could be based on administrative regions, e.g., sub-villages, sub-districts, districts/cities, or countries, or certain geographical conditions, such as mountainous areas, coastal areas, village or city communities, and others. Geographical market segmentation was the easiest among the other market segmentations because people dwelling in particular areas typically maintain similar characters, needs, and desires toward a product.
- 2. Demographic segmentation. Demographic segmentation was demography-based grouping. Demographic data usually informed peoples' age, sex, income, number of family members, marital status, income level, education, occupation, experience, religion, and others. Demographic segmentation helped marketers reach the target effectively by considering aspects related to demographic data.
- 3. Psychographic segmentation. Psychographic segmentation constituted grouping by social status, lifestyle, and personality of the target segment. Companies, to collect relevant data, should undertake intense research and analysis because of changing conditions. Psychographic segmentation was based on social status, e.g., different social classes between the elite community, middle-class groups, and lower-middle class groups.

Psychographic segmentation by lifestyle could be differentiated based on modern, traditional, extravagant, frugal lifestyles, and others. Examples of psychographic segmentation by personality were angry person, loyalist, feminist, funny person, and others.

4. Behavioral segmentation. Behavioral segmentation made up a market segmentation strategy based on consumer knowledge, attitudes, and reactions to a particular product. Using these behavioral variables, the company had made a promising initial step in market segmentation.

Three criteria to be met by cashew nut processing producers when evaluating and determining the target segments were as follows:

- 1. Cashew nut processing business owners had to ensure that the target market segments were large and profitable for the company.
- Targeting should be grounded on the competitive advantages of the cashew nut processing MSMEs concerned. Competitive advantages facilitated measuring whether the cashew nut processing MSMEs possessed sufficient strength and expertise to dominate the selected market segment and could give consumers value.
- **3.** Selecting the target market segment had to be based on the competition situation.

4.10. Digital-Based marketing development strategy of cashew nut processing MSMEs

Developing a business with access to the global market should leverage virtual media. An ITbased MSME development center would enable cashew nut processing MSMEs to expand businesses to both domestic and international markets at efficient time and costs. It enhanced the community welfare level of MSME actors and workers involved and had a positive effect on successful national development. Indonesia's SME products shared common qualities as good as foreign or even better ones. However, foreign products were often superior in terms of technology, either in production, packaging, or marketing. MSMEs should develop following the era development to win the competition. Essentially, information, technology, communication could improve performance and make more effective and efficient. Accordingly, although having cost differences from the traditional system, MSMEs could indulge themselves with IT-based facilities which would provide commensurate returns. With IT, MSMEs would be more prepared to compete

domestically and internationally. They would be more competitive in quality, packaging, company operating speed, and, most importantly, product marketing.

Information technology was applied to create, store, modify, and deploy information in any form. Cashew nut processing MSMEs could enter the global market using this technology. Some small enterprises, e.g., Amazon, Yahoo, and Ebay, a simple auction company, thrived into giant companies within a brief time after taking advantage of information technology to develop businesses. Using information technology in running a business, known as e-commerce, could help small enterprises achieve production flexibility, make faster deliveries to customers, especially for software products, send and receive offerings faster and affordably, and underpin paperless, quick transactions. Internet capitalization allowed cashew nut processing MSMEs to carry out marketing to attain the global market, giving them more open exporting opportunities. Furthermore, it could reduce transaction costs resulting from business activities, including communication costs (in the organization and service comporting with the contract) and many other costs. The costs could be cut using a better IT system [4].

5. Conclusion

Micro, small, and medium enterprises (MSMEs) of cashew nut processing in Muna contributed to increasing work fields and the household economic sector and had a positive impact on cashew farmers as staple ingredient suppliers, village collecting traders, transport workers, transportation entrepreneurs, processing workers, and shop employees. The absorption of cashew nut processing MSME workers was predicted to accrue along with increased sales of cashew nut processed products. Some marketing strategies to promote cashew nut processing MSME sales were scaling up product innovations by developing a variety of attractive and nationalstandard product packaging, developing a digitalbased product information system, giving capacity building for processing and marketing workers, augmenting processing industry tool technology, and reinforcing business capital. In terms of government policies, it was of utmost importance to elevate the KUR (Community Business Credit) scheme capacity for cashew nut processing MSMEs. Furthermore, it was also pivotal to strengthen advisory institutions for cashew nut processing MSMEs by providing easy access and giving capacity building in the form of training and research activities buoying credit administration to cashew nut processing MSMEs. A strategy to anticipate a more open and competitive market mechanism was market domination, which was a requiement to enhance cashew nut processing MSME competitiveness. To successfully dominate the market, cashew nut processing MSME should quickly collect information about the production market or production factor market to widen product marketing networks. Information technologybased applications would help cashew nut processing MSMEs to broaden their market, either domestic or international, efficiently. Establishing a center for developing IT-based cashew nut processing MSMEs could be conducted by escalating the roles of cashew nut processing MSME actors to cooperate and coordinate with the local government and providing guidance and training through capacity building and information technology application, including the activation of local government official websites the communication and promotion bases for cashew nut processing MSMEs in Muna.

Trade actors from upstream to downstream should properly use post-harvest management technology, processing technology, and processed product standardization. government had to enact tariffs on raw cashew nut exports to limit raw cashew nut commodity exports, inducing higher value-added and profits upstream-downstream business Additionally, implementing effective strategies was warranted to develop more integrated and competitive cashew nut agribusiness areas. The government should be more concerned about trade policies and how to make them more favorable for farmers, trade actors, and domestic cashew nut processing industries. Natural resource diversity should be drawn on through implementing advanced technology sustainable processing systems. Affording aids to small farmers, such as input and infrastructure subsidies (irrigation, farming roads, packing houses, and others), could improve farming business productivity and marketing efficiency. Meanwhile, business actors could technology, increase human resource quality, apply processed product standardization, and expand market goals and segments to acquire product value added and promote profits.

- [1] Amri, A. Dampak COVID-19 terhadap UMKM di Indonesia. *Jurnal Brand*, Vol. 2, No. 1, (2020), pp. 123-130.
- [2] Badan Pusat Statistik Kabupaten Muna. (2022).
- [3] Sudaryanto, S. & Hanim, A. Evaluation of the readiness of MSMEs to meet the Asean Free Market (AFTA): Perspective Analysis and Theoretical Review. *Journal of Economics, Accounting and Management.*, Vol. 1, No. 2, (2002).
- [4] Sedyastuti, K. Analisis Pemberdayaan UMKM dan Peningkatan Daya Saing dalam Kancah Pasar Global. *INOBIS: Jurnal Inovasi Bisnis dan Manajemen Indonesia*, Vol. 2, No. 1, (2018), pp. 117-127.
- [5] Narto, N. & HM., G. B. Penguatan Strategi Pemasaran Pudak di Tengah Pandemi COVID-19 untuk Meningkatkan Keunggulan Bersaing Usaha Mikro Kecil Menengah Kota Gresik. *Jurnal INTECH Teknik Industri Universitas Serang Raya*, Vol. 6, No. 1, (2020), pp. 48-54.
- [6] Muljanto, M. A. Pencatatan dan Pembukuan Via Aplikasi Akuntansi UMKM di Sidoarjo. *Jurnal Ilmiah Pangabdhi*, Vol. 6, No. 1, (2020), pp. 40-43.
- [7] Sudaryanto, S. & Hanim, A. Evaluation of the readiness of MSMEs to meet the Asean Free Market (AFTA): Perspective Analysis and Theoretical Review. *Journal of Economics, Accounting, and Management*, Vol. 1, No. 2, (2002).
- [8] Al Zarliani, W. O., Wardana, & Amiruddin, A. The Behavior and Performance of Cashew Market in South Buton Regency, Indonesia. Caraka Tani: Journal of Sustainable Agriculture, Vol. 36, No. 1, (2021), pp. 20-32.
- [9] Al Mani, S. & Yudha, E. P. 2021. The Competitiveness of Indonesian Cashew

References

14 Performance and Marketing Strategy of Micro, Small, and Medium Enterprises of Cashew Nut Processing (A Case in CV Hukasari Semesta in Muna, Indonesia)

- Nuts in the Global Market. *Jejak* Vol. 14, No. 1, (2021), pp. 93-101
- [10] Zani, M. Factors that affect cashew nut processing business profits in Buton Regency. *Agriplus*, Vol. 23, No. 3, (2013), 193-200.
- [11] La Ola, T. Welfare analysis of cashew farmers in Buton and Muna Districts. *Agriplus*, (2012).
- [12] Yusria, W. O. Keadaan Ekonomi Rumahtangga Petani Jambu Mete di Kabupaten Buton Sulawesi Tenggara. *Jurnal AGRISEP*, Vol. 9, No. 2, (2010), pp. 109-119.
- [13] Baker, I. & Witjaksono, I. Potential of Cashew Nuts in Eastern Indonesia. *ACIAR-SADI Research Report*, (2008).
- [14] Witjaksono, J., Sulle, A., & Ruku, S.. Strategi akselerasi peningkatan pendapatan petani jambu mete di Sulawesi Tenggara. *Jurnal SOCA*. Vol. 8, No. 1, (2008).
- [15] Pranowo, D. & Purwanto, E. H. Pemanfaatan Lahan di antara Tanaman Jambu Mete Muda di Lahan Marginal. Buletin Riset Tanaman Rempah dan Aneka Tanaman Industri, Vol. 2, No. 2, (2011), pp. 199-206.
- [16] Prasetyo A. & Huda, M. Analysis of the role of small and medium enterprises to the absorption of labor in Kebumen Regency. Fokus Bisnis: Media Pengkajian Manajemen dan Akuntansi, Vol. 18, No. 1, (2019), pp. 26-35
- [17] Sofyan, S. Peran UMKM (usaha mikro, kecil, dan menengah) dalam perekonomian Indonesia. *Bilancia: Jurnal Studi Ilmu Syariah Dan Hukum*, Vol. 11, No. 1, (2017), pp. 33-64.
- [18] Suci, Y. R. Perkembangan UMKM (usaha mikro kecil dan menengah) di Indonesia. *Jurnal ilmiah cano ekonomos*, Vol. 6, No. 1, (2017), pp. 51-58.

- [19] Pakpahan, A. K. COVID-19 dan Implikasi Bagi Usaha Mikro, Kecil, dan Menengah. *Jurnal Ilmiah Hubungan Internasional*, (2020), pp. 59-64.
- [20] Hanoatubun, S. Dampak COVID–19 terhadap Perekonomian Indonesia. *EduPsyCouns: Journal of Education, Psychology and Counseling*, Vol. 2, No. 1, (2020), pp. 146-153.
- [21] Pangemanan, S. A. & Walukow, I. M. Marketing Strategy Analysis for Small and Medium Scale Business Enterprise (SMEs) for Home Industry Furniture in Leilem, the Regency of Minahasa. *Journal of Physics: Conference Series*, Vol. 953, No. 1, (2018).
- [22] Hadi, S. Revitalization Strategy for Small and Medium Enterprises after Corona Virus Disease Pandemic (COVID-19) in Yogyakarta. In, (2020).
- [23] Susanti, E., Mulyanti, R. Y., & Wati, L. N. MSMEs performance and competitive advantage: Evidence from women's MSMEs in Indonesia. *Cogent Business & Management*, Vol. 10, No. 2, (2023), p. 2239423.
- [24] Sugiri, D. Menyelamatkan usaha mikro, kecil, dan menengah dari dampak pandemi COVID-19. Fokus Bisnis: Media Pengkajian Manajemen dan Akuntansi, Vol. 19, No. 1, (2020), pp. 76-86.
- [25] Febriyantoro, M. T. & Arisandi, D. Pemanfaatan digital marketing bagi usaha mikro, kecil, dan menengah pada era masyarakat ekonomi ASEAN. *JMD: Jurnal Riset Manajemen & Bisnis Dewantara*, Vol. 1, No. 2, (2018), pp. 61-76.
- [26] Zainuddin, M., Utha, R., & Ijar, L. ANALISIS STRATEGI PEMASARAN PADA UD. METE MUBARAQ LOMBE KENDARI. Sultra Journal of Economic and Business, Vol. 4, No. 1, (2023), pp. 52-59.

- [27] Mastar, S., Wijayanti, N., & Awalia, J. Bauran Pemasaran Pengolahan Kacang Mete di UD Karya Subur di Desa Luk Kecamatan Rhee. *Jurnal Sosial Ekonomi Pertanian*, Vol. 2, No. 2, (2022), pp. 42-52.
- [28] Maulina, N. M. I. & SP, M. Bauran Pemasaran Kacang Mete Pada UD Wahyu Rasa, (2022).
- [29] Sugiarti, Y., Sari, Y., & Hadiyat, M. A. Peranan E-Commerce untuk Meningkatkan Daya Saing Usaha Mikro, Kecil, dan Menengah (UMKM) Sambal di Jawa Timur. *Kumawula: Jurnal Pengabdian Kepada Masyarakat*, Vol. 3, No. 2, (2020), pp. 298-309.
- [30] Aazami, A. & Saidi-Mehrabad, M. A production and distribution planning of perishable products with a fixed lifetime under vertical competition in the seller-buyer systems: A real-world application. *Journal of manufacturing systems*, Vol. 58, (2021), pp. 223-247.
- [31] Witjaksono, J. & Asmin. Agroindustri Kacang Mete di Sulawesi Tenggara: Potensi, Kendala, dan Strategi Pengembangannya. Prosiding Forum Komunikasi Nasional Jambu Mete II ..., April, (2016).
- [32] Sarjana, S. & Khayati, N. Industrial estate development: Challenges and opportunities in strengthening competitiveness of manufacturing industries. *The Indonesian Journal of Development Planning*, Vol. 152, (2018).
- [33] Malik, M. M., Lukiana, N., & Taufik, M. Implementation of Marketing Strategies to Increase Competitiveness in UMKM. *Proceedings Progress Conference*, Vol. 3, No. 1, (2020), pp. 241-248.
- [34] Supriaddin, N., Abbas, B., Razak, A., Anaam, N., & Muthalib, D. A. Marketing Strategy of Micro, Small, and Medium Enterprises (MSME) in the Framework of Public Welfare Improvement in Southeast Sulawesi Province.

- International Journal of Scientific & Engineering Research, Vol. 9, No. 1, (2018), pp. 933-937. http://www.ijser.org
- [35] Bismala, L. Analisis Strategi Pemasaran Pada Umkm Di Sumatera Utara Untuk Meningkatkan Daya Saing UMKM. *Jurnal Pembangunan Perkotaan*, Vol. 2, No. 2, (2014), pp. 126-134.
- [36] Suharjo, A.R., I. Fahmi, & S. Hanan. Digital Marketing Strategyof Small and Medium Enterprises Forsnack in Bogor City. *Jurnal Manajemen & Agribisnis*, Vol. 17, (1), (2020), pp. 74-85.
- [37] Arifen, S. R., V. D.Purwanty, D. A. Suci, R. H. Agustiawan, & A. R. Sudrajat. Analisis Strategi Pemasaran untuk Meningkatkan Daya Saing UMKM. *Konferensi Nasional Ilmu Administrasi*, Vol. 3, No. 1, (2019), pp. 1-7.
- [38] Liu, X., Sawagvudcharee, O., & Gao, Y. 2019. Analysis on the Influencing Factors of Agricultural Products Cross-Border e-Commerce Development in Yunnan Province of China. *International Journal of e-Education, e-Business, e-Management and e-Learning*. Vol. 10, No. 1, (2020), pp. 77-85.
- [39] Afifah, A. N., Najib, M., Sarma, M. Digital Marketing Adoption and the Influences towards Business Successes of MSMEs Creative Sector in Indonesia and Malaysia. *Journal of Applied Management*, Vol. 16, No. 3, (2018), pp. 377-386.
- [40] Saptana & Rahman, H. P. S. Macro-Micro Marketing Conceptual Review and Its Implication for Agricultural Development. *Forum Penelitian Agro Ekonomi*, Vol. 33, No. 2, (2015), pp. 127-148.
- [41] Scaffner, D. J., W.R. Schroder, & M. D. Earle. Food Marketing an International Perspective. New York: McGraw-Hill Companies, (1998).

Performance and Marketing Strategy of Micro, Small, and Medium Enterprises of Cashew Nut Processing (A Case in CV Hukasari Semesta in Muna, Indonesia)

- [42] Asmarantaka, R. W., Atmakusuma, J., Muflikh, Y. N., & Rosiana, N. Manajemen Pemasaran Jasa Pendidikan Berbasis Budaya Religius. *Jurnal Agribisnis Indonesia*, Vol. 5, No. 2, (2017), pp. 151-172.
- [43] Rangkuti, F. Techniques for dissecting business cases SWOT analysis, (2016).
- [44] Setiadi, N. J. Consumer Behavior: Concepts and Implications for Marketing

- Strategy and Research. *Jakarta: Prenada Media*, (2003).
- [45] Kadarisman, M. The influence of government and MUI mediations towards marketing strategy of Warteg and its impact on developing MSMEs in Jakarta, Indonesia. *Cogent Business & Management*, Vol. 6, No. 1, (2019), p. 1629096.

Follow this article at the following site:

La Sinaini, Saptana, Bungati & Sri Bananiek. Performance and Marketing Strategy of Micro, Small, and Medium Enterprises of Cashew Nut Processing (A Case in CV Hukasari Semesta in Muna, Indonesia). IJIEPR 2024; 35 (1):1-16 URL: http://ijiepr.iust.ac.ir/article-1-1953-en.html

