



The Strategic Role of the Jamu Industry in the National Economy 2025

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ABSTRACT

The study shows that Indonesia's jamu industry has a strong cultural foundation and stable market demand but has not yet generated significant economic impact. Survey data from 138 jamu producers and interviews with stakeholders indicate that consumer loyalty toward traditional herbal products remains high, demonstrating that jamu continues to play an important role in everyday health practices. However, the industry faces structural stagnation. Most businesses operate on a small scale with limited technology and minimal innovation, which slows income growth and keeps productivity low. Labor conditions are also largely informal, offering limited welfare improvements and restricting long-term development of the sector. Economically, the value added produced by the jamu industry remains modest. Low productivity and limited industrial expansion mean its contribution to national GDP and tax revenue is still small. Production and market activity are concentrated in certain regions, while other areas with potential remain underdeveloped. The industry is also strongly influenced by gender dynamics, with many businesses run by women in household-scale operations. While this reflects traditional knowledge, it also reveals barriers such as limited access to capital, training, and networks. Overall, the main challenge lies in weak value chain integration, limited innovation, and insufficient policy support. Strengthening these areas could help transform jamu into a stronger national industry

INTRODUCTION

Jamu is us. It is a masterpiece. Yet, it is a hereditary civilization that is now increasingly fading. Therefore, researching it is part of the way we love Indonesia, while also realizing the great potential it holds. From here, we can all take part in participating, collaborating, and working together for the revival of the 'gigantic and universal ancient civilization.' Not to colonize, but to heal; not to steal, but to serve; not individualism, but health and prosperity together..

We are aware that the herbal medicine industry is one of the economic and cultural heritages that plays a strategic role in national development. As a product based on local wisdom, herbal medicine not only reflects the nation's identity but also holds great potential to be developed into a high-value premium commodity (Asari, 13/2024). In the context of the modern economy, herbal medicine has transformed from merely a traditional product into part of the global health industry, which demands innovation, production efficiency, as well as a deep understanding of the market and consumer behavior. According to Latif (2025), herbal medicine is a “masterpiece of civilization from the dialogue between humans, nature, and the archipelago's culture,” making this industry not only about health but also about economic resilience and cultural sovereignty..

Therefore, studying, researching, mastering, accompanying, and making it a national strategic asset is a necessity. There is no more civilized way as a Pancasila human community than by nurturing herbal medicine as a core part of our life and nationhood (Haryono, 29/2025). Civilization must begin and expand into the universe from herbal medicine. However, to enhance competitiveness, meet global consumer needs, make it a national pride, and position it as a strategic national asset, in-depth research is required to understand the types of herbal medicine most favored by global consumers, consumer preferences, market potential, workforce potential, contributions to taxes, as well as policy recommendations for developing the national herbal medicine ecosystem.

In the past decade, the potential of the traditional herbal medicine (jamu) market has faced serious challenges. Domestic market growth tends to stagnate due to low interest among the younger generation, increasing competition with modern pharmaceutical products, and a weak brand image on a global level (Syuryani, 11/2023). Data from the Central Statistics Agency (2024) shows that the contribution of the jamu subsector to Indonesia's traditional medicine industry GDP is still below 0.3%, indicating that there is still significant room for market expansion. The main problem lies in the poor mapping of market potential, both in terms of consumer preferences, price mapping, and producer distribution. Therefore, research that positions market potential as the main variable needs to be conducted to understand the factors that influence the growth and competitiveness of the jamu industry.

Consumer preferences remain a fundamental determinant of a product's success in competitive markets. Recent marketing literature emphasizes that consumer behavior is strongly shaped by perceived value, which includes functional quality, emotional benefits, brand equity, and overall customer experience (Kotler et al., 2022). Perceived value extends beyond tangible product

attributes such as taste, packaging, and core benefits to include symbolic meaning, relational trust, and experiential engagement. In the context of herbal medicine, consumer preferences are also influenced by trust in natural ingredients, scientifically validated efficacy, safety standards, and cultural legitimacy. Contemporary consumers increasingly demand a synthesis between tradition and scientific credibility. Therefore, herbal medicine products must preserve authenticity and cultural symbolism while incorporating modern quality assurance, evidence-based communication, and contemporary packaging strategies to sustain relevance and competitiveness in the global market.

Market research on jamu is no longer sufficient if placed solely within the supply-demand equilibrium framework, because the key issue actually lies in the product's ability to penetrate the market through the creation of perceived value from the pre-purchase stage. In this context, jamu is positioned not merely as a commodity, but as a preventive and curative health solution that must first gain cognitive legitimacy in the consumer's mind before any economic transaction occurs. The shift in focus from market equilibrium to market penetration capability places preference, perceived benefits, and trust in efficacy as the primary determinants of market success. The herbal medicine market has a stable demand base but remains stagnant in expansion due to weak value differentiation and innovation that could broaden cross-segment preferences. Thus, the main issue is not the absence of a market but the industry's limited ability to build a competitive position against modern herbal products and chemical drugs. Therefore, competition analysis needs to be expanded to include dimensions of price, quality, distribution systems, and innovation as strategic factors that determine the success of market penetration and the establishment of long-term market preferences.

In addition, the geographical distribution of producers and the structure of distribution channels significantly determine the availability and accessibility of herbal medicine products in the market. Contemporary supply chain literature emphasizes that efficient, integrated, and digitally supported distribution systems enhance competitiveness, improve service levels, and expand market coverage (Ivanov, 2022; Mentzer et al., 2022). Modern supply chain management highlights the importance of network design, real-time data visibility, demand forecasting, and coordination among upstream and downstream actors to reduce inefficiencies and close the gap between production capacity and market realization. In the Indonesian herbal medicine industry, many producers still rely on fragmented and traditional distribution mechanisms, which constrain scalability and limit national penetration. Therefore, empirical research that maps the spatial distribution of producers, warehouses, distributors, and retail outlets is essential to optimize national supply chain performance, improve distribution equity, and strengthen industry competitiveness.

Price factors also become a strategic aspect in determining the position of herbal medicine in the market. Mankiw (2020) explains that price functions as a market signal reflecting market penetration. In the herbal medicine industry, local product prices are often lower compared to modern supplements, but this is not matched by an equivalent perception of quality. This results in local

products being less competitive in the upper-middle market. Analysis of price maps, whether local, national, or international, can help determine competitive positioning and appropriate promotional strategies for herbal medicine manufacturers.

On the other hand, gender dimensions continue to play a significant role in shaping herbal medicine consumption patterns. Recent consumer behavior literature emphasizes that demographic segmentation, including gender-based segmentation, remains a strategic approach to understanding differentiated needs, motivations, and purchasing behavior (Solomon, 2023; Kotler et al., 2022). Gender influences health-related decision-making, perceived product relevance, and responsiveness to marketing communication. In the herbal medicine context, women are generally more responsive to products associated with beauty, wellness, and reproductive health, whereas men tend to prefer herbal formulations positioned around stamina, vitality, and physical performance. Understanding these differentiated consumption patterns enables industry actors to design targeted product innovation, develop tailored branding strategies, and implement more effective communication approaches aligned with specific market segments.

This study aims to empirically and comprehensively analyze the strategic role of the herbal and traditional medicine industry in the national economy by placing market potential as the main focus of the study. Specifically, this research is directed to examine the influence of consumer preferences, the distribution map of producers and distributors, price maps, gender maps, as well as labor conditions on the ability of the herbal industry to create sustainable economic value. The research focuses not only on demand patterns and the market characteristics of herbal products, but also on revealing structural obstacles that cause business scale stagnation, low productivity, limited improvement in worker welfare, and minimal fiscal contribution.

Thus, this research is expected to provide a strong analytical foundation for the formulation of strategic policies for the development of the herbal medicine industry, oriented towards structural transformation, and supporting the strengthening of national health and economic sovereignty.

LITERATURE REVIEW

This literature review discusses five main variables used in the research, namely consumer preferences, distribution map, price map, gender map, and market potential as the dependent variable. These five variables are interconnected in explaining the dynamics of the Indonesian jamu industry, which is now transforming from a traditional industry into part of a modern economy based on health and lifestyle.

Consumer preferences remain one of the most decisive factors in determining the success of herbal medicine products in the marketplace. Contemporary marketing theory explains that preferences arise from consumers' perceived value, which integrates functional benefits, perceived quality, emotional experience, and symbolic associations embedded in a product (Kotler et al., 2022; Solomon, 2023). Research by Pratama and Wardani (2023) found that

modern consumers, especially younger generations, tend to prefer herbal medicines with a mild taste, hygienic packaging, and informative labels that highlight health benefits. They are also more responsive to herbal medicine promoted through digital media than traditional kiosks. This indicates a shift in consumer preferences from functional needs to lifestyle or lifestyle value symbols. By understanding this change, herbal medicine producers can adapt product innovation and promotional strategies to remain relevant in a competitive market trend.

Besides preference factors, the structure of distribution networks and the spatial mapping of producers are critical determinants of product accessibility in the market. Recent supply chain management literature emphasizes that efficient, integrated, and responsive supply chain systems enhance competitiveness, reduce logistical inefficiencies, and expand market reach in increasingly complex business environments (Christopher, 2022; Ivanov & Dolgui, 2021). Modern supply chains rely on network design optimization, digital integration, real-time visibility, and resilience strategies to ensure alignment between production capacity and market demand. In the context of Indonesia's herbal medicine industry, many producers remain small-scale and operate through traditional and fragmented distribution channels, with market coverage largely confined to local areas.

This structural constraint limits scalability and weakens the industry's ability to compete nationally and globally. Therefore, strengthening distribution infrastructure and adopting contemporary supply chain management practices are essential to improve accessibility and long-term competitiveness. According to Kurniawati and Hidayat (2022), the uneven distribution of producers and the lack of integration between producers, distributors, and retailers are the main obstacles to the development of the national herbal medicine market. On the other hand, the use of digital technology and e-commerce platforms is now beginning to change the distribution landscape. Producers can sell their products directly to consumers without intermediaries, creating a more efficient and adaptive form of virtual distribution. Thus, the mapping of producers' distribution is not only geographical but also digital, thereby expanding the market reach of traditional herbal medicine in the technology-based economy era.

The integration of a market-based view and contemporary consumer behavior theory emphasizes that the success of health products is shaped by perceived value before actual demand materializes. Recent marketing literature explains that perceived value reflects consumers' evaluations of functional performance, symbolic meaning, emotional benefits, and trust in safety, transparency, and brand credibility (Kotler et al., 2022; Solomon, 2023). In the context of herbal medicine, these evaluations are directly associated with perceptions of preventive and curative effectiveness, scientific validation, and the reliability of natural ingredients. From a competitive strategy perspective, contemporary positioning frameworks argue that sustainable competitive advantage requires differentiation based on standardized quality, innovation capability, and reputational strength rather than reliance solely on low-cost

strategies (Grant, 2022). Meanwhile, service-dominant logic conceptualizes value as co-created through interactions between producers and consumers via usage experience, knowledge exchange, and relational engagement, underscoring the importance of formulation refinement, packaging innovation, and consumer education to expand market preferences (Vargo & Lusch, 2021).

In the domain of distribution, modern supply chain management theory highlights that competitive advantage is increasingly determined by agility, resilience, digital integration, speed, and reliability of distribution networks – not merely by intrinsic product attributes (Christopher, 2022; Ivanov, 2022). Consequently, competition in the herbal medicine industry occurs not only among similar traditional products but also against pharmaceutical drugs that possess strong quality standardization, regulatory compliance, scientific legitimacy, and highly efficient distribution systems.

Recent literature on health industry development shows that without increased innovation and measurable quality, traditional products tend to remain in a narrow loyal market without being able to penetrate across segments (Mazzucato, 2021). Therefore, mapping competition based on price, quality, distribution, and innovation becomes an analytical foundation for understanding how herbal medicine can transform from a cultural heritage product into a primary preference within the modern health system.

The next aspect that has a significant influence on market potential is price. Mankiw (2020) explains that price serves as a market signal indicating the balance between supply and demand and acts as a guide for producers in determining competitive strategies. In the jamu (traditional herbal medicine) industry, price is often a paradox: local products are sold cheaper but are often considered less effective compared to more expensive modern health products. Rahmawati (2021) asserts that perception of price is directly proportional to perception of quality. Consumers tend to evaluate high-priced products as high-quality products as well. As a result, cheap local jamu is often perceived as a lower-class product. Additionally, price differences across regions, whether local, national, or international, indicate the existence of disparities in competitiveness. Logistics factors, distribution costs, and market segmentation are the main causes of price variations between regions (Christopher, 2022). Therefore, price mapping becomes crucial for determining a pricing strategy that can increase economic value as well as the image of Indonesian herbal medicine products in the global market.

Another dimension that significantly influences market behavior is gender. Contemporary consumer behavior literature emphasizes that gender differences shape purchasing motivations, product preferences, information processing, and perceptions of product benefits (Solomon, 2023; Kotler et al., 2022). Gender-based segmentation remains relevant in explaining variations in health-related consumption patterns, including attitudes toward risk, preventive behavior, and wellness orientation. In the context of jamu (traditional herbal medicine), women tend to demonstrate stronger interest in products associated with beauty enhancement, detoxification, hormonal balance, and reproductive health.

In contrast, men are generally more responsive to herbal products positioned around vitality, stamina, endurance, and physical performance. Understanding these differentiated behavioral patterns enables producers to design targeted product development strategies, refine benefit communication, and implement more precise market segmentation approaches aligned with contemporary consumer dynamics. Puspitasari (2022) noted that understanding gender segmentation can help producers develop more precise communication strategies and product innovations. Interestingly, current market trends indicate the emergence of a gender-neutral segment or consumers who do not base their product choices on gender identity. Young generations are beginning to view herbal medicine as an everyday product for everyone, without male or female limitations. This shift opens up opportunities for producers to develop herbal products with an inclusive approach that can expand market reach.

The four independent variables collectively influence the dependent variable, namely market potential. Market potential refers to the extent to which a product can be accepted, sustained, and expanded within a market over the long term. Contemporary marketing literature defines market potential as an estimate of a market's capacity to absorb a product based on aggregate demand, purchasing power, competitive intensity, and price responsiveness (Kotler et al., 2022; Armstrong et al., 2021). It reflects not only current sales opportunities but also future growth prospects shaped by structural and behavioral market conditions.

In the herbal medicine industry, market potential is assessed not merely by the number of consumers but also by the total economic value generated, production sustainability, regulatory adaptability, and the capacity for innovation in response to evolving global health trends. As consumer awareness of preventive healthcare and natural remedies increases, the long-term market potential of herbal products depends on their ability to align with quality standards, scientific validation, and shifting wellness-oriented lifestyles. Latif (2025) emphasizes that herbal medicine must be positioned as a national strategic asset that not only holds cultural value but also economic strength supporting national independence. To achieve this, research is needed to empirically examine the factors that determine the growth of the herbal medicine market in order to compete sustainably at the international level.

Thus, this literature review emphasizes that the market potential for herbal medicine is greatly influenced by a combination of consumer preferences, distribution maps, price maps, and gender maps. These four factors do not stand alone but are interconnected in creating attractiveness, perceived value, and accessibility of herbal products in the modern market. A comprehensive understanding of the relationships between these variables is an important foundation for efforts to strengthen the national herbal medicine ecosystem so that it can become a leading economic sector based on local wisdom and global competitiveness.

This literature review will also consciously reveal and add information about the configuration of traditional herbal medicine maps (famous heritage), modern herbal medicine (the latest products and their derivatives), and mixed

herbal medicine (products resulting from the crossbreeding of herbal and modern pharmaceutical chemicals) around us, which have not been widely highlighted.

METHODS

This study employed a mixed-method approach using an explanatory sequential design, in which the quantitative phase was conducted first and followed by a qualitative phase to provide deeper interpretation of the statistical findings. The selection of this design was based on the need to generate empirical evidence regarding the influence of consumer preferences, distribution maps, price perceptions, and gender dimensions on market potential, while simultaneously capturing the socio-cultural and structural dynamics that cannot be fully explained through numerical analysis alone. The research was conducted over a three-month period in areas characterized by active herbal medicine production and distribution, including both conventional market channels and digital platforms, to ensure contextual relevance and representativeness of the market landscape.

The quantitative phase involved a survey using a structured questionnaire developed based on contemporary marketing and consumer behavior theories. The instrument measured five constructs: consumer preferences, distribution map perception, price map perception, gender-based consumption patterns, and market potential. All variables were operationalized using a five-point Likert scale ranging from strongly disagree to strongly agree. The population consisted of consumers who had purchased and consumed herbal medicine within the last six months. Respondents were selected through purposive sampling to ensure that participants possessed relevant consumption experience and familiarity with herbal products. A total of 138 respondents met the inclusion criteria and completed the survey. Prior to full deployment, the instrument underwent content validation and pilot testing to ensure clarity, construct validity, and internal consistency.

Quantitative data analysis was conducted in several stages. Descriptive statistics were first used to describe respondent characteristics and the distribution of each research variable. Subsequently, validity and reliability tests were performed to confirm the adequacy of the measurement model. Classical assumption tests, including normality, multicollinearity, and heteroscedasticity assessments, were applied to ensure that the regression model met statistical requirements. Multiple linear regression analysis was then employed to examine both the simultaneous and partial effects of the independent variables on market potential. Statistical significance was determined at a 5 percent level, allowing for the identification of variables that meaningfully influence market development within the herbal medicine sector.

Following the completion of the quantitative phase, the qualitative stage was conducted to interpret and elaborate on the emerging statistical patterns. In-depth interviews were carried out with 25 informants consisting of herbal medicine producers, distributors, traders, and selected consumers who demonstrated extreme responses or distinctive patterns in the survey results.

Informants were chosen using a maximum variation sampling technique to capture diverse perspectives across the value chain. Semi-structured interview guidelines were developed based on quantitative findings, focusing on consumer preference formation, distribution challenges, pricing considerations, gender-related consumption narratives, and perceptions of long-term market growth.

Qualitative data were analyzed using thematic analysis. The process involved data familiarization, coding, categorization, theme identification, and interpretative synthesis. This approach enabled the identification of recurring patterns and explanatory mechanisms that clarified the statistical relationships observed in the quantitative analysis. The integration of quantitative and qualitative findings was conducted at the interpretation stage, where qualitative insights were used to reinforce significant statistical relationships, explain unexpected findings, and provide contextual depth to the empirical results.

Through this explanatory sequential design, the study ensures methodological rigor and analytical triangulation. The combination of statistical measurement and interpretive exploration produces findings that reflect not only measurable empirical relationships but also the broader economic, cultural, and structural dynamics shaping the market potential of the herbal medicine industry.

RESULTS

Analysis of Herbal Medicine Industry Research Results

The jamu and herbal industry in this research is supported by a business actor structure that is relatively mature in experience but weak in economic expansion. As many as 83% of respondents have been running their businesses for more than one year, with 50% in the 1–5 year business age range and 33% in the 6–10 year range. In theory, this phase should be a stage of productivity acceleration and scale improvement (Cirera & Maloney, 2020). However, the data shows that business age maturity does not correspond to growth in production capacity or income, indicating structural stagnation at the business level.

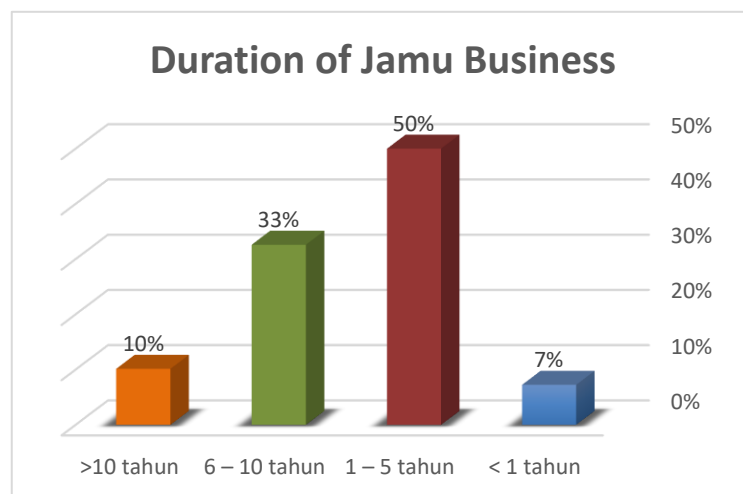


Figure 1 Duration of the Herbal Medicine Industry
Source: Herbal Medicine Industry Research Results, 2026

The limitations of this stagnation are clearly seen in Figure 4.2 concerning monthly production capacity. As many as 73% of business actors produce less than 500 units per period, with the largest concentration at 101–300 units (30%) and less than 50 units (20%). Only 27% are able to produce more than 500 units. Within the framework of productivity dispersion theory, the dominance of low-productivity businesses becomes the main barrier to the sector's contribution to national economic growth, as the sector's average productivity is pulled down by the majority of small-scale actors (OECD, 2021).

This condition is also reflected in the dynamics of herbal medicine production trends in Figure 4.2, where 46% of business actors reported relatively stable production volumes, 23% experienced a decrease, and only 31% recorded an increase. This pattern indicates a productivity trap, where the majority of businesses stick to the same scale and technology, making them unable to seize market growth opportunities (Aghion & Howitt, 2009). From the perspective of structural change theory, the stagnation and decline among most business actors reflect a failure of productive transformation, where the shift of resources from low-productivity to high-productivity units does not occur effectively, thus limiting the leverage of the herbal medicine sector on national economic growth.

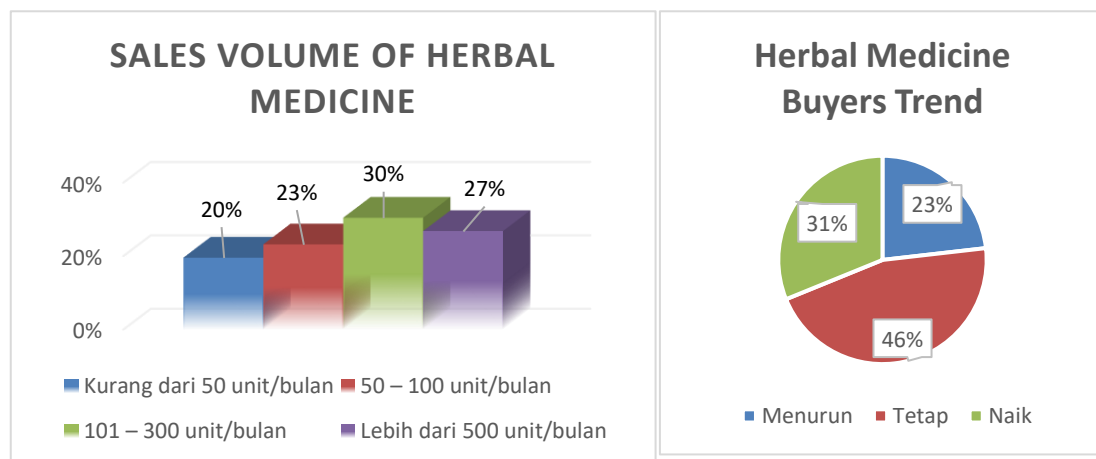


Figure 2. Sales Volume and Trend of Herbal Medicine Buyers

Source: Herbal Industry Research Results, 2026

This condition reflects a mature market that has not yet been driven by innovation, as explained in the theory of demand-led growth, where stable demand without product differentiation will limit value-added expansion (Rodrik, 2020). This aligns with consumer preferences shown in Figure 4.3, which indicate a strong preference for local traditional herbal medicine, further reinforcing the character of this market. As many as 64% of consumers choose local traditional herbal medicine, with the main forms of consumption being liquid (49%) and powder (41%). Meanwhile, modern forms such as tablets and jelly are only favored by a minority. In consumer culture theory, tradition-based loyalty can be a long-term asset but also has the potential to become a trap if not accompanied by modernization in quality, safety, and branding (Arnould & Thompson, 2021).

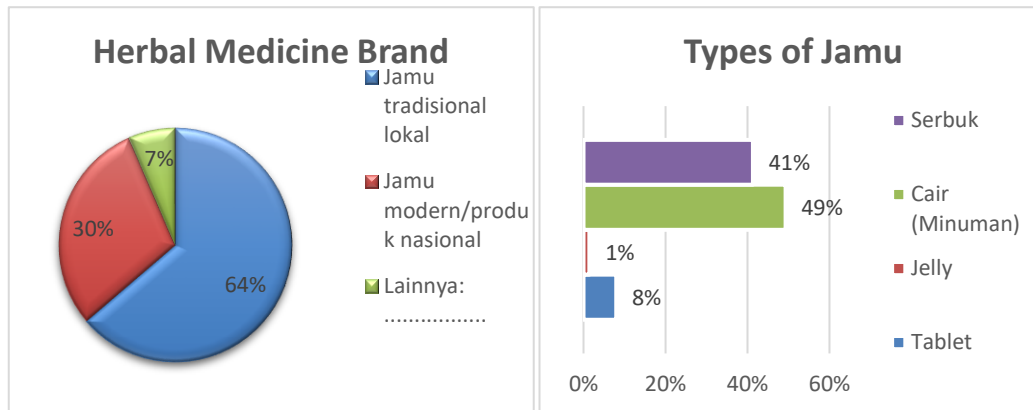


Figure 3. Consumer Preferences Towards Herbal Medicine Brands
Source: Herbal Industry Research Results, 2026

Likewise, stagnation in productivity also directly affects worker welfare, as shown in figure 4.4. As many as 53% of respondents stated that employment absorption remained steady, and only 28% experienced an increase in employee wages. Moreover, 19% of employees were in a situation where wages remained the same or decreased. This phenomenon aligns with the ILO (2023) report on low-wage equilibrium, where small business-based sectors fail to translate business growth into increased worker income, thus limiting their contribution to boosting national purchasing power.

The labor structure of the traditional herbal medicine industry increasingly underscores the micro-scale nature of the business as shown in Figure 4.4, where 86% of entrepreneurs employ only 1–5 people, while businesses with more than 20 employees account for only 7%, followed by 6% in the 6–10 employee range and 2% in the 11–20 employee range. This very skewed composition reflects the firm size distribution theory, where the dominance of small enterprises limits economies of scale and suppresses the capacity to create quality jobs (Tybout, 2000). Within the framework of job quality theory, such a labor structure tends to maintain low-wage jobs with minimal protection, thereby reinforcing the productivity–wage trap and hindering the herbal medicine sector's role as a driver of improved national workforce welfare.

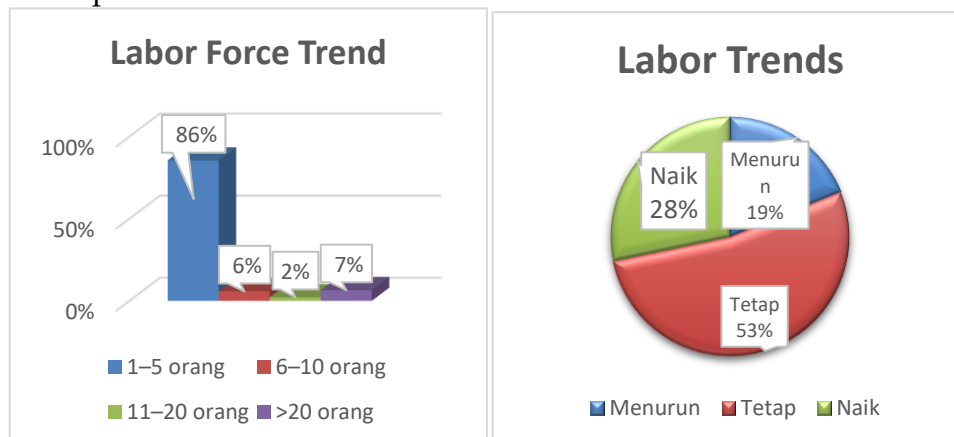


Figure 4. Employment Absorption and Trends
Source: Herbal Industry Research Results, 2026

From the perspective of both business income and labor costs, the data indicate a dominance of the lower-middle group. As many as 70% of respondents have a monthly income between IDR 2–10 million, with the largest group falling within IDR 2–5 million (37%). More concerningly, 28% of respondents reported a declining personal income trend, while only 15% saw an increase. From the national economic perspective, this income structure reflects the herbal sector's weak ability to create a middle-class entrepreneurial segment and labor welfare, which serves as the backbone of domestic growth (Mazzucato, 2021)

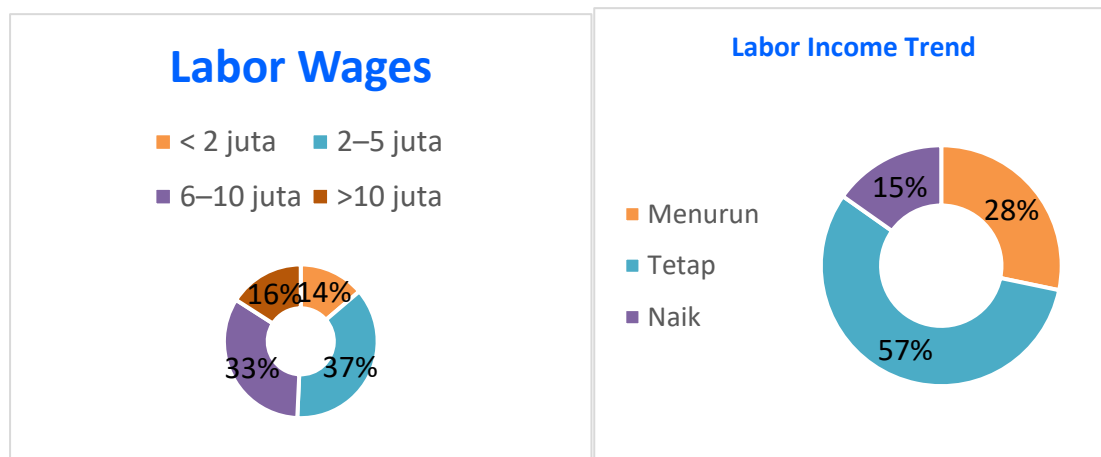


Figure 5. Income of Jamu Entrepreneurs
Source: Herbal Industry Research Results, 2026

The business income distribution shown in Figure 4.6 indicates a very strong dominance of the low-income group. As many as 47% of entrepreneurs recorded income below IDR 5 million per period, followed by 26% in the IDR 5–20 million range and 22% in the IDR 20–100 million range, while only 5% were able to achieve income above IDR 100 million. This structure confirms the characteristics of a long tail economy, where the majority of entrepreneurs are at the tail of the distribution with low income and limited economic contribution, while the high-income group is very small.

From the perspective of small firm growth theory, the dominance of low income reflects limited access to capital, technology, and market networks that hinder the business scaling-up process (Beck & Demirgüç-Kunt, 2006). The inability of the majority of actors to move out of the low-income group indicates the occurrence of income stagnation, where increased business activity does not correspond proportionally to income growth due to low marginal productivity.

Furthermore, according to the dual economy theory, this condition indicates the existence of structural segmentation between a small number of high-income modern herbal medicine businesses and the majority of low-income traditional businesses trapped in the informal sector. This segmentation limits the contribution of the herbal medicine sector to national income accumulation and the expansion of the tax base, while simultaneously reinforcing internal sector inequalities and hindering the transformation of the herbal medicine industry towards a more productive and competitive structure

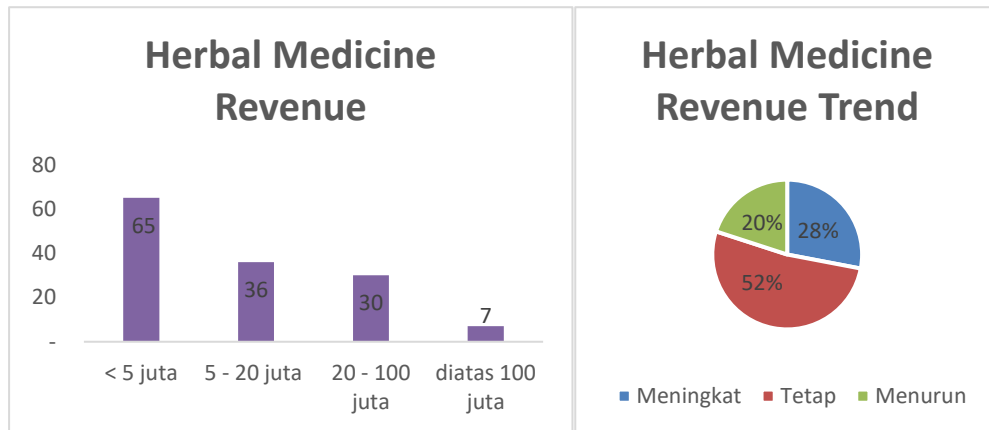


Figure 6. Herbal Medicine Business Turnover
Source: Herbal Industry Research Results, 2026

Thus, the fiscal implications shown in Figure 4.7 from this condition are also significant. As many as 53% of respondents pay taxes of less than Rp100 thousand, and 56% stated that the amount of tax paid had not increased. This indicates that even though there are a large number of business actors, the tax base of the herbal medicine sector is still very shallow. The productive formalization literature emphasizes that without increases in scale and productivity, informal sectors that are formalized still cannot provide meaningful fiscal contributions to the state (OECD, 2021).

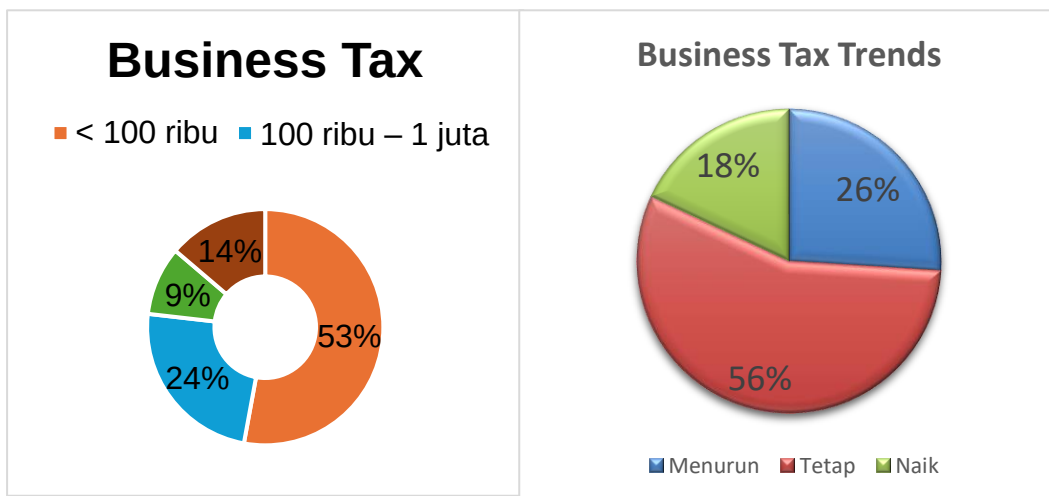


Figure 7. Industrial Herbal Medicine Business Tax
Source: Herbal Medicine Industry Research Results, 2026

The potential for product innovation, such as the use of goat's milk in herbal medicine, indicates opportunities for diversification but is not yet economically promising. Although 54% of respondents stated that goat's milk could be used as an additional ingredient, only 5% saw it as a market opportunity, and 32% said it was unlikely to be used. The main hindering factors are supply availability (36%) and demand uncertainty (23%). In the food innovation risk-value trade-off theory, this condition shows that without policy intervention and supply chain guarantees, innovation actually increases business risk rather than accelerating sector growth (Sweeney et al., 2022).

Overall, this analysis confirms that the traditional medicine and herbal industry has a broad and stable market base but has failed to transform into a national economic force due to stagnation in productivity, scale, and added value. Contemporary industrial development literature emphasizes that sectors based on local wisdom will only make a significant contribution to the national economy if they are driven by active industrial policies, value chain integration, and a state mission oriented toward national health (UNIDO, 2023; Rodrik, 2020).

Strategic Analysis of the Herbal Medicine Industry

The herbal medicine and herbal industry in this study shows a business structure that is relatively mature in terms of age, yet fragile in terms of economic accumulation capacity. The dominance of small to medium enterprises with more than one year of experience does not correlate with growth in production, revenue, or assets. This phenomenon aligns with the concept of the middle income trap at the firm level, where businesses are stuck in a survival phase without being able to make productivity leaps due to limitations in capital, technology, and access to high-value markets (Cirera & Maloney, 2020). Thus, herbal medicine as a traditional knowledge-based sector experiences structural stagnation, not demand stagnation.

From the perspective of contemporary Dynamic Capabilities Theory, competitive advantage is no longer determined merely by the ownership of resources, but by the ability to continuously reconfigure assets, processes, and business models (Teece, 2020). Data shows that the majority of herbal medicine practitioners have not yet been able to transform raw herbal materials and local wisdom into dynamic capabilities. Dependence on traditional products without process and distribution innovation results in a defensive rather than progressive competitiveness, causing the industry to move slowly amid changing preferences and global health market standards.

Consumer preferences that consistently lean towards local traditional herbal medicine in liquid and powdered forms affirm that cultural values remain a primary determinant of consumption. However, according to contemporary Consumer Culture Theory, tradition-based loyalty is only sustainable if balanced with legitimacy in quality, safety, and symbols of modernity (Arnould & Thompson, 2021). When product innovation is not accompanied by a credible and institutional value narrative, the market tends to remain stable but does not grow, as reflected in the trend of persistent dominant demand.

Stagnation in production and income, which directly affects workers' wages, indicates low sectoral productivity. Recent literature on inclusive productivity emphasizes that small business-based sectors are at risk of creating illusory growth if value added does not increase along the production chain (ILO, 2023). The finding that the majority of employees experience stagnant or declining wages shows that the herbal medicine industry has not functioned as a tool for improving welfare, but merely as a mechanism for economic subsistence.

Within the framework of the Political Economy of Health Industries, weak asset expansion and low fiscal contribution reflect the absence of strategic and supportive state intervention (Mazzucato, 2021). Traditional health industries,

such as herbal medicine, should be positioned as mission-oriented sectors, not just ordinary SMEs. Without clear policy direction, the market will continue to reproduce small scale, informality, and structural vulnerability, even with a stable demand base.

Findings on the potential of goat's milk as a herbal medicine additive indicate room for product innovation, but its adoption is hindered by perceived risks and supply uncertainties. This is consistent with the latest perceived value risk framework, which states that functional food innovations will only be accepted when health benefits, product stability, and input availability can be ensured simultaneously (Sweeney et al., 2022). Ingredient innovations without supply system readiness actually increase market resistance rather than create differentiation.

Overall, this analysis emphasizes that the main issue in the jamu and herbal industry does not lie in consumer culture or market interest, but in the failure of structural transformation. Post-pandemic industrial development literature highlights that sectors based on local wisdom will only advance if they are integrated into an ecosystem of innovation, long-term financing, and productive (not neutral) state policies (UNIDO, 2023). Without this, jamu will continue to exist as a cultural symbol but fail to assert itself as a national economic force.

DISCUSSION

Strategic Role of the Jamu Industry

The jamu and herbal industry, as reflected in the empirical findings of this research, holds strategic significance for the national economy because it lies at the intersection of the health, agriculture, and processing industry sectors. However, the dominance of small-scale enterprises with stagnant productivity indicates that its contribution to the Gross Domestic Product (GDP) is still quantitative rather than qualitative. Recent structural economic literature emphasizes that sectors based on small enterprises will fail to become engines of national growth if they are unable to increase added value and factor efficiency (Rodrik, 2020). Thus, the jamu industry currently functions more as a socio-economic buffer rather than a driver of national growth.

The stagnation of production and income for traditional herbal medicine practitioners directly impacts this industry's limited ability to create quality jobs. The finding that the majority of employee salaries remain the same or decrease indicates a symptom of low wage equilibrium, a condition where economic growth is not accompanied by improvements in worker welfare (ILO, 2023). In the context of the national economy, this situation risks expanding the low-productivity informal sector, which hinders the pace of per capita income growth and widens disparities between sectors.

From the perspective of modern industrial policy, the failure of the traditional herbal medicine industry to advance reflects the absence of a mission-oriented industrial policy approach. Mazzucato (2021) emphasizes that the state should not merely act as a neutral regulator, but must serve as an investment guide and market shaper. Without state intervention in the form of standardization, long-term financing, and integration of industrial research, the

herbal medicine industry will continue to remain on the margins of the national economy despite having a broad and stable domestic consumer base.

Fiscal implications cannot be ignored from this perspective. The low taxation level of the herbal medicine business indicates that this sector has not been optimally integrated into the formal economic system. In productive formalization theory, formalization only has a positive impact on state revenue if accompanied by an increase in productivity and business scale (OECD, 2021). If not, formalization actually adds burdens to the players without significantly increasing the national tax base. This explains why the herbal medicine industry, despite having a large number of players, still contributes minimally to fiscal revenue.

From the perspective of national economic resilience, reliance on local raw materials is actually a strategic advantage, especially amid post-pandemic global volatility. However, without strengthening the domestic value chain, this advantage remains latent and unmonetized. Literature on domestic value chain upgrading emphasizes that upstream control alone is not enough; the greatest economic value lies in processing, standardization, and distribution (UNIDO, 2023). The failure to consolidate the herbal medicine value chain leaves Indonesia as a producer of raw materials rather than a controller of value.

The potential for product innovation, including the use of additives such as goat milk, has significant implications for the diversification of the national industry. However, the low level of adoption indicates that innovation without supply certainty and quality assurance actually increases market risk. In the context of the national economy, this underscores that innovations in the food and health sectors must be supported by systemic policies, rather than being left entirely to market mechanisms (Sweeney et al., 2022). The state plays a crucial role in reducing innovation risks so that the private sector dares to invest.

Overall, this discussion emphasizes that the jamu and herbal industry has strategic potential as a pillar of the national economy based on health and local wisdom, but it is currently hindered by structural failures. Without productivity transformation, value chain integration, and state policy support, jamu will remain in a marginal position: culturally significant but economically small. Recent development literature highlights that a sovereign national economy can only be built through sectors capable of converting local identity into high-value industrial strength (Rodrik, 2020; UNIDO, 2023).

The Role of the Jamu Industry in the National Economy

The jamu and herbal industry occupies a unique position in the national economic structure because it relies on domestic resources, traditional knowledge, and local labor. This character fundamentally differentiates jamu from the chemical pharmaceutical industry, which is based on laboratory synthesis, imported active ingredients, and large capital. This difference in production structure is important because, in structural development theory, sectors based on local resources have a broader potential multiplier effect on the national economy compared to sectors dependent on imports (Rodrik, 2020). In other words, when jamu grows, it is not only the processing industry that benefits, but also herbal agriculture, local distribution, and the rural economy.

However, this potential is hampered by the unification of regulatory regimes between herbal medicine and chemical drugs. When herbal medicine is forced to meet licensing standards and facility requirements designed for synthetic pharmaceuticals, compliance costs rise sharply without increasing productivity. This situation creates a regulatory burden that suppresses the expansion of small and medium enterprises, even though they are the backbone of the herbal medicine industry. Regulatory economics literature emphasizes that regulatory burdens that are disproportionate to a product's risk characteristics will reduce sectoral investment and slow national output growth (OECD, 2021). As a result, the herbal medicine industry remains trapped in small-scale operations, and its contribution to GDP remains limited.

This small-scale entrapment then has a direct impact on the national labor structure. The herbal medicine industry actually has high labor elasticity because it is based on manual production and local value chains. However, when business growth is stalled, the job creation that occurs is subsistence in nature, not productive. This is where the theory of inclusive growth is relevant, which emphasizes that economic growth only affects national welfare if accompanied by increases in labor productivity (ILO, 2023). Without regulatory separation that allows business expansion, herbal medicine fails to become a source of national income growth.

The next impact is seen on the fiscal side. The small scale of businesses results in a narrow tax base for the herbal medicine sector. The country ultimately faces a paradox: there are many business actors, but their fiscal contribution is small. Productive taxation literature explains that sustainable state revenue does not come from administrative tightening, but from the growth of the productive sector itself (OECD, 2021). This means that regulatory separation that encourages an increase in scale and added value will naturally expand the national tax base.

Furthermore, this regulatory issue also affects the trade balance. The chemical drug industry is heavily dependent on imported raw materials, while traditional herbal medicine (jamu) has high potential based on local ingredients. If developed with its own regulatory framework that encourages standardization and downstream development, jamu can transform into a health export commodity rooted in national identity. The theory of export diversification shows that developing countries that expand exports of value-added products based on local resources tend to be more resilient in facing global shocks (Rodrik, 2020). Thus, regulatory separation is not only a domestic issue but also a strategy to strengthen Indonesia's position in international trade.

Another often overlooked impact is the effect on national health spending. Herbal medicine plays a dominant role in disease prevention and health maintenance, rather than curative interventions like chemical drugs. WHO (2019) emphasizes that integrating standardized traditional medicine into the health system can reduce long-term healthcare costs. From a macroeconomic perspective, efficient health spending means greater fiscal space for other productive investments, ranging from infrastructure to education.

This series of impacts shows that regulatory separation is not merely an administrative adjustment, but a prerequisite for a mission-oriented industrial

policy. The country needs to view the herbal medicine industry as a strategic sector based on preventive health, biological resilience, and the strengthening of the local economy. Mazzucato (2021) emphasizes that the countries that successfully build strategic sectors are those that dare to differentiate policy treatment based on national missions, rather than treating all sectors uniformly under a single regulatory framework.

Thus, the integration between industrial, health, agricultural, and trade policies can only occur if jamu is treated as a separate economic entity, distinct from chemical medicines. This separation paves the way for increased productivity, expanded employment opportunities, a strengthened tax base, reduced imports, increased exports, and greater efficiency in healthcare spending. Recent development literature emphasizes that a strong national economy is built from local sectors that are given room to grow according to their characteristics, rather than being forced to conform to industrial standards of a different structure (Rodrik, 2020; UNIDO, 2023).

The Jamu Industry as National Health Sovereignty

The jamu and herbal industry is an important foundation in building national health sovereignty because it relies on domestic capacities: biodiversity, traditional knowledge, and local production systems. Health sovereignty refers to a nation's ability to guarantee the health needs of its citizens through its own resources in a sustainable manner. Within the framework of health sovereignty, the resilience of the health system is determined not only by modern medical facilities but also by the existence of community-based health systems that are adaptive, affordable, and rooted in local culture (WHO, 2019). Jamu fulfills all three of these elements.

The strategic role of herbal medicine becomes increasingly clear when linked to promotive and preventive health approaches. The global burden of chronic diseases is rising due to modern lifestyle patterns, and a purely curative approach has proven to be expensive and unsustainable. Public health literature emphasizes that investing in lifestyle-based prevention and the consumption of traditional herbal medicine can reduce long-term healthcare costs while also improving the population's quality of life (WHO, 2019). Thus, herbal medicine is not merely an economic product, but a public health instrument.

Health sovereignty through jamu also has a strong economic dimension. The production of jamu drives activities in medicinal plant agriculture, product processing, local distribution, as well as small and medium enterprises in various regions. From the perspective of domestic value chain development, sectors based on local resources create wide multiplier effects because the added value circulates within the country (UNIDO, 2023). This means that every growth in the jamu industry contributes directly to strengthening regional and national economies.

Moreover, jamu is rooted in local knowledge systems that have been tested across generations. Within the framework of the bioeconomy, the development of products based on biodiversity and traditional knowledge represents a form of economic transformation based on sovereign local science (UNIDO, 2023). With strengthened research, quality standardization, and formulation

innovation, jamu can develop into a modern health industry without losing its cultural identity.

Health sovereignty also requires social legitimacy, and this is where jamu has an inherent advantage. The level of public acceptance of jamu is high because it has become part of everyday life practices. Health behavior theory shows that health interventions aligned with local culture are more effective in shaping long-term healthy behaviors (WHO, 2019). In other words, jamu strengthens the demand side of the health system, not just the supply side.

From the perspective of national development, the jamu industry contributes to both economic resilience and health resilience. When global supply chains are disrupted, a health system based on local resources becomes an important buffer. Economic resilience literature emphasizes that diversifying domestically-based health sectors enhances a country's ability to face global crises (Rodrik, 2020). Jamu, in this context, is an instrument of national resilience.

Strengthening the jamu industry also opens up space for inclusive, locally-based health innovations. Since most players are in the small and medium enterprise sector, the growth of this industry means both the equitable distribution of economic benefits and the equitable access to health. The theory of inclusive development emphasizes that sustainable development must integrate economic, social, and health aspects within a single policy ecosystem (Mazzucato, 2021). The jamu industry is naturally at the intersection of all three.

Ultimately, positioning traditional herbal medicine (jamu) as a pillar of national health sovereignty means recognizing that a healthcare system is built not only through high technology but also through strengthening local capacities deeply rooted in the community. With the right policy support, research, and standardization, jamu can develop into a complementary healthcare system that is modern, safe, and economically productive. Recent development literature emphasizes that national sovereignty in the 21st century is determined by a country's ability to manage its biological resources, local knowledge, and healthcare systems in an integrated manner (Mazzucato, 2021; UNIDO, 2023).

CONCLUSIONS

Based on the results of empirical analysis, it can be concluded that the jamu and herbal industry in Indonesia demonstrates a relatively stable but low capacity to absorb labor in terms of quality and economic leverage. The majority of business actors employ only 1–5 people, with a labor absorption trend that tends to be stagnant. There is no indication of significant expansion capable of driving the creation of medium-scale jobs or increasing labor productivity. This condition confirms that the jamu industry currently functions as a subsistence sector based on small businesses, rather than as a driver of productive employment within the national economic structure.

From the perspective of worker welfare, the findings indicate that wage levels are low, with a trend that is mostly stagnant or even declining. Only a small portion of business actors are able to raise employee wages, while the majority are trapped in low productivity conditions that prevent business growth from translating into increased worker income. This phenomenon indicates the

occurrence of a productivity wage trap, where industries survive but fail to create added value that impacts worker welfare.

The fiscal contribution of the herbal medicine industry is also proven to be very limited. The amount of tax paid by the majority of entrepreneurs is at a very low level, with a trend of tax payments that tends not to increase. Although the number of entrepreneurs is large, the tax base of this sector is shallow due to small business scale, low income, and limited added value. These findings reinforce the argument that formalization without increases in productivity and business scale will not result in significant fiscal contributions to the state.

From the market perspective, the herbal medicine industry has a broad and loyal customer base, especially for traditional local herbal medicines. However, the trend in the number of customers shows a relatively stable pattern, not expanding. Demand is stable but not growing, indicating a mature market trapped in innovation stagnation. Strong consumer preferences for traditional forms and values have not been successfully converted into higher economic value growth due to weak product differentiation, quality standardization, and cross-segment market penetration strategies.

Overall, the discussion results confirm that the main issue of the herbal medicine industry does not lie in low consumer interest or the lack of a market, but rather in the failure of structural transformation. The herbal medicine industry is large in terms of culture and the number of actors, but small in terms of economy, productivity, and fiscal contribution. Without increasing business scale, integrating the value chain, research-based innovation, and mission-oriented industrial policies, the herbal medicine industry will continue to exist as a symbol of local wisdom without being able to assert itself as a national economic force and a pillar of Indonesia's health sovereignty.(*)

FURTHER STUDY

This study still has limitations, so further research on The Strategic Role of the Jamu Industry in the National Economy is needed to refine this study and enhance the insights of readers and the authors.

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