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# Institutional Factors: Challenges For Coconut Sugar Small Enterprises Survival

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**ABSTRACT**

Small enterprises often face various obstacles in developing and growing their businesses. Some of which are related to institutional factors. The aim of this research is to analyze institutional factorsmanagerial and technical skills and social capitalson coconut sugar small enterprise in Purbalingga. It used primary data that was collected from respondentsentrepreneurs of coconut sugar. The data collected was analyzed with competitive advantage approach by Porterthe five competitive forces modelto explain those factors. The model consists of five competitive forces: entry of competitors, threat of substitutes, bargaining power of buyers, bargaining power of suppliers, and rivalry among the existing players. The result shows that: 1) Coconut sugar enterprises have strong institutional factors, 2) Entrepreneurs can easily build this business with slight threat, 3) Coconut sap raw material is quite available but the quantity is uncertain, 4) The bargaining power of buyers is quite strong, especially in supressing product price, 5) Bargaining power of suppliers is also strong that is proven by the ease of marketing because of demand stability, 6) Competition among entrepreneurs is so high. They say that their competitors have more capitals but they have great optimism to win the competition. Their best strategy is to maintain quality, increase quantity, and also strengthen channels and networks.



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## 1. INTRODUCTION

The industrial sectorwhether micro, small, medium, or large-scalehas consistently served as a key driver of development in many countries (Agyapong, 2010, dan Ardic et al., 2011; Putra, 2016). This is also evident in Indonesia, where, as a developing nation, efforts to promote industrial

growthparticularly among micro, small, and medium enterprises (MSMEs)are prioritized due to their substantial contribution to the national economy (Pakpahan, 2020). According to data from the Ministry of Cooperatives and SMEs, in 2019 Indonesia had about 65 million units MSMEs, which accounted for 63 percent of total GDP, 15 percent of total exports, and absorbed 98 percent of the national workforce. Similarly, the Central Java Province Cooperatives and SMEs Office reported that in 2019, there were 152 thousand SMEs that absorbed around 1.2 million workers.

However, despite their importance, they continue to face multifaceted challenges that constrain their growth and sustainability. One of the most persistent barriers for MSMEs is access to finance. Many struggle to secure credit from banks and formal institutions due to a lack of collateral, poor credit history, and limited financial literacy (Tambunan, 2019; Beck & Demirguc-Kunt, 2006). According to the World Bank (2020), approximately 65 million firms in developing countries face a $5.2 trillion annual unmet financing needequivalent to 1.4 times the current level of global MSME lending.

In addition to financial constraints, MSMEs often lack managerial expertise, innovation capability, and access to competitive markets (Susilo, 2020; OECD, 2017). The rapid advancement of digital technologies has brought both new opportunities and new challenges. While digitalization can improve productivity and market reach, many MSMEsespecially in low- and middle-income countriesstruggle with digital transformation due to limited infrastructure, skills gaps, and affordability issues (UNCTAD, 2022; Rahman et al., 2021).

Moreover, the COVID-19 pandemic exacerbated these challenges. A global survey by International Trade Centre (ITC, 2020) found that around 60% of MSMEs were strongly affected by the pandemic, with a large number facing closure due to disruptions in supply chains and declining demand.

These complex and interrelated challenges highlight the urgent need for integrated policy support, improved access to finance, investment in digital infrastructure, and capacity-building programs tailored to MSMEs. Addressing these issues is critical to strengthening MSME resilience and enabling them to play a more dynamic role in sustainable and inclusive economic development.

The coconut sugar enterprise is one of the leading industries in Purbalingga Regency and is the largest producer of coconut sugar in the region of Banjarnegara, Purbalingga, Banyumas, Cilacap, and Kebumen (Barlingmascakeb), reaching around 56 thousand tons per year (Central Java Agriculture and Forestry Service, 2019). Like other MSMEs, coconut sugar enterprises in Purbalingga also face similar business problems and challenges, which stem from institutional issues. These can be described into two aspects, i.e. managerial and technical skills and social capitals.

## Literature Review

### Overview of Coconut Sugar Industry

Coconut sugar, also known as *gula kelapa*, is a traditional sweetener derived from the sap of coconut palm flowers (*Cocos nucifera*). It is widely produced in several tropical countries, particularly in Southeast Asia, including Indonesia, the Philippines, and Thailand. These regions account for approximately 80% of the global coconut sugar production (Grand View Research, 2023). Coconut sugar is derived from the sap of coconut palm trees and processed traditionally into granules or blocks. It is prized for being a natural, low-glycemic alternative sweetener, aligning with the increasing global demand for organic and plant-based food products (Future Market Insights, 2024). The production process generally involves tapping the flower sap, boiling it to evaporate water, and solidifying it into sugar blocks or granules (Santoso et al., 2020).

Despite this growing demand, most producers remain smallholders using traditional methods. Their production is often labor-intensive, lacks technological support, and faces difficulties in market access due to inconsistencies in quality and lack of certification (Research and Markets, 2023).

**Socioeconomic Role of Small-Scale Coconut Sugar Producers**

Small-scale coconut sugar production is often carried out by rural farmers as a household-based or community-based enterprise. This sector contributes significantly to local employment, reduces rural poverty, and strengthens food security (Siregar et al., 2019). In Indonesia, the small-scale coconut sugar industry plays a vital role in rural economies, providing income for thousands of households. According to Setyowati and Supriyanto (2021), in several regions such as Central Java and Yogyakarta, the industry has become a backbone of the rural economy due to its low capital requirement and use of local labor and raw materials.

**Challenges in the Small-Scale Coconut Sugar Industry**

Despite its potential, the industry faces various challenges:

1) Technology and Productivity: Traditional processing methods are labor-intensive and inefficient. Limited access to modern tools and drying equipment results in inconsistent product quality (Nurhadi et al., 2022).
2) Market Access and Price Fluctuation: Coconut sugar producers are often dependent on middlemen, which affects their bargaining position and income. Inconsistent pricing and limited access to broader markets are persistent issues (Wahyudi & Hartono, 2020).
3) Quality Standards and Certification: Compliance with food safety standards such as organic certification or SNI (Indonesian National Standard) remains a challenge due to limited knowledge and cost (FAO, 2019).
4) Environmental Sustainability: Over-tapping of coconut trees or poor sap-handling practices can affect tree health and long-term sustainability (Winarto & Kusumawati, 2020).

**Opportunities and Innovation**

In recent years, the growing demand for natural and organic sweeteners globally has opened new market opportunities for coconut sugar. Export potential is increasing, especially in Europe and North America, where it is valued as a low glycemic index sweetener (UNCTAD, 2021). Innovation in packaging, branding, and digital marketing has allowed some producer cooperatives and social enterprises to improve competitiveness and value addition (Ramadhan et al., 2023).

Government programs and NGOs have also begun supporting capacity building, access to financing, and certification processes. Integrating smallholders into value chains through cooperative models and public-private partnerships has shown promising results in several regions.

**Institutional Factors: Managerial & Technical Skills and Social Capitals**

Porter's Five Competitive Forces model is a strategic framework used to analyze the competitive intensity and attractiveness of an industry (Porter, 1979). This framework can be adapted to assess how institutional factors—specifically managerial and technical skills and social capital—influence the competitiveness and sustainability of small-scale coconut sugar enterprises.

1) Threat of New Entrants

The coconut sugar industry, especially at the micro and small enterprise (MSE) level, has relatively low entry barriers due to minimal capital requirements and traditional knowledge availability. However, weak managerial and technical skills can act as internal entry barriers for sustainable scaling.

a. Managerial Skills: Lack of business planning, financial management, and quality control makes it hard for new entrants to formalize or grow beyond subsistence levels.
b. Technical Skills: Limited access to updated processing methods (e.g., modern evaporators, sap quality testing) reduces operational efficiency and consistency, which can inhibit competitiveness.
c. Social Capital: In tight-knit rural communities, strong local networks and cooperatives can facilitate entry through shared resources and mentorship but may also restrict access for outsiders due to trust-based informal gatekeeping.

2) Bargaining Power of Suppliers

Suppliers in the coconut sugar industry include sap collectors, packaging providers, and energy/fuel suppliers. The power of these suppliers depends on the producers' institutional strength.

a. Managerial Skills: Effective negotiation, procurement planning, and supplier diversification reduce reliance on dominant or monopolistic suppliers.
b. Technical Skills: Advanced knowledge allows producers to improve input efficiency, reduce wastage, and create flexibility in sourcing.
c. Social Capital: Long-term relationships with suppliers or collective purchasing through cooperatives can lead to better prices, stable supply, and shared trust.

3) Bargaining Power of Buyers

Buyers—ranging from local traders to exporters—hold significant power in markets where producers are fragmented and undifferentiated.

a. Managerial Skills: Competencies in branding, product development, and customer relationship management help producers reduce buyer dependency.
b. Technical Skills: Producers with consistent quality, hygienic processing, and certification (e.g., organic, Halal) can appeal to premium markets with less buyer power.
c. Social Capital: Strong community networks and cooperative branding initiatives help establish loyal buyer bases and reduce vulnerability to price pressure.

4) Threat of Substitutes

The primary substitutes for coconut sugar include cane sugar, palm sugar, and artificial sweeteners. Differentiation becomes the key to resisting substitution.

a. Managerial Skills: Strategic positioning and niche marketing (e.g., health food segment, low glycemic index) enable producers to appeal to unique customer needs.
b. Technical Skills: Enhanced processing, flavor development, and packaging innovations help create distinct value that substitutes cannot easily match.
c. Social Capital: Leveraging local heritage, traditional knowledge, and community identity adds authenticity and emotional value to the product.

5) Industry Rivalry

In many rural industries, rivalry among small producers can be intense due to similar products, low switching costs, and lack of coordination.

a. Managerial Skills: Effective business models, customer segmentation, and cost control measures improve competitiveness.
b. Technical Skills: Producers with higher productivity and better product quality can command better prices and customer loyalty.
c. Social Capital: Collaboration through producer associations reduces harmful competition by promoting shared branding, standardization, and market access.

## 2. METHOD

### Data and Sample

This study took place in Purbalingga Regency, specifically targeting individuals involved in the coconut sugar industry. The research utilized primary data, with the population comprising all coconut sugar craftsmen residing in the region, particularly in Bumisari Village, which is recognized as the largest producer of coconut sugar. From a total of 512 producers, the sample was selected using a simple random sampling technique. The sample size was calculated using the Yamane (1967) formula, and a sample of 84 respondents was obtained. The survey method employed two data collection techniques: (1) in-depth interviews, involving direct verbal questioning of respondents to obtain detailed information, and (2) questionnaires, which included a series of written questions or statements designed to collect relevant data aligned with the research objectives.

### Data Analysis Techniques

This research explores and analyzes the five competitive forces model (the five competitive forces model) through various questionnaire questions, which will be interpreted and analyzed quantitatively and qualitatively. The processed questionnaire data will then be analyzed and discussed within the scope of managerial and technical skills, as well as social capital. A more detailed discussion can be seen in Figure 1.

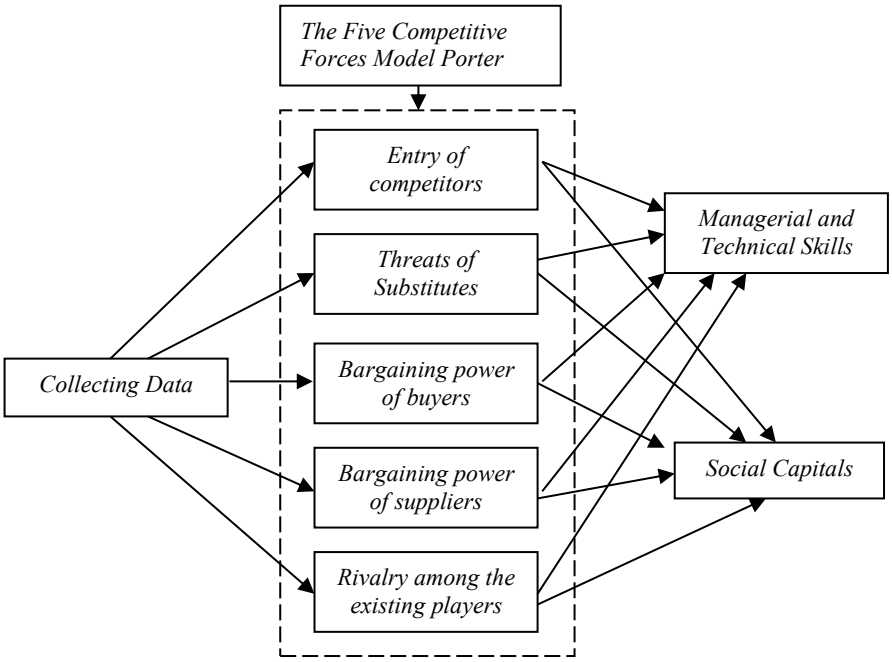


Figure 1. Institutional factors: the five competitive model Porter.

The analysis of the five competitive forces includes:

a. Competitor Entry, which examines how difficult or easy it is for entrants to enter the competition, as opposed to barriers to entry.
b. Threat of Substitutes, which examines how easily products (goods or services) can be substituted, especially those with lower prices.
c. Bargaining Power of Buyers, which examines how strong the position of buyers is, whether they can work together to place large orders.
d. Bargaining Power of Suppliers, which examines how strong the position of sellers is, whether there are many or few potential suppliers, or even just one seller (a monopoly).

e. Rivalry among the existing players, namely whether there is strong competition between existing players, whether there is one dominant player or whether all have the same strength/size.

## 3. RESULTS AND DISCUSSION

Institutional factors are fundamental elements that must be strengthened as key determinants of success in the coconut sugar industry. These institutional factors include managerial and technical skills as well as social capital.

**Competitor Entry**

Most respondents stated that starting a business in this sector is not difficult. Around 74 percent of them reported that establishing a new business was relatively easy. One of the contributing factors to this ease is the availability of labour, with 77 percent of them confirming that labour is easy to obtain.

From a managerial perspective, this ease in starting a business indicates that most entrepreneurs possess the capability to manage their businesses effectively. This is evident in their ability to run operations normally and provide wages to their employees.

Most workers in this industry are women, as reported by 78 percent of respondents. This is because the home-based industry requires patience and available time at home. Thus, women can run this business while also taking care of their children and husbands.

In terms of workforce composition, the majority employ permanent workers (68 percent), while the rest employ casual workers (32 percent). In other words, the number of permanent workers is twice that of casual workers. Meanwhile, looking at the educational background of the workers, most are elementary school graduates (68 percent), followed by junior high school graduates (24 percent), and a small proportion are senior high school graduates (8 percent). There are no workers with a university-level education. Therefore, it can be concluded that entrepreneurs are able to access relatively inexpensive labour (due to the low education level), as skills are prioritized over formal education.

However, there are two main challenges faced by these entrepreneurs: difficulty in accessing capital and uncertainty in raw material (sap) volume. As managers, many entrepreneurs still consider capital to be the primary issue, as running this business requires a considerable amount of funding. Around 33 percent of respondents have capital ranging from 10 million to under 20 million rupiahs, and 29 percent have capital of 50 million rupiahs or more. Meanwhile, only 3 percent have capital under 5 million rupiahs.

Regarding the presence or absence of threats from other parties in developing a business. Most respondents (61 percent) stated there were no threats from other parties. This indicates that each producer/entrepreneur can easily develop their business without pressure or threats from other parties. Furthermore, the ease of doing business is also demonstrated by the absence of levies (100 percent of respondents), both legal and illegal, making them feel comfortable in their business.

The risk of new players entering the industry is shaped by institutional readiness. SMEs with well-developed managerial and technical skills are better equipped to build barriers to entry through innovation, product differentiation, and efficient processes. Strong organizational leadership and mastery of production technologies enable firms to meet quality standards, achieve certifications, and develop competitive brands (Christiansen, 2020). Community ties, cooperative associations, and embedded relationships with local stakeholders act as informal protections by offering collective marketing and restricted access to strategic inputs (Siregar, Hidayat, & Lubis, 2019).

**Threats of Substitutes**

The coconut sugar industry is a unique industry because almost all stages still involve human touch. For example, obtaining raw materials (sap) remains a challenge from time to time due to volume uncertainty—depend on the weather, dry or rainy. More than half of respondents (53 percent) reported uncertainty in obtaining raw materials. The most common contributing factors of this uncertainty were dependent on the weather (29 percent), scarcity/difficulty (18 percent), high price (16 percent), both difficult to obtain and expensive (14 percent), remote location and high cost (13 percent), and other factors (10 percent).

This is evident from a social capital analysis perspective; entrepreneurs possess extraordinary abilities in sourcing information, lobbying, bargaining, and even finding new sources of raw materials. However, from a managerial perspective, this makes the business inefficient, as operating alone incurs higher costs than collectively.

Businesses in this industry is characterized by their individual sourcing and procurement of raw materials and marketing. This is further emphasized by the fact that most respondents/producers (63 percent) purchase raw materials directly from coconut farmers, with only 17 percent using intermediaries. Therefore, they truly make their own and creative efforts to source and source raw materials. After becoming a product, most producers stated that there were competing products, with 61 percent of respondents stating this, while the remaining 39 percent stated that there were no competitors. This intense competition in product design or substitute products is what makes them reluctant to work collectively. These substitute products include granulated sugar and rock sugar (in terms of raw material type) as well as moulded sugar or powdered sugar (in terms of product shape). The emergence of competitors for their products comes mostly from established (old) producers (46 percent of respondents), new producers (31 percent of respondents), and both (23 percent of respondents).

The established producers remain the toughest competitors due to their greater experience, especially in designing products/substitute products that are in demand in the market. However, the creativity of new producers cannot be underestimated, where they also have adequate sales value (share) (31 percent)

Thus, it can be concluded that this hair craft product is indeed unique and its raw materials are uncertainty in volume. However, most respondents stated that they do not experience a shortage of raw materials. This means that supplies are always available and sufficient, but the volume collected is uncertain. Competition in product design/substitute products is felt to exist and in the future this competition will increase, possibly coming from new producers.

Substitute products such as cane sugar, palm sugar, or artificial sweeteners pose a threat to traditional coconut sugar producers. Institutional strategies help mitigate this. Innovation in product form (e.g., granulated sugar, liquid sugar), packaging, and shelf life enhance competitiveness (Santoso, Handayani, & Putra, 2020). Cultural identity, geographical indication, and heritage-based narratives provide emotional and ethical reasons for consumers to prefer traditional products (FAO, 2019).

**Bargaining Power of Buyers**

Buyers also determine business success. Their bargaining power can significantly influence the selling price of a product, but in other cases, buyers have a weak bargaining position, passively accepting the seller's price.

All respondents (100 percent) stated that they had no difficulty marketing their products. This means that entrepreneurs already have a market, even though the majority operate independently. Their largest buyers are hair collectors (66 percent).

They also stated that there are no specific times when sales turnover exceeds normal levels. Seventy-seven percent stated this, while the remaining 23 percent stated that there are certain times when sales exceed normal levels. This indicates that they can sell at any time to relatively consistent buyers, namely collectors.

Thus, both sellers and buyers feel comfortable and benefit. On the one hand, sellers have no difficulty finding buyers at an agreed price, and on the other hand, buyers (collectors) can easily obtain semi-finished products at affordable prices.

Therefore, the buyer's position is quite strong, as evidenced by respondents' (sellers') opinions regarding buyer power in determining selling prices. Ninety-seven percent of respondents stated that buyers have the power to determine product selling prices.

Buyers, especially wholesalers and exporters, exert power in fragmented markets with low product differentiation. Institutional factors help firms resist downward price pressures. Market research, branding, and value-added processing (e.g., organic certification) give firms the ability to serve niche segments and demand higher prices (Ramadhan, Mulyana, & Sari, 2023). Long-term buyer relationships and reputation within trading networks can foster loyalty and reduce buyer opportunism (Wahyudi & Hartono, 2020).

**Bargaining Power of Suppliers**

Suppliers in a monopoly market have significant power, while in a perfectly competitive market they have little power among numerous competitors/sellers. All respondents (100 percent) stated that their production facilities are privately owned and located in their homes. Therefore, one point of seller power is that they each have their own production facilities/houses.

The products they sell are mostly semi-finished products (87 percent of respondents). Only 9 percent of respondents sell finished products, and 4 percent sell both finished and semi-finished products. This also confirms that the majority of respondents (84 percent) produce only one type while the remaining 16 percent of respondents produce more than one type of products.

Furthermore, the majority stated that their production is based on market demand/supply (53 percent), while 24 percent rely on orders, and 23 percent rely on both. This indicates that sellers don't have to struggle to sell their products because the market is already waiting for their shipments.

Regarding partnerships, more than half of respondents stated they had no partners (54 percent), while the remaining 46 percent stated they did. These partnerships were mostly with banks to obtain credit/business capital loans. Meanwhile, partners or the role of local governments were perceived as very minimal. This can be seen in Figure 10 below.

Moreover, most respondents stated that the role of the Local Government was weak (76 percent of respondents), and only 8 percent stated that its role was strong. This could indicate a lack of local government support. Full support from the local government is still needed.

Thus, it can be concluded that the producers have strong bargaining power, as evidenced by their ease of finding a market due to stable market demand. Furthermore, they already have regular buyers, who accept their semi-finished products, and they generate high profits.

In sectors dependent on raw agricultural inputs—such as coconut sap—the power of suppliers can significantly impact production costs and continuity. Institutional strength reduces this risk. Proficient supply chain management, contract negotiation, and diversification strategies lower dependency on specific suppliers (Cooper, 2011). Efficient use of inputs, quality control systems, and storage techniques improve input reliability and reduce spoilage (Nurhadi, Prasetyo, & Dewi, 2022). Strong ties with suppliers foster loyalty, trust, and informal agreements that stabilize input supply and pricing (Putra, 2016).

**Rivalry among Existing Players**

Business competition among producers is high/strong. Ninety-one percent of respondents stated that there is strong competition. This is further confirmed by most respondents stating that the intensity of the competitive threat is strong (60 percent of respondents), with 29 percent stating that the intensity of competition is moderate, while only 11 percent stated that the intensity of competition is weak.

Furthermore, they stated that their competitors have an advantage over their capital (79 percent of respondents), as substantial capital is one of the requirements for purchasing raw materials in larger quantities. As explained in the discussion on entry of competitors, the largest percentage, 33 percent of respondents, have capital between 10 million and less than 20 million rupiah, followed by 29 percent of respondents with capital above 50 million rupiah.

However, they individually stated that they felt superior to others. This demonstrates optimism and confidence that their businesses can win the competition. Sixty-three percent of respondents stated that their businesses and products are superior, while the remaining 37 percent stated that they are not superior to their competitors.

Moreover, they stated that their business's advantage over competitors is superior product quantity and quality (70 percent of respondents), while the remaining 30 percent of respondents stated that they are superior in other aspects, such as raw materials, capital, labour, production facilities, etc. This indicates that they individually can win the competition if they can maintain and even improve the quality and quantity of their products. This fact is reinforced by the business strategies they implement to win this competition, with maintaining quality being the top priority.

The most popular strategy is partnering with partners (26 percent of respondents). Partners here can refer to other parties who can support their businesses, both financially and non-financially, such as local governments, banks, large businesses/foster parents, investors, marketing agents, etc.

The second most frequently chosen strategy is maintaining product quality (24 percent of respondents). This aligns with the previous explanation that maintaining or preserving product quality is crucial.

Then, the third is expanding networks/connections with various parties (20 percent of respondents). Expanding these networks/connections meant broadening information and insights; expanding contacts, including potential customers; expanding raw material sources, networks/associations with other entrepreneurs; increasing knowledge and skills regarding production and marketing techniques; and so on.

Furthermore, the fourth is expanding marketing (14 percent of respondents), increasing promotion (3 percent of respondents), increasing capital (1 percent of respondents), and other (12 percent of respondents).

Based on this description, it can be concluded that business competition among them is high/strong. They stated that their competitors' advantage lies in their substantial capital, while they individually feel superior in maintaining/preserving product quality and quantity. Therefore, they individually feel optimistic about their ability to win the business competition.

High competition within traditional sectors often leads to price wars and margin pressures. Institutional capabilities can reduce rivalry intensity and foster collaboration. Strategic planning, customer segmentation, and productivity enhancement are crucial for outperforming rivals (Porter, 1979). Inter-firm collaboration through cooperatives or producer networks reduces destructive competition and enhances collective bargaining (Setyowati & Supriyanto, 2021).

## 4. CONCLUSION

The coconut sugar industry has strong institutional factors, both in terms of managerial and technical skills, as well as social capital. Producers/enterpreneurs can easily establish businesses

without significant obstacles. Each entrepreneur can operate comfortably without threats or pressure from others. Raw material (sap) is always available and sufficient but uncertainty in volume. Competition in product design/substitute products is perceived to exist, and this competition will intensify in the future, possibly from new producers.

Buyers' bargaining power is quite strong, as evidenced by respondents' (sellers) opinions regarding the power of buyers in determining selling prices. Supplier's bargaining power is also strong, as evidenced by their ease of finding markets due to stable market demand. Furthermore, they already have regular buyers who accept their semi-finished products (elus), and they generate high profits.

Competition among them is high/strong. They stated that their competitors' advantage lies in their large capital, while they individually feel superior in terms of maintaining/keeping up the quality and quantity of their products.

Porter's Five Forces demonstrate that institutional factors are not merely internal capabilities but strategic assets that interact with external market forces. Managerial and technical skills help firms navigate competitive threats through efficiency and innovation, while social capital provides relational advantages that buffer firms against volatility. Strengthening these institutional dimensions is vital for ensuring long-term competitiveness, particularly in traditional and rural-based industries like coconut sugar production.

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