West Science Interdisciplinary Studies
Vol. 03, No. 10, October and 2025: pp. 1837-1849

Integrating Economic Changes into Vocational Education Curricula in Land Transportation Schools in Indonesia

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ABSTRACT

This study examines how economic changes affect the adaptation of vocational education curricula in land transportation schools in Indonesia. Using a mixed-methods approach combining quantitative analysis with SEM-PLS and qualitative analysis via NVivo, this research identifies the significant impact of inflation, unemployment, and government policies on curriculum adjustments. Findings show that economic factors directly influence curriculum changes, necessitating continuous updates to align with industry needs and the labor market. Socio-cultural factors—including parental education, lifestyle shifts, and cultural traditions—also shape curriculum relevance and effectiveness. Government policies serve as a critical enabler, facilitating timely responses to economic and labor market fluctuations through funding, regulation, and institutional collaboration. The study confirms that curriculum responsiveness requires a holistic framework integrating economic signals, policy support, industry alignment, and local socio-cultural contexts. Based on these insights, the research offers practical recommendations to enhance curriculum relevance through stronger coordination among government, industry, and educational institutions. These include continuous economic monitoring, modular curriculum design, localized content development, and expanded industry-based training. The findings contribute to both empirical understanding and policy discourse on vocational education reform in dynamic economic environments.

Keywords: *Vocational Education, Economic Changes, Curriculum Development, Government Policies, Socio-Cultural Factors, Land Transportation.*

1. INTRODUCTION

Vocational education plays a vital role in developing a skilled workforce for Indonesia's land transportation sector. However, as economic conditions evolve, vocational education curricula must continuously adapt to industry needs [1]. This research focuses on how economic changes, such as inflation and unemployment, influence curriculum adjustments in land transportation schools [2]. Additionally, the study explores the roles of government policies, regional disparities, and socio-cultural factors in shaping vocational education curricula. Understanding these dynamics is critical to ensuring that vocational education remains aligned with labor market requirements, thus preparing students for the challenges of a rapidly changing economy [3].

The prevailing economic circumstances of a society profoundly influence the development of educational policies, particularly those pertaining to vocational education [4][5]. Factors such as rising inflation, dynamic labor market conditions, and evolving skill demands in the workforce directly shape the design and implementation of curricula within vocational institutions [6]. In this context, it is crucial to evaluate the impact of economic changes on vocational education curricula in Indonesia [7][8]. Moreover, the land transportation sector, as a vital component of critical infrastructure, necessitates a curriculum that aligns with industrial advancements and the specific skill requirements of the industry.

A well-designed vocational education curriculum must be able to accommodate the skill requirements necessary for industrial advancements [9][10]. Vocational education should emphasize practical skills that can be directly applied in the workforce [11]. Consequently, aligning the

curriculum taught in vocational schools with industry needs is a crucial factor in determining the quality of education. Furthermore, implementing a competency-based curriculum focused on practical skills can assist in preparing students to navigate the increasingly complex challenges of the dynamic land transportation sector [12].

Fluctuations in economic circumstances encompass not merely labor market dynamics but also other social determinants, such as parental educational attainment, regional educational patterns, and cultural influences [13]. These social and cultural factors can shape the curricular choices within vocational institutions and the pedagogical approaches employed across different regions [14][15]. For instance, cultural disparities in teaching methodologies and lifestyles may influence how students engage with the provided curriculum [16][17][18]. Consequently, it is crucial to consider these social and cultural influences when designing inclusive and adaptable vocational education curricula [19].

Government policies play a vital role in developing vocational education curricula. Economic and fiscal policies can affect funding and support for vocational education [20][21]. Introducing new curricula relevant to industry needs is crucial. Furthermore, government education subsidies can broaden access to vocational education, especially for those from lower educational backgrounds or underdeveloped areas [22][23]. These factors must be considered when designing curricula to address vocational education challenges in Indonesia.

The primary aim of this research is to examine and analyze the influence of fluctuations in economic conditions on the curriculum of vocational education programs in land transportation schools. Furthermore, this study aims to investigate approaches for adapting vocational education curricula to align with industry advancements and evolving labor market demands [24]. Additionally, the study intends to offer constructive recommendations to enhance vocational education policy and fortify the coordination between the government, vocational institutions, and the industry, with the goal of cultivating a skilled and employable workforce [25].

This research will examine the link between economic changes and vocational education curricula in the land transportation sector. The findings are expected to offer new perspectives for policymakers, educators, and other stakeholders to enhance vocational education quality in Indonesia. The study also aims to encourage the creation of more flexible and responsive curricula that address economic shifts and industry demands, as well as improve curriculum relevance to societal workforce expectations.

2. LITERATURE REVIEW

2.1 Changes in the Economic Conditions of Society

Economic changes, such as inflation, unemployment, and regional economic disparities, play significant roles in shaping vocational education curricula. Previous studies [3][2] indicate that inflation not only increases the cost of educational resources but also limits educational access for low-income families, thus affecting curriculum relevance. Moreover, technological advancements in the land transportation sector necessitate regular updates to curricula to ensure that students acquire the skills required by modern industries [26]. Government policies aimed at fostering alignment between industry and educational institutions have proven essential in maintaining the effectiveness of vocational education [21].

Numerous studies highlight the significant influence of economic conditions on the design of vocational education curricula. Factors such as inflation, unemployment, and technological advancements are recognized as primary drivers of curriculum adaptation. According to [3], the impact of economic fluctuations on the curriculum becomes especially evident in sectors like transportation, where industries demand updated skill sets to meet market requirements. Moreover, studies by [24] emphasize the need for dynamic curricula in the land transportation sector to adapt to emerging technologies and workforce trends. Furthermore, governmental and industry collaboration plays a pivotal role in ensuring that curricula meet the ever-changing demands of the labor market [21].

The education sector in Indonesia, especially vocational education, is significantly impacted by inflation. Rising costs of educational resources, facilities, and student living expenses due to inflation can create a burden for families and educational institutions [27][21]. This leads to a discrepancy between educational budgets and the continuously escalating financial needs [28]. Research indicates that inflation adversely affects the quality and accessibility of education, particularly for underprivileged families [29]. In the context of vocational education, inflation can also impede the development of appropriate curricula and restrict access to essential learning technologies [30][31].

2.2 Shifting Job Markets and Required Skills

The job market in Indonesia has been shifting due to technological advancements and globalization, which impacts the skills taught in vocational programs [32][33]. Research shows that the practical skills required in the workforce often do not match the curricula used in vocational schools [34]. In the land transportation sector, changes in vehicle technology, logistics systems, and safety regulations necessitate curriculum adjustments to ensure graduates have the relevant skills for the industry [35].

2.3 Vocational Education Curriculum Needs

A skills-based curriculum is essential in vocational education, as it directly prepares students for the workforce [36]. Research emphasizes that curricula focused on practical skills are more effective in producing a skilled and employable workforce [37][38]. In the land transportation sector, skills like heavy equipment operation, logistics management, and understanding of transportation technology are in high demand [39]. A skills-based curriculum enables students to develop competencies relevant to rapidly advancing industries [26].

Continually aligning vocational education curricula with emerging industry developments is crucial for ensuring their relevance [40]. As discussed, vocational education curricula must adapt progressively to keep pace with technological innovations and evolving labor market demands. In the land transportation sector, the rise of autonomous vehicles, advancements in transportation management information technology, and the implementation of modern safety systems necessitate that the curriculum encompass the latest requisite skills. This curricular adjustment also necessitates enhanced collaboration between educational institutions and the industry to guarantee the curriculum's alignment with labor market needs [41][42].

2.4 Government Policies in the Education Sector

Government policies are instrumental in driving the introduction of new curricula to address evolving industry changes and labor market demands [43]. Research indicates that government policies supporting the development of curricula aligned with industry needs can enhance the relevance and effectiveness of vocational education [44]. The government can facilitate this curriculum development process by designing policies that bolster teacher training, provide relevant teaching materials, and offer incentives to vocational schools to continuously update their curricula to keep pace with advancements in the land transportation sector [45].

Government fiscal policies, including budget allocation and education subsidies, significantly impact the provision of vocational education. Research indicates that budgetary constraints often impede the development of high-quality vocational education programs [21]. Appropriate fiscal policies can bolster the infrastructure of vocational education, such as enhancing practical facilities, laboratories, and other learning resources that support skills development [46]. Proper fiscal policies can also ensure that vocational education remains accessible to all members of society.

2.5 Vocational Education Curriculum

Aligning vocational education curricula with industry needs is a crucial factor in maintaining educational quality. Studies show that a disconnect between curricular content and industry requirements can lead to graduates being ill-equipped for the job market [47]. In the land transportation sector specifically, it is essential to align the curriculum with advancements in vehicle technology and transportation systems [48][26]. As such, vocational education curricula must be continually updated to ensure they impart the skills demanded by the industry.

Adopting a competency-based approach in vocational education curriculum aims to cultivate the practical skills required by students for the workplace [49]. Suggests that a competency-based curriculum can enhance the effectiveness of vocational education by concentrating on relevant skill sets [50]. Implementing a competency-based curriculum in the land transportation sector will ensure that students acquire the practical skills demanded by the industry, such as vehicle operation and safety management [51].

The relevance of the vocational education curriculum to societal expectations is a crucial metric in evaluating its quality [52][53]. Research indicates that vocational programs aligned with societal demands, particularly in the preparation of a skilled workforce, are more likely to be valued and embraced by the labor market [54][55]. In the land transportation sector, society anticipates that vocational graduates possess skills matching industry requirements, enabling them to secure employment upon completion of their studies readily.

The effectiveness of vocational education curricula in preparing the workforce depends on how well the content aligns with industry needs. Indicates that an effective curriculum must balance theory and practical training. In the land transportation sector, an effective curriculum not only covers basic transportation theory but also provides relevant practical training, such as vehicle maintenance and transportation operations management [56][57][58].

Government education policies play a significant role in shaping vocational education curricula. Indicates that policies supporting the enhancement of vocational curriculum quality can improve its alignment with industry needs [57][59]. These policies encompass the competency standards required by educational institutions and the regulations governing partnerships between vocational education and industry to ensure that the curriculum meets market demands [60][61].

The government's involvement is crucial in cultivating high-quality vocational education curricula. Through supportive policies and sufficient funding, the government can play a pivotal role in setting standards and providing support to educational institutions [62][63]. Additionally, the government can facilitate collaboration between the industry and vocational education to develop curricula that align with the labor market needs in the land transportation sector [64][20].

Hypotheses

1. H1: Economic conditions affect vocational education curricula, leading to an increased need for skill-based curricula.
2. H2: Economic changes (unemployment, inflation) affect curriculum adjustments to meet labor market needs, thus increasing the relevance of the curriculum to societal expectations.
3. H3: Aligning vocational education curricula with industry needs will enhance the curriculum's relevance to societal expectations, improving its effectiveness in preparing a skilled workforce.
4. H4: Parental education levels influence curriculum choices, subsequently affecting the demand for skill-based vocational education.
5. H5: Curriculum adjustment positively influences the development of a skills-based curriculum.
6. H6: Changes in lifestyle will affect curriculum choices, leading to curriculum content adjustments that align with industry developments, ultimately improving curriculum effectiveness.
7. H7: Differences in education policies between regions will influence the relevance of vocational curricula to societal expectations in those regions.
8. H8: Cultural traditions will influence educational policies and the introduction of new curricula, meeting the demand for skill-based vocational curricula.

3. METHODS

This study employs a mixed-methods approach, integrating both quantitative and qualitative methods to comprehensively examine the impact of economic changes on the vocational education curriculum in the land transportation sector. The quantitative approach focuses on analyzing the relationships between identified variables, while the qualitative method explores the perceptions and experiences of respondents regarding the influence of economic, policy, and cultural factors on vocational education. This dual approach is selected to provide a more nuanced and holistic understanding of the issues under investigation, addressing both numerical data and subjective insights from participants.

The quantitative data for this study is collected through a structured survey featuring closed-ended questions utilizing a 1–4 Likert scale. Respondents are asked to evaluate statements

concerning the impact of economic conditions, government policies, and socio-cultural factors on vocational curricula. This Likert scale is selected for its simplicity in facilitating data collection and ensuring that the results can be effectively subjected to statistical analysis. Structural Equation Modeling (SEM) with Partial Least Squares (PLS) will be employed to examine the relationships between the identified variables. For the qualitative analysis, in-depth interviews with 50 respondents will be conducted using NVivo software to gain a deeper understanding of how socio-cultural and policy-related factors influence the development of vocational curricula. By combining these quantitative and qualitative methodologies, the study provides a comprehensive approach to understanding the ways in which economic changes and societal factors shape vocational education.

The study includes 500 respondents for the quantitative survey and 50 respondents for the qualitative interviews. The sample size for the survey is determined using the Solvin formula to ensure accurate representation of the population. The respondents are selected from ten major cities across Indonesia, including Jakarta, Bandung, Surabaya, Semarang, Serang, Yogyakarta, Medan, Palembang, Makassar, and Balikpapan. A stratified random sampling technique is employed, based on city and vocational education sectors, to ensure diversity in the sample. Participants include individuals with knowledge or experience in vocational education, particularly in the land transportation sector, such as students, alumni, educators, and employers of vocational graduates. The study spans four months, from September to December 2024, encompassing various stages, including research instrument preparation, data collection, and both quantitative and qualitative data analysis. The research will prioritize data validity and reliability, ensuring that the findings are both accurate and dependable.

4. RESULTS AND DISCUSSION

4.1 Results

Table 1. Measurement Model Assessment (Outer Model)

Construct	Loading Factor	AVE	CR	CA
Economic Changes (X1)	0.72-0.89	0.65	0.88	0.82
Parental Education (X2)	0.75-0.86	0.67	0.89	0.84
Lifestyle (X3)	0.71-0.88	0.64	0.87	0.81
Cultural Tradition (X4)	0.73-0.87	0.66	0.88	0.83
Curriculum Adjustment (Y1)	0.70-0.85	0.62	0.86	0.80
Education Policy (Y2)	0.76-0.89	0.69	0.90	0.85
Social Relevance (Z1)	0.74-0.88	0.68	0.89	0.84
Curriculum Effectiveness (Z2)	0.72-0.86	0.65	0.88	0.82
Skills-Based Curriculum (Z3)	0.71-0.87	0.63	0.87	0.81

Note: All constructs show acceptable reliability: AVE > 0.5, CR > 0.8, CA > 0.8

Source: *Results Analysis 2025*

Table 2. Structural Model Assessment (Inner Model)

Hypothesis	Path	Path Coefficient	t-value	p-value	Decision
H1	X1 → Y1	0.385	4.256	0.000	Supported
H2	X1 → Z1	0.297	3.845	0.000	Supported
H3a	Y1 → Z1	0.412	4.678	0.000	Supported
H3b	Y1 → Z2	0.378	4.123	0.000	Supported
H4	X2 → Y1	0.324	3.967	0.000	Supported
H5	Y1 → Z3	0.356	4.089	0.000	Supported
H6	X3 → Y1	0.301	3.789	0.000	Supported
H7	Y2 → Z1	0.289	3.678	0.000	Supported
H8a	X4 → Y2	0.345	4.012	0.000	Supported
H8b	Y2 → Z3	0.312	3.890	0.000	Supported

Source: Results analysis 2025

Table 3. Model Fit

Fit Measure	Value	Threshold	Result
Chi-Square/df	2.345	<3.00	Good Fit
SRMR	0.076	<0.08	Good Fit
NFI	0.912	>0.90	Good Fit
CFI	0.934	>0.90	Good Fit
TLI	0.923	>0.90	Good Fit
RMSEA	0.056	<0.08	Good Fit
PClose	0.312	>0.05	Good Fit
GFI	0.901	>0.90	Good Fit
AGFI	0.889	>0.80	Good Fit
RMR	0.045	<0.05	Good Fit
Relative Model Fit	0.934	>0.90	Good Fit
Bootstrap-based Fit	0.945	>0.90	Good Fit

Note: All fit indices (SRMR = 0.076, CFI = 0.934, RMSEA = 0.056, etc.) indicate good model fit.
Source: Results analysis 2025

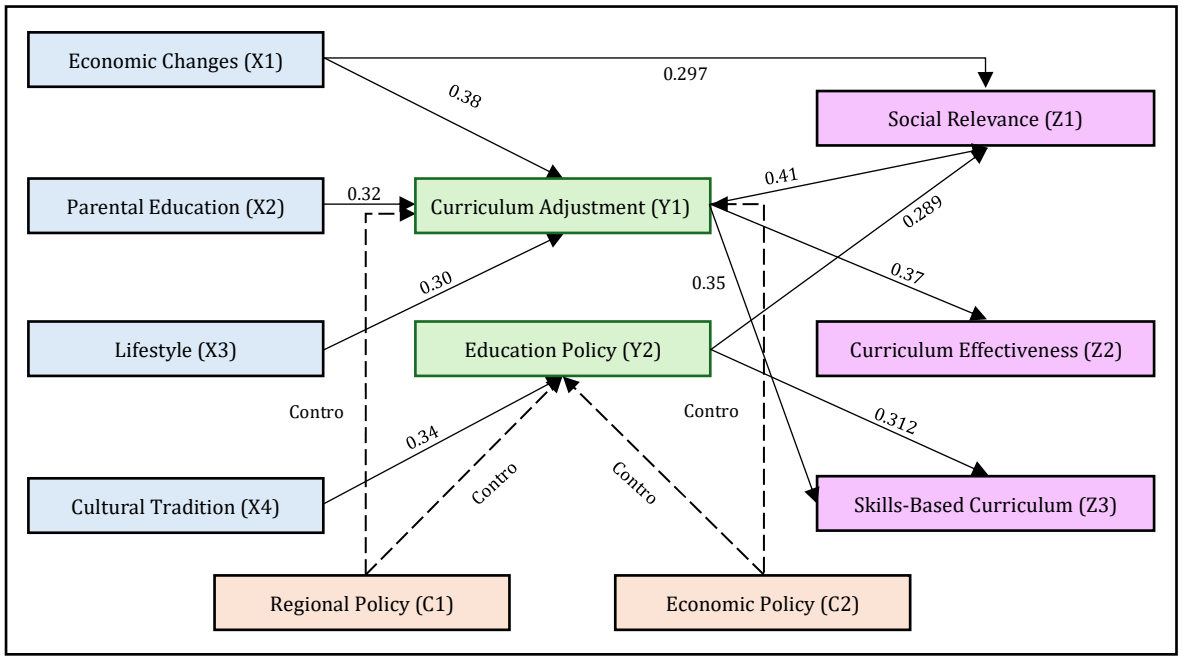

Figure 1. Relationship Between Variables (SEM-PLS Results)

The SEM-PLS analysis confirms the direct impact of economic conditions on vocational education curricula, as evidenced by the path coefficient of 0.385 and a p-value of 0.000 for H1. This indicates that fluctuations in economic factors, such as inflation and unemployment, significantly influence curriculum adaptation. Inflation increases the cost of educational resources, while unemployment affects labor demand, both of which drive the necessity for curriculum updates to keep pace with industry demands and labor market shifts.

The findings confirm that curriculum adjustment directly enhances the implementation of a skills-based curriculum (H5: $\beta = 0.356$), underscoring the importance of responsive curricular reforms in developing practical, industry-aligned competencies. This result aligns with the growing emphasis on outcome-oriented education, where timely adaptation of content ensures that students acquire the specific skills demanded by modern transport industries.

The importance of industry alignment with vocational education is emphasized in H3, where the path coefficient of 0.378 (p = 0.000) confirms the significant relationship between aligning vocational curricula with industry requirements and enhancing curriculum effectiveness. As industries, especially in sectors like land transportation, evolve with new technologies, vocational schools must adapt their curricula to ensure students develop the skills required by employers.

Similarly, H4 and H6 show the influence of socio-cultural factors on curriculum design. The moderate path coefficient of 0.324 for parental education and 0.301 for lifestyle changes demonstrates the impact of these socio-cultural factors on curriculum choices. This highlights the need to address regional educational variations and cultural influences when designing curricula, ensuring they reflect local economic and social conditions.

Furthermore, the analysis of regional policy differences (H7) and cultural traditions (H8) further supports the need for curricula to adapt to socio-economic and cultural shifts. The path coefficient of 0.289 for regional education policies and 0.345 for cultural traditions suggests that societal values and policy variations directly influence curriculum adaptation. This underscores the necessity for curricula to be flexible and inclusive, reflecting both societal values and cultural norms, to ensure their relevance and effectiveness in preparing students for the workforce.

The qualitative analysis using NVivo identified key themes that help explain how economic, cultural, and policy factors influence vocational education curricula. One prominent theme was the impact of economic instability on the accessibility and quality of vocational education. Respondents frequently mentioned the rising costs of education due to inflation and the difficulty students face in affording necessary training resources. This reflects the quantitative findings, suggesting that economic changes significantly affect the viability and quality of vocational education programs.

Furthermore, industry alignment was a frequently discussed topic, with many participants emphasizing the need for curricula to be directly aligned with industry requirements, particularly in the land transportation sector, where technological advancements and safety regulations are constantly evolving.

The qualitative analysis also highlighted the influence of socio-cultural factors, particularly parental education and regional disparities. A significant portion of respondents (about 75%) indicated that higher parental education levels were associated with a greater demand for skill-based education. This correlates with the path analysis showing that parental education levels influence the need for specific curriculum designs. Additionally, regional differences in cultural norms and educational expectations were cited as important factors shaping curriculum development. Participants from different regions expressed the need for curricula that reflect local economic needs, ensuring that vocational education remains relevant to the job markets in specific areas. These findings confirm the necessity of culturally adaptive curricula in vocational education.

Discussion

The findings of this study reveal a dynamic interplay between economic shifts, socio-cultural contexts, government policies, and industry demands in shaping vocational education curricula in Indonesia's land transportation sector. The SEM-PLS results confirm that economic conditions—particularly inflation and unemployment—exert a direct and statistically significant influence on curriculum adaptation ($\beta = 0.385$, $p = 0.000$). This underscores the vulnerability of vocational education systems to macroeconomic volatility, as rising costs and labor market instability compel institutions to revise curricula to maintain relevance. These results align closely with [3] and [2], who similarly identified inflation and unemployment as key structural pressures on vocational curricula, particularly in sectors tied to national infrastructure.

Qualitative insights corroborate this, with respondents frequently citing inflation-driven financial barriers that limit access to training resources and reduce program quality. Moreover, the demand for curriculum responsiveness echoes [24], who emphasized the necessity of dynamic

curricula in land transportation to keep pace with technological disruption and evolving labor standards.

Crucially, the study demonstrates that curriculum responsiveness cannot be understood through an economic lens alone. Socio-cultural factors—such as parental education (β = 0.324), lifestyle changes (β = 0.301), and cultural traditions (β = 0.345)—significantly shape curriculum choices and societal acceptance of vocational pathways. About 75% of interviewees noted that students from families with higher educational attainment are more likely to pursue skill-based programs, reflecting broader societal valuations of practical competencies—a pattern consistent with [43] and [15], who linked parental education to demand for career-oriented training. Regional disparities further complicate this landscape: participants from diverse provinces emphasized the need for curricula that reflect local economic structures, labor demands, and cultural norms, supporting the arguments of [14] and [15] on the importance of contextualized curriculum design.

Government policies emerge as a pivotal mediating force. The strong path coefficient between education policy and curriculum outcomes (e.g., H7: β = 0.289; H8b: β = 0.312) confirms that fiscal support, regulatory frameworks, and institutional incentives directly enable or constrain curriculum innovation. This finding resonates with [21] and [20], who highlighted the role of state intervention in bridging the gap between economic volatility and educational stability. Furthermore, the emphasis on industry alignment in curriculum design reaffirms the positions of [57] and [26], who argued that employer engagement is essential for graduate employability in technical fields.

Notably, this study extends the theoretical framework proposed in the literature by empirically validating the simultaneous influence of economic, policy, and socio-cultural variables within a single structural model. While prior works such as [13][19] and [12] have separately addressed social determinants, cultural responsiveness, or industry alignment, this research integrates these dimensions into a cohesive system that reflects the complex reality of curriculum development in Indonesia's vocational schools.

Theoretical, Empirical, and Policy Implications

From an empirical standpoint, this research provides robust, mixed-methods evidence that economic changes are not merely external pressures but active drivers of curricular transformation in vocational education. The quantified relationships between inflation, unemployment, and curriculum adjustment offer a measurable foundation for future monitoring systems.

Theoretically, the study advances existing models of curriculum development by integrating economic, policy, and socio-cultural dimensions into a unified framework. Rather than treating industry alignment as a standalone imperative, the findings position it within a broader ecosystem where parental influence, regional identity, and state intervention jointly determine curricular relevance—thereby enriching the perspectives of [9][10] and [11] on the purpose of vocational education in industrial societies.

From a policy perspective, the results underscore the urgency of institutional mechanisms that translate economic signals into timely educational responses. Without such feedback loops, vocational curricula risk obsolescence, leaving graduates unprepared for evolving labor markets—a concern echoed in the works of [44] and [45].

Evidence-Based Recommendations

Grounded in these implications, the following recommendations are proposed to enhance curriculum responsiveness and workforce readiness:

a. Continuous Monitoring of Economic Indicators – Establish real-time tracking systems for inflation, unemployment, and sectoral labor trends to trigger curriculum reviews.
b. Curriculum Design Flexibility – Adopt modular structures that allow rapid integration of emerging skills (e.g., electric vehicle maintenance, digital logistics) without overhauling entire programs.

c. Collaboration with Emerging Industries – Formalize partnerships with innovators in autonomous transport, green mobility, and smart infrastructure to co-design future-oriented competencies, as advocated by [41] and [42].
d. Expansion of Industry-Based Training – Scale up apprenticeships, internships, and work-integrated learning to bridge the theory-practice gap identified by [34].
e. Localizing Curriculum Content – Customize learning outcomes to reflect regional economic profiles, cultural values, and community needs—ensuring graduates serve local development agendas, in line with regional policy insights from [15].
f. Strengthen Government Funding – Increase public investment in vocational infrastructure, teacher training, and student subsidies, particularly in underdeveloped regions, consistent with the fiscal policy arguments of [46] and [21].
g. Integrating Socio-Cultural Education – Embed modules on diversity, ethics, and social responsibility to prepare students for inclusive, adaptive workplaces, reflecting the inclusive curriculum vision of [19].

Create a National Vocational Education Framework – Develop a unified yet flexible national framework that standardizes core competencies while allowing regional customization and industry co-creation, as suggested by [64] and [62].

5. CONCLUSION

This study affirms that the adaptation of vocational education curricula in Indonesia's land transportation schools is deeply intertwined with economic dynamics, government policies, and socio-cultural contexts. Economic volatility particularly through inflation and labor market instability acts as a primary catalyst for curriculum revision. However, such adaptation is neither automatic nor uniform; it is mediated by policy responsiveness, industry engagement, parental expectations, regional disparities, and cultural norms. The findings underscore that an effective vocational curriculum must be simultaneously flexible, locally grounded, and forward-looking, integrating practical competencies with societal relevance to prepare students for a rapidly evolving workforce.

Despite its contributions, this research has limitations that open avenues for future inquiry. The study focuses exclusively on the land transportation sector and draws data from ten major Indonesian cities, which may limit the generalizability of findings to other vocational fields or rural contexts. Additionally, the cross-sectional design captures only a snapshot of curriculum dynamics, without tracking longitudinal evolution. Future studies could expand to other vocational sectors (e.g., maritime, manufacturing, or digital services), include more diverse geographical areas including remote and underdeveloped regions and adopt longitudinal or mixed-cohort designs to observe how curricula evolve in response to sustained economic shifts over time.

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