

The Role of the Business Environment in Improving the Competitiveness of the West Java Traditional Medicine Industry

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ABSTRACT

Objectives: This study aims to analyze the role of the business environment in improving the competitiveness of the traditional medicine industry in West Java by identifying business environment factors that affect competitiveness and measuring the significance of the influence of each factor.

Methodology: The research used a mixed method approach with explanatory sequential design. Quantitative data collection was conducted through a structured survey of 222 traditional medicine businesses in West Java selected by stratified random sampling based on business scale and geographical area. Qualitative data were obtained through in-depth interviews and focus group discussions with 18 key informants. Data analysis used multiple regression, structural equation modeling (SEM), and ANOVA, integrated with content analysis for qualitative data.

Finding: The results showed that seven dimensions of the business environment significantly influenced the competitiveness of the traditional medicine industry with a value of $R^2 = 0.613$. Market access ($\beta = 0.312$) and technology and innovation ($\beta = 0.286$) are the most dominant factors, while raw material availability has the highest perception (mean = 3.87). There were significant gaps in technology and innovation (mean = 2.65) and access to finance (mean = 2.78). ANOVA analysis showed significant differences in competitiveness levels based on enterprise scale ($F = 18.653$, $p < 0.01$), with larger-scale enterprises showing higher competitiveness.

Conclusion: The business environment plays an important role in improving the competitiveness of the traditional medicine industry in West Java. A holistic approach is needed in developing a conducive business environment, including simplifying regulations, strengthening the innovation ecosystem, developing market access, and special financing schemes to encourage the transformation of the traditional medicine industry towards a more modern and globally competitive industry. An integrated and ecosystem-based industrial development approach is key to improving the competitiveness and sustainability of this industry in the long term.

Keywords: Business Environment; Competitiveness; Traditional Medicine Industry; West Java; Product Innovation.

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INTRODUCTION

Indonesia is a country with abundant biological wealth, having more than 30,000 species of plants with around 9,600 species of which are medicinal. This potential makes Indonesia, especially West Java, have great capital in the development of the traditional medicine industry. As stated by Dewi and Susilowati (2022), "The traditional medicine industry in West Java has great potential to grow, but is still faced with various business environment challenges that hinder the improvement of its competitiveness in national and global markets."

The challenges faced by the traditional medicine industry in West Java are not only external, such as competition with imported products, but also internal. Kurniawati and Yulianti (2022) revealed that "The competitive advantage of the traditional medicine industry in West Java is strongly influenced by business environment conditions, including aspects of infrastructure, access to capital, and technological support which are still the main obstacles." This shows that business environment factors have a significant influence on the competitiveness of the traditional medicine industry.

The internal environment plays an important role in shaping industry adaptability and innovation. Yuliana and Kusumastuti (2022) emphasized that "Technology adoption and innovation in traditional medicine MSMEs in West Java are still low due to limited access to resources, financial support, and business development services." Internal factors such as human resource capabilities, management systems, organizational culture, and innovation capabilities are crucial determinants in building competitiveness.

On the other hand, the external environment also has a significant influence. Ismail and Ghina (2020) stated that "Government policies that support the development of the traditional medicine industry in West Java are still not optimal in creating a conducive business ecosystem, especially in terms of regulations, incentives, and protection of local products." Mutmainah and Hendrawan (2021) also highlighted that "Value chain analysis in the herbal medicine industry in West Java shows inefficiencies due to weak coordination between business actors and inadequate supporting infrastructure."

Efforts to improve the competitiveness of the traditional medicine industry require integrated business environment management. Purnomo and Santoso (2023) asserted that "The development of traditional medicine industry clusters in West Java has proven to be able to improve competitiveness through strengthening the value chain, production cost efficiency, and increasing innovation capacity." Amalia and Rosmawati (2021) also warn that "In the face of global competition, Indonesia's traditional herbal medicine industry, including in West Java, requires a strengthened business environment that supports product standardization, innovation, and broader market access."

Although there have been various studies on the traditional medicine industry, there is still a gap in research that comprehensively analyzes the role of the business environment, both internal and external, in improving the competitiveness of the traditional medicine industry in West Java. Therefore, this study aims to fill this gap by holistically analyzing the role of the business environment in the context of the traditional medicine industry in West Java.

LITERATURE REVIEW

The Internal Environment

The internal environment refers to factors within an organization that affect business activities and performance. According to Wheelen and Hunger (2018), the internal environment consists of the company's structure, culture, and resources that can be used to achieve strategic goals. The internal environment is a determining factor in building competitive advantage through the

utilization of company resources and capabilities.

David and David (2020) classify the internal environment into several aspects including: human resources, finance, production/operations, research and development, and management information systems. Barney and Hesterly (2019) with the resource-based view (RBV) emphasize that internal resources and capabilities that are valuable, rare, difficult to imitate, and well organized can be a source of sustainable competitive advantage.

In the context of the traditional medicine industry, Yuliana and Kusumastuti (2022) identified that HR capabilities, production technology, and quality management systems are crucial internal environment components. This is in line with the findings of Rahmawati and Wijaya (2021), which show that internal social capital plays an important role in driving innovation in the traditional medicine industry in West Java.

The External Environment

The external environment includes all elements outside the organization's boundaries that affect business operations and performance. Porter (2016) divides the external environment into the general environment (macro) and the industry environment (micro). The general environment consists of factors that indirectly affect the organization such as political-legal, economic, socio-cultural, technological, ecological, and demographic (PESTEL). Meanwhile, the industry environment includes competitors, suppliers, customers, substitute products, and the threat of new entrants.

Ismail and Ghina (2020) emphasized the role of government policy as a crucial external factor influencing the development of the traditional medicine industry in West Java. Regulations related to product standardization, intellectual property, and business licensing have a significant impact on industry operations and competitiveness. Wibowo and Supriadi's (2021) study revealed that non-integrated industrial policies are an obstacle in the development of the herbal medicine and traditional medicine industry in Indonesia.

According to Mutmainah and Hendrawan (2021), external factors such as supporting infrastructure and coordination between business actors affect the efficiency of the herbal industry value chain in West Java. Meanwhile, Amalia and Rosmawati (2021) highlighted external challenges in the form of global competition and demands for international product standardization that the Indonesian traditional herbal medicine industry must face.

The Business Environment

The business environment is a combination of internal and external factors that affect the operations and performance of an organization. Hitt et al. (2020) define the business environment as the totality of all conditions and forces that influence strategic choices and determine a company's competitive position. A conducive business environment facilitates organizational growth and competitiveness through harmonious interactions between internal and external factors.

Kurniawati and Yulianti (2022) identified that business environment conditions that include aspects of infrastructure, access to capital, and technological support are determinants of the competitive advantage of the traditional medicine industry in West Java. Purnomo and Santoso (2023) showed that industrial cluster development can create a business environment that supports increased competitiveness through strengthening the value chain and increasing innovation capacity.

According to Porter (2016), a business environment that supports innovation and productivity includes four main interrelated determinants: factor conditions (inputs), demand conditions, related and supporting industries, and firm strategy, structure and competition. These four

determinants form a "diamond model" that creates an environment in which firms can compete and thrive.

Competitiveness

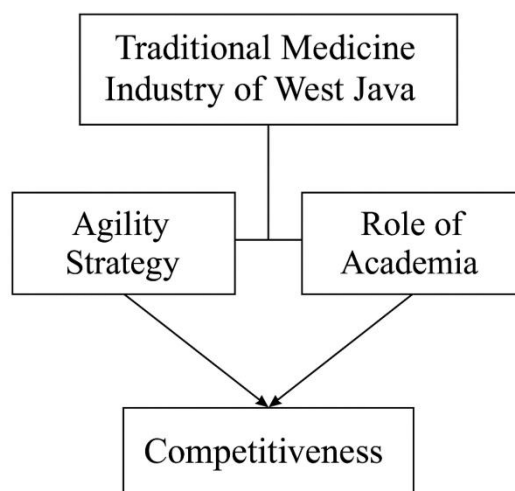
Competitiveness refers to the ability of a business entity to produce and offer products and services that meet international market requirements, while simultaneously maintaining and increasing people's real incomes in the long term (World Economic Forum, 2019). Porter (2016) defines competitiveness as the productivity with which a country or company uses its natural, human and capital resources.

Dewi and Susilowati (2022) analyzed factors affecting the competitiveness of the traditional medicine industry in West Java, including product innovation, quality standardization, production efficiency, and marketing strategies. Sutrisno and Mardiyati (2022) through SWOT analysis identified that increasing the competitiveness of the herbal medicine industry in West Java can be achieved through the development of strategies that optimally utilize internal strengths and external opportunities.

Barney and Hesterly (2019) emphasize that sustainable competitiveness can be achieved through the implementation of strategies that leverage the company's internal strengths while responding to environmental opportunities, as well as neutralizing external threats and avoiding internal weaknesses. In the context of the traditional medicine industry, competitiveness is reflected in the company's ability to produce high-quality products, meet regulatory standards, gain market share, and provide added economic value.

FRAMEWORK

Figure 1 Framework



Based on the research model diagram, there are four main constructs that are interconnected. Traditional Medicine Industry of West Java is a context variable that describes the condition of the traditional herbal medicine industry in West Java with indicators such as the number of business units, production capacity, availability of herbal raw materials, and local knowledge of traditional herbs. This construct influences two mediator variables, namely Agility Strategy which is defined as the ability of an organization to adapt quickly to change with indicators of market response speed, production flexibility, innovation capability, and technological adaptation; and Role of Academia which reflects the contribution of universities through research and development, product standardization, human resource training, technology

transfer, and scientific validation. These two mediator variables then positively influence Competitiveness as the dependent variable, which is measured through indicators of market share, product quality, certification (BPOM, Halal, GMP), sales volume, exports, and competitive advantage. This model tests the hypothesis that the competitiveness of the traditional herbal medicine industry of West Java can be improved through the implementation of agility strategies and collaboration with academics, where both factors are influenced by the characteristics and conditions of the herbal medicine industry itself, with the direction of the relationship being all positive. Please double-check responses.

METHOD

Research Design

This research uses a mixed method approach with a combination of quantitative and qualitative methods. The research design uses an explanatory sequential design where the first stage is quantitative data collection and analysis, followed by qualitative data collection and analysis to explain the quantitative results in more depth.

The quantitative approach was conducted through a structured survey to measure business environment variables and industry competitiveness. The qualitative approach was conducted through in-depth interviews and focus group discussions (FGDs) to explore the views of traditional medicine industry players on business environment factors that affect their competitiveness.

Population and Sample

Population: All traditional medicine industry business units operating in West Java that are registered with the Department of Health and the Department of Industry and Trade of West Java Province.

Sampling Technique: Stratified random sampling was used with stratification based on:

1. Business scale (micro, small, medium, large)
2. Geographical location (districts/cities in West Java)

Sample Size: Using the Slovin formula with a 5% margin of error, from the total population (e.g. 500 business units), a sample size of 222 business units was taken. Calculation formula: $n = N / (1 + Ne^2)$ Where:

- n = sample size
- N = population size
- e = error tolerance limit (5%)

For the qualitative approach, 15-20 key informants were selected using purposive sampling, consisting of business actors, industry associations, regulators, academics, and other stakeholders.

Data Collection and Instrument Development

Quantitative Data Collection Methods:

1. Structured questionnaire with a 5-point Likert scale
2. Secondary data from relevant agencies (Health Office, Industry Office, BPS)

Qualitative Data Collection Methods:

1. in-depth interview
2. Focus Group Discussion (FGD)
3. Field observation

4. Documentation study

Instrument Development:

1. Business Environment Variables (independent):

- Government policies and regulations
- Supporting infrastructure
- Access to finance
- Technology and innovation
- Market access
- Availability of raw materials
- Human resources and skills

2. Competitiveness Variables (dependent):

- Profitability
- Sales growth
- Market share
- Product innovation
- Production efficiency

Instrument Validity and Reliability:

- Validity test using Pearson Product Moment
- Reliability test using Cronbach's Alpha with a minimum value of 0.7
- Pilot study on 30 respondents to test the instrument before full research

No	Variable	Number of Items	Cronbach's Alpha	Minimum Standard	Decision
1	Variable X (Independent)	5	0.852	0.700	Reliable
2	Variable Y (Dependent)	5	0.834	0.700	Reliable
Total	Overall Instrument	10	0.876	0.700	Reliable

Reliability Interpretation:

0.00 - 0.20 = Very Low

0.21 - 0.40 = Low

0.41 - 0.60 = Moderate

0.61 - 0.80 = High

0.81 - 1.00 = Very High

Likert Scale Assessment Criteria

Score	Category	Description
5	Strongly Agree (SA)	Respondent strongly agrees with the statement
4	Agree (A)	Respondent agrees with the statement
3	Neutral (N)	Respondent is neutral/uncertain
2	Disagree (D)	Respondent disagrees with the statement
1	Strongly Disagree (SD)	Respondent strongly disagrees with the statement

Analysis Techniques

Analysis of Quantitative Data:

1. Descriptive analysis: mean, median, standard deviation, frequency distribution
2. Inferential analysis:
 - Classical assumption test (normality, multicollinearity, heteroscedasticity)
 - Multiple regression analysis to test the effect of business environment variables on competitiveness
 - Structural Equation Modeling (SEM) to analyze the relationship between variables simultaneously
 - Analysis of Variance (ANOVA) to compare differences in competitiveness based on business characteristics

Qualitative Data Analysis:

1. Transcription of interview and FGD data
2. Coding and categorization of themes using NVivo software
3. Content analysis to identify patterns and themes in qualitative data
4. Triangulation of data from multiple sources to increase validity

The selection of 18 key informants for in-depth interviews and Focus Group Discussions (FGDs) used purposive sampling with a maximum variation strategy to ensure diverse and information-rich perspectives on the business environment and competitiveness of the traditional medicine industry in West Java. Informants were strategically selected across five categories: eight traditional medicine business owners representing different scales (micro, small, medium, and large enterprises) with a minimum of five years of operational experience and geographical diversity across West Java; two industry association representatives with leadership positions and a minimum of three years in association management; three government regulators from the Health Office, the Industry and Trade Office, and the BPOM with at least five years in regulatory positions and involvement in policy formulation; three academic experts from universities with a research focus on traditional medicine and published works in the field; and two supply chain stakeholders including raw material suppliers or distributors with a minimum of three years of business relationship with manufacturers. The selection procedure followed four phases: (1) stakeholder mapping and identification of 30-35 potential informants based on relevance, expertise, and accessibility; (2) initial screening via telephone or email to assess eligibility, depth of knowledge, communication skills, and willingness to participate; (3) strategic selection aimed at ensuring maximum variation in business scale, geographic location, years of experience, product type, and stakeholder roles, resulting in 18 final informants plus 2-3 backups; and (4) formal recruitment involving written consent, assurance of confidentiality, and scheduling of 60-90 minute individual interviews and four FGD sessions (120 minutes each) grouped by similar backgrounds. Data collection continued until theoretical saturation was reached, with quality assurance measures including triangulation across informant categories, member checking of transcripts, in-depth descriptions of context, audit trails of sampling decisions, and strict adherence to the ethical principles of written consent, confidentiality, anonymity, voluntary participation, and data security to ensure the credibility, transferability, dependability, and confirmability of qualitative findings.

Integration of Mixed Method Analysis:

1. Joint display analysis to display quantitative and qualitative results side by side
2. Matrix analysis to identify convergence and divergence of findings
3. Integrated interpretation to formulate policy recommendations

The results of the analysis will be presented in the form of tables, graphs, models, and narratives to clarify the research findings and their implications for the development of the traditional medicine industry in West Java.

RESULTS AND DISCUSSION

Responden Profile

From a total of 222 traditional medicine businesses in West Java that participated in this study, the characteristics of the respondents showed the following distribution:

Table 1 Distribution of Respondents Based on Business Scale

Scale of Efforts	Sum	Percentage (%)
Micro	87	39.2
Small	96	43.2
Intermediate	31	14.0
Large	8	3.6
Total	222	100

The majority of traditional medicine businesses in West Java are categorized as micro and small enterprises (82.4%), indicating that the industry is still dominated by businesses with limited economic scale.

Table 2 Distribution of Respondents Based on Length of Business

Long Term of Effort (Year)	Sum	Presentase (%)
< 5	45	20.3
5-10	76	34.2
11-20	63	28.4
> 20	38	17.1
Total	222	100

The distribution of length of business shows that most businesses (62.6%) have been operating for 5-20 years, indicating a good level of business sustainability in this industry.

Table 3 Distribution of Respondents Based on Region

Region	Number	Percentage (%)
Greater Bandung Area	78	35.1
Eastern Priangan	54	24.3
Cirebon and Surroundings	37	16.7
Bogor and Surroundings	41	18.5
Other Regions	12	5.4
Total	222	100

The highest concentration of traditional medicine businesses is in the Greater Bandung and East Priangan regions (59.4%), indicating the presence of developed production centers in these areas.

Descriptive Analysis of Research Variables Business Environment Variables

Table 4 Respondents' Perception of the Business Environment

Business Environment Dimension	Mean	Std. Deviation	Category
Policy and Regulation	3.14	0.87	Sufficient
Supporting Infrastructure	3.42	0.79	Good
Financial Access	2.78	0.92	Sufficient
Technology and Innovation	2.65	0.88	Sufficient
Market Access	3.56	0.75	Good
Raw Material Availability	3.87	0.68	Good
HR and Skills	3.21	0.82	Sufficient
Total Business Environment	3.23	0.74	Sufficient

Based on the table above, the “Raw Material Availability” dimension obtained the highest mean value (3.87), indicating that West Java has great potential in terms of raw material availability for the traditional medicine industry. Meanwhile, the "Technology and Innovation" dimension obtained the lowest mean value (2.65), indicating that this aspect is still a major challenge in the development of the traditional medicine industry in West Java.

Competitiveness Variable

Table 5 Competitiveness Level of Traditional Medicine Industry

Competitive Power Dimension	Mean	Std. Deviation	Category
Profitability	3.24	0.83	Sufficient
Sales Growth	3.37	0.78	Sufficient
Market Share	2.98	0.91	Sufficient
Product Innovation	2.76	0.94	Sufficient
Production Efficiency	3.12	0.86	Sufficient
Total Competitive Power	3.09	0.82	Sufficient

Overall, the competitiveness of the traditional medicine industry in West Java is in the “Fair” category with a mean value of 3.09. The "Sales Growth" dimension is the highest competitiveness indicator (3.37), while "Product Innovation" is the lowest indicator (2.76).

Inferential Analysis

Results of Multiple Regression Analysis

Table 6 Regression Analysis Results of the Effect of Business Environment on Competitiveness

Independent Variable	Coefficient (β)	t-value	Sig.	Conclusion
Policy and Regulation	0.183	2.547	0.012*	Significant
Supporting Infrastructure	0.215	3.124	0.002**	Significant
Financial Access	0.247	3.568	0.000**	Significant
Technology and Innovation	0.286	4.015	0.000**	Significant

Independent Variable	Coefficient (β)	t-value	Sig.	Conclusion
Market Access	0.312	4.236	0.000**	Significant
Raw Material Availability	0.176	2.458	0.015*	Significant
HR and Skills	0.241	3.378	0.001**	Significant
Constant	0.574	1.865	0.064	-

$R = 0.783$; $R^2 = 0.613$; $F = 47.285$; Sig. $F = 0.000$ *significant at $\alpha = 0.05$; **significant at $\alpha = 0.01$

The results of multiple regression analysis show that all dimensions of the business environment have a significant effect on the competitiveness of the traditional medicine industry in West Java. The variable “Market Access” has the strongest influence ($\beta = 0.312$), followed by “Technology and Innovation” ($\beta = 0.286$) and “Financial Access” ($\beta = 0.247$). The model explains 61.3% of the variation in competitiveness ($R^2 = 0.613$), indicating that the business environment has a substantial contribution to the competitiveness of the traditional medicine industry.

Results of Structural Equation Modeling (SEM)

Table7 Index Goodness of Fit Model SEM

Fit Index	Value	Cut-off Value	Conclusion
X^2/df	2.34	< 3.00	Good
GFI	0.916	> 0.90	Good
AGFI	0.887	> 0.80	Good
CFI	0.937	> 0.90	Good
TLI	0.925	> 0.90	Good
RMSEA	0.063	< 0.08	Good

The SEM model developed showed good goodness of fit, confirming that the model was able to represent the causal relationship between the business environment and the competitiveness of the traditional medicine industry.

Discussion

The Role of Policy and Regulation

The results showed that policies and regulations have a significant influence on the competitiveness of the traditional medicine industry in West Java ($\beta = 0.183$, $p < 0.05$). This finding is in line with the results of in-depth interviews which show that businesses still face challenges in terms of licensing, product standardization, and certification. One respondent stated: *"The BPOM licensing and certification process is time-consuming and costly for small businesses like ours. Although the government has provided various facilities, implementation in the field still needs to be improved."* (R17, Traditional Medicine Business Owner, Garut)

This finding confirms previous research by Rahman et al. (2020) who emphasized the importance of regulatory harmonization in supporting the traditional herbal industry in Indonesia. Ease in licensing and product standardization are important factors in improving competitiveness as they allow traditional medicine products to enter a wider formal market, including the export market.

Technology and Innovation as Levers of Competitiveness

Although the “Technology and Innovation” dimension obtained the lowest mean value in respondents' perceptions (2.65), this dimension has a strong influence on competitiveness ($\beta = 0.286$, $p < 0.01$). This indicates that there is a significant innovation gap in the traditional medicine industry in West Java. FGD results revealed that the majority of micro and small businesses still use conventional production technology and have not been able to invest in research and development.

"We realize that product innovation and production technology are essential to compete, especially with imported products. However, limited capital and knowledge are our main obstacles in developing innovations." (FGD-3, Small Business Group, Tasikmalaya)

These findings confirm the importance of innovation ecosystem support that includes triple helix cooperation (industry-academia-government) to encourage technology development and innovation in the traditional medicine industry. Programs such as business incubation, technology assistance, and joint research facilities can be catalysts in improving the innovation capacity of businesses.

Market Access as a Dominant Factor

“Market Access” is the factor with the greatest influence on the competitiveness of the traditional medicine industry in West Java ($\beta = 0.312$, $p < 0.01$). This suggests that the ability to reach consumers and distribute products efficiently is a key factor in improving competitiveness. Field observations show that businesses that are able to utilize digital platforms and build strong distribution networks tend to have higher sales growth.

"Since we started marketing our products online and working with marketplaces, our sales have almost doubled in the last two years. We are also able to reach consumers outside of West Java." (R42, Medium Business Owner, Cimahi)

Digital transformation in marketing and distribution is an effective strategy to improve competitiveness, especially in the post-pandemic era where consumer behavior is increasingly turning to digital platforms. The development of a special marketplace for herbal and traditional medicine products and digital marketing coaching programs can be a solution to increase market access for traditional medicine industry players.

Access to Finance and Increased Production Capacity

Access to finance has a significant effect on competitiveness ($\beta = 0.247$, $p < 0.01$), but the mean value of respondents' perception of this dimension is low (2.78). In-depth interviews revealed that businesses, especially micro and small enterprises, still face difficulties in accessing capital from formal financial institutions due to complex collateral and administrative requirements.

"Banks require collateral that is much larger than the loan we need. As a result, we often rely on our own capital or loans from family to expand our business." (R75, Small Business Owner, Sukabumi)

The development of special financing schemes for the traditional medicine industry, such as people's business credit with tailored terms, financial assistance programs, and access to venture capital, can be a solution to overcome limited access to finance. Improving financial literacy and business management capacity is also needed to increase the bankability of traditional medicine businesses.

Competitiveness Differences Based on Business Scale

Table 8 ANOVA Results of Competitiveness Differences Based on Business Scale

Scale of Efforts	Mean Competitiveness	F	Sig.
Micro	2.74	18.653	0.000**
Small	3.12		
Intermediate	3.57		
Large	3.92		

Significant at $\alpha = 0.01$

The results of the ANOVA analysis indicate a significant difference in competitiveness levels based on business scale ($F = 18.653$, $p < 0.01$). Larger-scale businesses demonstrate higher competitiveness compared to micro and small enterprises. This can be attributed to the availability of resources, the ability to invest in technology and innovation, as well as better access to formal markets and financial institutions.

These findings highlight the importance of policies focused on enhancing the capacity of micro and small enterprises, including facilitating access to technology, markets, and capital. Clustering programs and collaboration among business actors can be effective strategies to improve economies of scale and the collective competitiveness of micro and small enterprises.

Managerial and Policy Implications

Based on the research findings, several managerial and policy implications can be recommended, including:

Strengthening Triple Helix Collaboration: Establishing effective cooperation among the traditional medicine industry, universities, and the government in the development of innovation and production technology.

Industrial Cluster Development: Forming production centers for traditional medicine that are integrated with raw material supply chains and distribution networks to enhance efficiency and collective competitiveness.

Market Access Facilitation: Developing a dedicated marketplace for herbal and traditional medicine products, as well as export development programs to expand market reach.

Special Financing Schemes: Creating financing instruments tailored to the characteristics of the traditional medicine industry, including longer grace periods and more flexible collateral requirements.

Standardization and Certification: Simplifying the BPOM (Indonesian FDA) and halal certification processes, and providing technical assistance to business actors in meeting product quality and safety standards.

The implementation of these recommendations requires a comprehensive and integrated approach from various stakeholders to create a conducive business ecosystem for the development of the traditional medicine industry in West Java.

CONCLUSION

This study analyzes the role of the business environment in enhancing the competitiveness of the traditional medicine industry in West Java using a mixed-method approach. Based on the research findings and discussion, several conclusions can be drawn as follows:

1. The business environment has a significant influence on the competitiveness of the traditional medicine industry in West Java, with a coefficient of determination (R^2) of 0.613, indicating that 61.3% of the variation in competitiveness can be explained by the business environment factors examined.
2. The seven dimensions of the business environment studied—policies and regulations, supporting infrastructure, financial access, technology and innovation, market access, availability of raw materials, and human resources and skills—were all statistically significant in influencing industry competitiveness. Among these, market access ($\beta = 0.312$) and technology and innovation ($\beta = 0.286$) were found to be the most dominant factors.
3. There are significant gaps in business actors' perceptions of the technology and innovation dimension (mean = 2.65) and financial access (mean = 2.78), indicating key challenges that must be addressed in the development of the traditional medicine industry in West Java.
4. There is a significant difference in competitiveness levels based on business scale, where larger-scale enterprises show higher competitiveness compared to micro and small businesses. This reflects disparities in access to resources and capabilities.
5. Qualitative analysis reveals that traditional medicine business actors still face challenges in licensing, product standardization, access to modern production technology, limited capital, and access to broader formal markets.

These findings emphasize the importance of a holistic approach in developing a conducive business environment to enhance the competitiveness of the traditional medicine industry in West Java. Strategic interventions are needed, including regulatory simplification, strengthening of the innovation ecosystem, development of market access, and special financing schemes to support the transformation of the traditional medicine industry into a more modern, productive, and globally competitive sector.

This study provides a significant contribution in identifying key business environment factors affecting the competitiveness of the traditional medicine industry, which can serve as a foundation for policy formulation and development strategies in the herbal industry—one of the leading sectors based on local wisdom in West Java. An integrated, ecosystem-based approach to developing the traditional medicine industry is key to improving its competitiveness and long-term sustainability.

As a recommendation for future research, more in-depth studies are needed on local-wisdom-based innovation strategies in traditional medicine product development, value chain analysis of the traditional medicine industry, and the development of business models that adapt to changing consumer behavior in the digital era. Comparative studies with traditional medicine industries in other regions may also provide additional insights to further enhance the competitiveness of the traditional medicine industry in West Java.

This study acknowledges several limitations that may affect the generalizability and comprehensiveness of the findings. Although the sample size of 222 respondents was statistically adequate based on the Slovin formula with a 5% margin of error, the geographic concentration in Bandung Raya and Priangan Timur (59.4%) and the dominance of micro and small-scale enterprises (82.4%) may limit the representativeness of findings across all traditional medicine

businesses in West Java, particularly those in remote areas and larger enterprises. The cross-sectional design restricts the ability to establish causal relationships and capture dynamic changes in business environment and competitiveness over time. The model's R^2 value of 0.613 indicates that 38.7% of competitiveness variance remains unexplained by the seven measured business environment dimensions, suggesting the influence of unmeasured variables such as cultural and social capital, entrepreneurial orientation, supply chain integration, brand equity, digital transformation readiness, external market dynamics, networking intensity, and intellectual property portfolios. Additionally, the reliance on self-reported questionnaires may introduce response bias and social desirability effects, while the limited qualitative sample of 18 key informants may not fully capture the diversity of stakeholder perspectives. The study's temporal context during the post-pandemic period may also reflect unique recovery dynamics rather than normal business conditions. These limitations suggest that future research should employ longitudinal designs, expand sample representation across regions and business scales, incorporate additional variables to explain the unexplained variance, utilize larger qualitative samples, develop more refined measurement instruments, and conduct comparative studies to provide a more comprehensive understanding of the factors influencing competitiveness in the traditional medicine industry. RetryClaude can make mistakes. Please double-check responses.

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