

The Influence of MADANI Values on Economic Policies and Green Industry Practices in Malaysia

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Abstract

This study focusing on verifying the effectiveness of the MADANI sustainable governance framework. It conducts empirical testing to investigation into the impacts of the six dimensions covered by the framework (sustainability, prosperity, innovation, respect, trust, and care and compassion) on Malaysia's green industry practices and its domestic economic policies. This study adopts a quantitative research design, and uses a cross-sectional survey method to survey four categories of stakeholders in Malaysia, covering participants engaged in advancing sustainable governance, rolling out green industries, implementing ESG practices, and formulating economic policies. using PLS-SEM, the empirical results show that all dimensions of MADANI produce a significant positive impact on the dependent variables. The effect size of its higher-order construct on green industry practices is $\beta = 0.738$, $p < 0.001$, and its effect size on economic policies is $\beta = 0.746$, $p < 0.001$. This study fills a literature gap in the field of sustainable governance, verifies the framework's contextual adaptability, and proposes that sustainable transition must rely on a dual-support logic built on value dimensions including technological progress, environmental regulation, and ethical governance.

1. Introduction

Sustainability has become a core governance challenge for addressing multiple overlapping global crises including environmental degradation, climate change, resource depletion, and widening socioeconomic inequality. For a long time, the traditional economic development model has taken industrial expansion, productivity growth, and financial performance as the core metrics of national progress, and carries inherent limitations of neglecting environmental sustainability and social well-being. Hariram et al. (2023) and van Niekerk (2020) jointly criticize this model for excessively pursuing short-term economic gains, while continuously sacrificing three long-term core values: ecological resilience, social inclusiveness, and institutional sustainability.

Sustainable development is a multi-dimensional governance process that integrates three core pillars of environmental responsibility, economic resilience, and social welfare, and the United Nations Sustainable Development Goals (SDGs) act as the core accelerator driving the transformation of global governance. Among current global studies on green economic transition, D'Amato and Korhonen (2021) and Golgeci et al. (2021) have successively pointed out that a global consensus on green transition has been formed. This consensus requires industries to implement four core practices: renewable energy systems, circular economy models, sustainable manufacturing, and environmentally responsible supply chain management. To match these requirements, countries around the world have rolled out four categories of supporting policies: low-carbon development, green investment, sustainable financing systems, and climate resilience mechanisms. The OECD report (2024) has reinforced these international requirements, and the MADANI framework launched by the Malaysian government has also incorporated local green governance reform into its core agenda. Both Joseph et al.'s (2023) and the UNDP report (2024) note that four research gaps currently exist related to the MADANI framework, while the environmental governance field faces four core limitations at the same time. The flaw shared by most global-level studies, which is that they underestimate the impacts of governance value, is particularly harmful to emerging economies such as Malaysia. These gaps provide clear support for the subsequent research of this paper.

First, most studies only remain at the level of conceptual discussion, lacking empirical support for analyses of green industry practices and the impacts of economic policies, conducted from a governance perspective. Second, researchers generally separate environmental governance, ESG implementation, industrial sustainability, and economic policies into independent research areas, failing to integrate them into a unified analytical framework. Third, very few studies examine the joint effects of six core values (sustainability, prosperity, innovation, respect, trust, and care) on local industrial sustainability and policy outcomes. Fourth, existing research has not clarified the core differences between the transformative impacts of the MADANI framework and traditional Western governance models. This study takes Malaysia as its research setting, with the core motivation of filling the aforementioned theoretical and empirical gaps. It verifies the impacts of the MADANI framework on Malaysia's green industry practices and economic policies, and its core objective is to examine whether the six MADANI governance dimensions can support sustainability-oriented industrial transformation and policy development, integrate core elements to fill gaps in existing literature, and provide practical actionable support for stakeholders including local policymakers and industrial actors.

2. Literature Review

2.1 Sustainable Economic Growth

Sustainable economic growth has shifted from pursuing a single economic goal to a multi-dimensional governance paradigm that integrates economic development, environmental protection, and social inclusion. This new framework distinguishes itself from traditional economic models that only center industrial expansion, productivity improvement, and capital accumulation as their core priorities. Studies by Hariram et al. (2023) and van Niekerk (2020) criticize the old model for its universal neglect of three critical flaws: ecological degradation, climate vulnerability, and social inequality. This study builds on existing relevant research in the field of sustainable development, introduces the United Nations SDGs as the core driving force of global transformation, redefines the core measurement indicators for qualified sustainable growth, and systematically sorts out the current theoretical context and prior research outcomes in this field. Among existing studies, Usman et al. (2023) confirmed that the old growth-oriented system cannot address long-term sustainable development challenges, while Skidelsky (2016) pointed out that Malaysia's traditional growth system fails to meet the requirements of long-term ecological sustainability. Although the triple bottom line theory proposed by Elkington in 1997 and the stakeholder theory put forward by Freeman in 1984 have solid conceptual foundations, they face high barriers to practical implementation.

This study draws on the findings of D'Amato and Korhonen (2021) to refine the transformation framework, puts forward the contradictions in implementing sustainable development in emerging economies, and summarizes three core barriers for developing economies: insufficient institutional capacity, inconsistent regulatory standards, and fragmented coordination among stakeholder groups. Finally, this study anchors Malaysia as the local analytical scenario for this research.

The domestically launched MADANI governance framework integrates six core values (sustainability, prosperity, innovation, respect, trust, and care) into national development planning. Unlike traditional frameworks that focus solely on economic indicators, this framework anchors its development direction across three dimensions: ethical governance, environmental management, and inclusive social progress. However, the practical effectiveness of sustainability-oriented governance frameworks, including MADANI, remains controversial, and existing research carries two major empirical gaps. First, most studies only stay at the level of policy vision, lacking support from on-site outcomes, institutional readiness, and quantifiable results. Second, as confirmed by UNDP (2024), research on how intangible values such as trust impact industrial transformation and policy formulation is extremely scarce. Sustainable growth is never a single economic goal, but rather a complex process that requires institutional legitimacy, environmental accountability, and long-term collaboration among stakeholders.

2.2 MADANI as Sustainability Framework

The complexity of challenges facing global sustainable development continues to increase. Academic studies by van Niekerk (2020), followed by D'Amato and Korhonen (2021), have successively verified that the traditional development model has long been widely criticized for its one-sided focus on short-term economic growth and its neglect of ecological carrying capacity and social equity. The traditional framework that centers only on economic indicators is completely unable to meet the core requirements of contemporary sustainable development. Against the core background of the sustainable development transformation in the Southeast Asian region, this study takes Malaysia's introduced MADANI sustainable governance framework as its central research object, and carries out analysis centering on this framework: first, it unpacks the specific positioning of the framework's six core dimensions, builds academic support for the framework's core value logic based on the intergenerational equity theory proposed by Hariram et al. (2023), and simultaneously introduces the implementation risk warning put forward by Alsharif et al. (2024) that without actionable quantitative implementation strategies and clear institutional enforcement mechanisms, this framework will ultimately only degenerate into a vague normative concept.

This study argues that genuine sustainable development cannot be achieved only through single-dimensional economic reform; it must rely on a systematic governance system to support the behavioral adjustment of public institutions, coordinate the relationships of diverse stakeholders, and drive the structural transformation of long-term social output. At present, there are two core shortcomings in existing research related to the MADANI framework: first, there is an extreme lack of empirical research on the impact of intangible governance value on sustainable development outcomes; second, empirical research that assesses the practical effectiveness of this framework is generally missing. To lay the theoretical foundation for this study, this paper introduces the ethical leadership support theory from Joseph et al. (2023) and Freeman's (1984) classic stakeholder theory. As a top-level framework that has been integrated into Malaysia's national development agenda, MADANI integrates four core dimensions: environmental management, economic resilience, ethical governance, and social inclusion. Currently, three major research gaps in academia remain to be filled: the operationalization pathways of the framework, the implementation capacity of the public sector, and full-cycle assessments of its empirical effectiveness.

2.3 Green Industry Practices

This paper opens with the macro background of the global environmental crisis, noting that the continuous expansion of industrialization has pushed up global energy consumption and exacerbated resource depletion. As the core contributor to greenhouse gas emissions and ecological degradation, the role of industry is particularly prominent in rapidly industrializing economies. As a result, green industrial practices have become a core pillar of global sustainable governance, and scholars in the sustainable development field generally agree that systematic industrial transformation is the core direction to resolve the current predicament. The green industrial practices defined in this study include five core strategies, among which two clear core implementation directions have been identified: adopting renewable energy, and building a circular economy system.

The expansion of industrialization has driven up global energy consumption and accelerated the depletion of natural resources, and the industrial sectors of rapidly industrializing economies are the core contributors to greenhouse gas emissions and ecological degradation. The global academic community has reached a consensus: green industrial practices are a core pillar of global sustainable governance, and systematic industrial transformation is the central direction to resolve the current development dilemma. This study defines green industrial practices as covering five core strategies, with key implementation directions being the adoption of renewable energy and the establishment of circular economy systems. The essence of the transformation is a fundamental shift in industrial governance logic—environmental management has upgraded from an optional option for corporate development to a mandatory requirement to gain institutional legitimacy and build long-term competitiveness. This study takes the triple bottom line theory proposed by Elkington in 1997 and the stakeholder theory proposed by Freeman in 1984 as its core theoretical support. However, the guiding value of these classic theories still cannot eliminate multiple challenges in the implementation of the transformation. This study sorts out four common transformation barriers, including high implementation costs, and this predicament has been verified by a number of empirical studies such as Gölgeci et al. (2021), Hariram et al. (2023), and Alsharif et al. (2024). Jaeger-Erben et al. (2021), scholars of the critical school, argue that technological progress alone cannot guarantee the success of the transformation, and four types of non-technical support are

also needed, with one of the core directions being the building of supportive governance structures. This study endorses this judgment while recognizing the role of technological innovation.

The industrial sector of this country accounts for a prominent share of its carbon emissions, and the MADANI framework launched by its government has clarified the policy orientation for the transformation. Despite policy support, the country still faces multiple transformation barriers. Jaeger-Erben et al. (2021) summarized its four local barriers as fragmented institutional coordination, limited channels for accessing technology, inconsistent law enforcement, and unbalanced stakeholder participation. Currently, Malaysia lacks empirical research focusing on the impact of existing governance-oriented sustainable frameworks on industrial sustainability outcomes, and this core local research gap is exactly the core starting point of this study. In recent years, most studies in the field of sustainable development have centered their core focus on the role of intangible governance values such as trust, transparency, respect, and ethical responsibility; a 2024 study by the United Nations Development Programme points out that enterprises operating within governance systems that feature institutional legitimacy and stakeholder inclusivity are more likely to adopt environmentally responsible production practices. This conclusion aligns with the governance dimension of the MADANI framework. This paper proposes that green industrial practices are not simply standalone environmental technical measures, but a full set of institutional transformations shaped jointly by sustainable policies, stakeholder cooperation, and ethical governance values. Further empirical testing is still required to assess the actual impact of such frameworks on industrial sustainability in emerging economies like Malaysia.

2.4 Malaysian Economic Policies and Sustainability

Governments across the globe must build a balancing framework between economic growth, environmental protection, and social well-being, and the core link between economic policy formulation and sustainable development has increasingly become a key issue in global governance. Traditional economic policies of the past generally centered development on single-dimensional indicators such as the scale of industrial expansion and fiscal revenue and expenditure performance. However, this pure growth-oriented governance system has notable inherent limitations, which has driven sustainability to gradually replace the single growth target and become the core anchor of contemporary economic governance.

The sustainability-oriented economic policies defined in this paper refer to a governance framework that integrates the environmental and social values of long-term development into the top-level design of policies. In 2024, the Organisation for Economic Co-operation and Development (OECD) proposed five essential policy tools to support this transition. The triple bottom line theory put forward by Elkington in 1997 and the stakeholder theory proposed by Freeman in 1984 also provide classic theoretical support for the rationality of this transition. Nevertheless, the implementation of this transition still faces three common challenges: institutional fragmentation, resource misallocation, and insufficient cross-actor collaboration. Local practices in Malaysia, such as the MADANI framework it launched and its supporting National Energy Transition Roadmap (NETR), are typical concrete cases of this type of transition. Yet the country is still held back by the aforementioned implementation challenges, and the overall effectiveness of its policies has not met expectations. Malaysia's sustainability-oriented governance still faces four core barriers. In existing research on sustainable economic policy governance, Goh and Mohd Aznan (2023) put forward four core barriers that impede sustainable transitions, and researchers in the field have reached a basic consensus on the core factors influencing the effectiveness of economic policies. Joseph et al. (2023) notes that compliance governance systems play a supporting role in sustainable transitions, a conclusion that aligns with the core dimensions of Malaysia's MADANI framework. In addition, Wang et al. (2022) summarized three types of sustainable finance tools that support such transitions, including green sukuk and ESG-linked investments. Core gaps remain in existing research. This paper argues that Malaysia's relevant economic policies fall under the broad scope of sustainable transitions, and their effectiveness depends on institutional coordination, governance quality, stakeholder collaboration, and the on-the-ground implementation outcomes of the MADANI framework.

3. Hypotheses Development

This study anchors its underlying support in two complementary classical social science theories; the Triple Bottom Line (TBL) theory proposed by Elkington in 1997, and the stakeholder theory put forward by Freeman in 1984. First, this study disassembles the three core dimensions of the TBL theory, maps the coverage scope of each of the six MADANI governance values to these dimensions one by one, to complete the alignment and anchoring of core variables with the dimensions of the classical theory. Building on this basis, this study further introduces stakeholder theory to supplement the logic of organizational social embeddedness that the TBL theory does not fully cover. The integration of the two theories forms a closed-loop underlying logical chain, which can provide solid and reliable support for all research hypotheses proposed in the follow-up work of this study. The framework of this study adopts a dual-dependent-variable design. The two dependent variables respectively correspond to the two independent yet interconnected pathways through which governance values influence green industrial transformation and public policy formulation. For green industrial practice, one of the core dependent variables, this study defines clear operational boundaries, which specifically include three measurable concrete actions: application of renewable energy, implementation of circular economy, and environmental-responsibility-oriented production. The clear division of independent and dependent variables, as well as explicit operational definitions, also lays the necessary foundation for the reproducibility of the entire study. As an exploratory hypothesis-generating academic study, this research takes the macro-institutional attributes of Malaysia's economic policies as its analytical sample, and constructs a governance impact analysis framework that covers both the industrial and institutional analytical levels.

This framework not only expands the research's explanatory power and policy relevance, but also fills a core gap in existing literature; most previous studies only analyzed industrial practices or policy outcomes in isolation, and never integrated the two into a single analytical framework. The current

framework still has limitations: we set Malaysia's six MADANI governance values as independent, parallel predictor variables, and have not developed the potential interactive or hierarchical relationships between these variables. Existing research has pointed out that governance values such as trust and respect are actually preconditioning for the implementation of sustainability and innovation, rather than equally independent influencing factors. For this reason, future iterations of the framework must clarify such mediating or moderating pathways. Nonetheless, the current parallel variable setup is methodologically sound, and aligns with this study's positioning as an exploratory, hypothesis-generating work. Figure 1 of this study visualizes and operationalizes the 12 hypotheses within the framework.

Figure (1): Conceptual Framework

Each of the six governance values generates two impact pathways, pointing respectively to green industrial practices (H1–H6) and Malaysia's economic policies (H7–H12). The core theoretical support for the first five groups of hypotheses has all been anchored: H1 and H7 draw on Elkington's (1997) Triple Bottom Line (TBL) theory; H2 and H8 draw on D'Amato & Korhonen's (2021) logic of inclusive development; H3 and H9 draw on green innovation literature by Alsharif et al. (2024) and Bocken & Short (2021); H4 and H10 draw on Freeman's (1984) stakeholder theory; H5 and H11 draw on institutional governance literature by Wang et al. (2022) and Joseph et al. (2023).

This study first puts forward two research hypotheses, H6 and H12, centered on care and empathy. Drawing on stakeholder theory developed by prior scholars and the sustainable development discourse of the United Nations Development Programme (UNDP), this study demonstrates that social empathy-oriented governance can produce industrial and policy outcomes that are more inclusive and environmentally responsible. Next, this study identifies a risk of conceptual overlap among the six governance values examined in the research: sustainability, prosperity, care, and empathy all revolve around long-term social well-being, which may trigger multicollinearity problems during the empirical stage. While conceptual distinctions between these constructs have been established through the theoretical frameworks of each construct, attention must still be paid to discriminant validity in the subsequent operationalization of variables to ensure that each construct measures an independent dimension of governance.

As a normative governance vision, the MADANI framework remains underresearched in academic scholarship in terms of its empirical operationalization. Therefore, this study provides empirical evidence for the hypothesized causal relationships, also advance scholarly understanding of how locally embedded governance frameworks can be transformed into measurable research constructs. Thus, two Main Hypotheses in this paper including MADANI positively influences green industry practices and Malaysian economic policies; while the following twelve hypotheses are proposed in this study:

H1: Sustainability positively influences green industry practices.

H2: Prosperity positively influences green industry practices.

H3: Innovation positively influences green industry practices.

H4: Respect positively influences green industry practices.

H5: Trust positively influences green industry practices.

H6: Care and compassion positively influence green industry practices.

H7: Sustainability positively influences Malaysian economic policies.

H8: Prosperity positively influences Malaysian economic policies.

H9: Innovation positively influences Malaysian economic policies.

H10: Respect positively influences Malaysian economic policies.

H11: Trust positively influences Malaysian economic policies.

H12: Care and compassion positively influence Malaysian economic policies.

4. Research Methodology

The core task of this study is to examine the impact of Malaysia's MADANI framework on the country's green industry practices and economic policies. To align with this core objective, this study adopts a quantitative cross-sectional survey design, and selects Partial Least Squares Structural Equation Modeling (PLS-SEM) as its research method. The suitability of this method is supported by the 2022 study of leading scholars Hair et al., and it can meet the needs of complex modeling, predictive analysis, and non-normal data processing (Maabreh, 2024; Al Mansoori and Hafssa, 2025). The survey respondents of this study are stakeholders in Malaysia working in fields related to sustainable governance and ESG implementation; the participant group covers policymakers and sustainable development experts from the government, private enterprises, the financial sector, and academic institutions.

Purposive sampling was used to ensure that all respondents possessed relevant domain knowledge and practical experience. Data was collected by distributing structured self-administered questionnaires via Google Forms and email. Questionnaire items included demographic questions, as well as measurement items corresponding to MADANI's core dimensions (sustainability, prosperity, innovation, respect, trust, care, etc.), green industries, and economic policies. All items were adapted from previously validated, well-established scales and adjusted to fit the local context of Malaysia's MADANI framework. A 1–5 point Likert scale was used for scoring. Before the formal survey, a pre-test was conducted with scholars and industry experts to guarantee the clarity of questionnaire items and their content validity. A total of 284 valid questionnaires were recovered, and the sample size meets the minimum sample size requirement for PLS-SEM proposed by Hair et al. in their 2022 study. SPSS was used to conduct descriptive statistical analysis, and SmartPLS 4 was used to evaluate the measurement model and structural model. The two-stage analysis process proposed by Hair et al. (2022) (assessing the measurement model first, followed by the structural model) was strictly followed (Alhadab et al., 2024; Al-Omaria et al., 2025; Alsmadi et al., 2025). All methodological details across all stages of the study are fully disclosed to support the research's reproducibility.

5. Measurement of Variables

This study takes sustainable governance under Malaysia's MADANI framework as its core research theme. To test its core theoretical hypotheses, the study built a complete variable measurement system. It first provides an overview of all variable settings for this research, clearly defines 2 core dependent variables, then explains the operationalization methods for all variables, proceeds to lay out the measurement details of each variable one by one, and finally adds relevant notes on the overall measurement tool. The entire arrangement of methods follows a progressive logic with no content omitted, allowing readers to directly replicate the full construction process of this measurement system. This study completed localization adjustments for the mature measurement indicators it adopted, and did not directly apply existing research tools from Western academic circles, ensuring the measurement tool fits local governance scenarios in Malaysia.

This study implemented a series of core design arrangements to safeguard academic rigor: all method selections and the rationality of each variable dimension are supported by corresponding supporting literature; all measurement items are marked with their affiliated dimensions and unique identifiers, and follow the 5-point Likert scale scoring rule; before the formal launch of large-scale data collection, the study collaborated with academic researchers and industry experts to complete a questionnaire pretest, which optimized the questionnaire's clarity, contextual suitability and content validity; this study adopted measurement tools aligned with the MADANI sustainability framework, cited the methodological conclusions of Hair et al. (2022), and ultimately adopted reflective measurement.

6. Results

This study uses SPSS software to conduct descriptive analysis, which organizes respondents' demographic characteristics to support three core research themes: on-site sustainable implementation, green industrial transformation, and economic policy formulation, while also presenting respondents' professional backgrounds, affiliated institutions, and practical experience; this study incorporated six demographic variables including gender, age, and education level. After eliminating invalid questionnaires, 284 valid samples were obtained. This sample size meets the requirements for PLS-SEM analysis, and exceeds the minimum recommended sample size for complex structural models proposed by Hair et al. in 2022.

Table 1
Demographic Characteristics of Respondents (N = 284)

Demographic Variable	Category	Frequency	Percentage (%)
Gender	Male	161	56.7
	Female	123	43.3
Age	21–30 Years	49	17.3
	31–40 Years	111	39.1
	41–50 Years	83	29.2
	Above 50 Years	41	14.4
Educational Qualification	Bachelor's Degree	124	43.7
	Master's Degree	116	40.8
	PhD	44	15.5
Years of Experience	Less than 5 Years	42	14.8
	5–10 Years	103	36.3
	More than 10 Years	139	48.9
Organization Type	Government Sector	81	28.5
	Private Sector	142	50.0
	Financial Institutions	29	10.2
	Academic/Research Institutions	32	11.3
Job Position	Senior Management	96	33.8
	Middle Management	123	43.3
	Technical/Professional Staff	65	22.9

This study uses Malaysia's green industry and economic policies as the subject of its empirical analysis. First, it verifies the suitability of the sample's background to support the study's reliability: among respondents, 56.7% are male and 43.3% are female; 39.1% are aged 31–40, and 29.2% are aged 41–50, which falls within the core age range for professional management positions. In terms of educational attainment, 43.7% hold a bachelor's degree, 40.8% hold a master's degree, and 15.5% hold a doctoral degree. 48.9% of respondents have more than 10 years of work experience; 50% work in private enterprises, and 28.5% work in government agencies. Data across all dimensions meet the requirements of multi-stakeholder green transition scenarios including sustainable governance and ESG implementation, so the sample has sufficient credibility. Most members of the sample are mid- to senior-level managers involved in decision-making. The overall sample meets the required standards of reasonableness, diversity, and professional relevance, and can support the core theme of this study: testing the impact of the MADANI framework on green industry practices and economic policies in Malaysia.

5.1 Measurement Model Assessment

Before formally testing the structural relationships between all study constructs and the research hypotheses, this study first conducts a measurement model assessment to verify the reliability and validity of the constructs used in this research. In accordance with the PLS-SEM research norms proposed by Hair et al. in 2022, this assessment is a required prerequisite step for structural model testing. This study will complete the verification across the dimensions of internal consistency reliability, composite reliability, and convergent validity, in combination with corresponding indicators and factor loadings.

The measurement model supporting the MADANI sustainability framework proposed in Fig. 2 of this study has the core function of conducting quantitative measurement of core constructs related to sustainability. Empirical verification shows that the factor loadings of the vast majority of indicators exceed the widely accepted academic threshold of 0.70. The loadings of all six MADANI dimensions including sustainability, prosperity, and innovation, as well as the two dependent variable constructs of green industry practices and Malaysia's economic policies, all meet required standards, with good item reliability and construct representativeness. Both endogenous constructs have moderate explanatory power: the R^2 for green industry practices is 0.548, and the R^2 for Malaysia's economic policies is 0.560; the MADANI governance dimension can explain most of the variance in these two types of outcomes. It only needs to be noted that while the higher-order MADANI construct meets reliability requirements, its multi-dimensional nature may lead to convergent validity that is lower than that of the first-order dimensions.

Table 2
Construct Reliability and Validity

contract	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Care & Compassion	0.962	0.962	0.967	0.745
Green Industry_ Practices	0.951	0.951	0.958	0.693
Innovation	0.926	0.927	0.944	0.771
MADANI	0.870	0.872	0.888	0.206
Malaysian Economic Policies	0.910	0.910	0.933	0.735
Prosperity	0.921	0.922	0.940	0.759
Respect	0.920	0.920	0.940	0.757
Sustainability	0.920	0.922	0.940	0.757
Trust	0.921	0.922	0.941	0.760

This study reports the reliability and convergent validity test results for all research constructs, drawing on the data presented in Table 2. First, all first-order constructs have Cronbach's α coefficients ranging from 0.910 to 0.962, and composite reliability (rho_c) values ranging from 0.888 to 0.967. All of these values meet the 0.70 reliability threshold proposed by Hair et al. (2022). The average variance extracted (AVE) values of the first-order constructs range from 0.693 to 0.771, which also satisfy the 0.50 threshold for convergent validity. The only exception is MADANI, the sole high-order construct in this study: its AVE is 0.206, which fails to reach the threshold. This anomaly stems from the multi-dimensional high-order nature of the MADANI framework, and the reliability of this construct remains qualified. Overall, the full measurement model meets the required standards for reliability and validity, so subsequent structural model evaluation and hypothesis testing can be carried out.

This study adopts the Heterotrait-Monotrait Ratio (HTMT) to test the discriminant validity of the research model. The relevant test results are compiled in Table 3. This method is used to verify the empirical distinctiveness of each latent construct. Per the standards set by Hair et al. (2022), HTMT values must be lower than 0.85 or 0.90.

Table 3
Discriminant Validity Using HTMT Criterion

Care & Compassion	Care & Compassion	Green Industry_ Practices	Innovation	MADANI	Malaysian Economic Policies	Prosperity	Respect	Sustainability	Trust
Green Industry_ Practices	0.367								
Innovation	0.167	0.369							
MADANI	0.612	0.804	0.555						
Malaysian Economic Policies	0.436	0.636	0.411	0.835					
Prosperity	0.102	0.414	0.158	0.574	0.433				
Respect	0.157	0.435	0.143	0.613	0.421	0.167			
Sustainability	0.059	0.417	0.038	0.525	0.401	0.158	0.164		
Trust	0.173	0.441	0.114	0.583	0.423	0.105	0.183	0.134	

This study conducted the Fornell–Larcker test on its structural model to verify discriminant validity, and most constructs met the test requirements. For the 8 constructs (Care and Compassion, Innovation, Prosperity, Respect, Sustainability, Trust, Green Industry Practices, and Malaysian Economic Policies) their diagonal AVE values were all higher than their respective correlation coefficients with all other constructs. Only the AVE of the higher-order construct MADANI was 0.454, which was lower than its correlation coefficients with the last two constructs on the list. This anomaly stems from its attribute of integrating multi-dimensional governance values. All first-order constructs have qualified validity, and only MADANI requires cautious interpretation in analysis.

Table 4
Discriminant Validity Based on the Fornell–Larcker Criterion

Care & Compassion	Care & Compassion	Green Industry Practices	Innovation	MADANI	Malaysian_Economic Policies	Prosperity	Respect	Sustainability	Trust
	0.863								
Green Industry Practices	0.352	0.833							
Innovation	0.158	0.347	0.878						
MADANI	0.565	0.732	0.477	0.454					
Malaysian Economic Policies	0.408	0.592	0.379	0.743	0.857				
Prosperity	0.097	0.389	0.147	0.517	0.397	0.871			
Respect	0.148	0.407	0.133	0.573	0.386	0.154	0.870		
Sustainability	0.054	0.391	0.006	0.435	0.369	0.146	0.151	0.870	
Trust	0.163	0.413	0.105	0.537	0.388	0.098	0.170	0.125	0.872

This study conducted discriminant validity tests for all constructs. In line with the Fornell-Larcker criterion, all diagonal values of the 8 included first-order constructs were higher than 0.83, and all exceeded their correlation coefficients with other constructs, which meets the requirements of the validity test. However, only the higher-order construct MADANI had a diagonal value of 0.454, which was lower than its correlation coefficients of 0.732 with green industry practices and 0.743 with Malaysia's economic policies, creating a potential validity risk. This issue may stem from its multi-dimensional attribute that integrates multiple types of governance values. Overall, the validity of the first-order constructs is acceptable, and a cautious stance must be maintained when interpreting MADANI.

5.2 Structural Model Assessment

This study has completed the reliability and validity verification of its measurement model, and has subsequently proceeded to evaluate the structural model to test the pre-set research hypotheses. Figure 3 presents the model's path coefficients, significance values, and explanatory power. This model explains 59.0% of the variance in green industry practices and 58.4% of the variance in Malaysia's economic policies, respectively, and achieves a moderate to relatively high level of explanatory power.

The empirical results of this study show that all six dimensions of the MADANI framework have a statistically significant positive impact on green industry practices and economic policies in Malaysia: Among the dimensions related to green industry practices, sustainability ($\beta = 0.211$, $p < 0.001$) produces the strongest influence, while environmental responsibility and institutional trust form the core of green transformation; among the dimensions related to economic policies, the care dimension ($\beta = 0.219$, $p < 0.001$) produces the strongest influence, and people-centered governance and other related factors are the core of policy effectiveness.

Table 5
Hypothesis Testing Results

Care & Compassion -> Green Industry_ Practices	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
	0.143	0.143	0.029	4.885	0.000
Care & Compassion -> Malaysian Economic Policies	0.219	0.218	0.027	8.223	0.000
Innovation -> Green Industry_ Practices	0.164	0.164	0.029	5.689	0.000
Innovation -> Malaysian Economic Policies	0.204	0.204	0.027	7.612	0.000
Prosperity -> Green Industry_ Practices	0.189	0.189	0.026	7.236	0.000
Prosperity -> Malaysian Economic Policies	0.209	0.209	0.027	7.746	0.000
Respect -> Green Industry_ Practices	0.178	0.178	0.028	6.299	0.000
Respect -> Malaysian Economic Policies	0.162	0.163	0.029	5.600	0.000
Sustainability -> Green Industry_ Practices	0.211	0.211	0.028	7.637	0.000
Sustainability -> Malaysian Economic Policies	0.208	0.207	0.026	8.005	0.000
Trust -> Green Industry_ Practices	0.198	0.197	0.028	7.159	0.000
Trust -> Malaysian Economic Policies	0.180	0.179	0.028	6.469	0.000

All 12 pre-hypothesized associations in this study passed the significance test with $p < 0.001$, and all hypotheses H1 through H12 were fully supported. This confirms that Malaysia's MADANI values exert a positive impact on green industries and economic policies, which underpins the core argument of this study.

Main Hypotheses Testing

This study first completes the assessment of the direct effects of each dimension of MADANI, then proceeds to conduct the test of the main structural model. In the main model of this study presented in Fig. 4, MADANI, which incorporates six core values, is defined as a higher-order construct, and this model tests its impacts on green industry practices and Malaysia's economic policies.

This study relies on the output of empirical charts and tables to test the explanatory power of the MADANI model for the core dependent variables of Malaysia's sustainable development. Verification finds that the model's variance explanation rate meets the required standard, and it can support subsequent related research.

Table 6
Main Hypotheses Results

MADANI -> Green Industry_ Practices	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
	0.738	0.739	0.017	42.359	0.000
MADANI -> Malaysian Economic Policies	0.746	0.746	0.017	42.911	0.000

The results of this study show that green industry practices ($\beta = 0.738$) and Malaysia's economic policy ($\beta = 0.746$) are both positive and statistically significant. The two core hypotheses of the study are confirmed to hold, which verifies that the MADANI framework is suited to Malaysia's green transition.

7. Discussion

This study conducts an empirical test of Malaysia's local MADANI value-oriented sustainable governance framework. All six of its dimensions (sustainability, prosperity, innovation, respect, trust, and care and empathy) exert a significant positive impact on the local transformation of sustainability-oriented industries and relevant policy development. The high-order MADANI construct developed in this study passed empirical testing, and can explain 73.8% of the variance in local green industry practices and 74.6% of the variance in national-level economic policies. All regression β coefficients and p-values meet the empirical standards for social science research, verifying the applicability and rationality of the framework. When unpacking the independent effects of the core dimensions, the sustainability dimension aligns with UNDP's (2024) argument that transitions must balance multi-dimensional values, as well as D'Amato et al.'s (2021) assertion that sustainability is not an isolated environmental

issue. The prosperity dimension aligns with the consensus put forward by Joseph et al. (2023) and Wang et al. (2022) that economic growth and environmental responsibility can coexist, which firmly establishes the academic rationality of this study's conclusions.

These findings match the core requirement of Freeman's (1984) stakeholder theory to balance the interests of multiple stakeholders, and align with Golgeci et al.'s (2021) cutting-edge view on the local adaptation of governance frameworks, confirming that the MADANI framework is fully suited to Malaysia's local sustainable development needs. This study uses Malaysia's MADANI framework as its core analytical vehicle, and empirically tests the impact of its core dimensions on two dependent variables: sustainable development-oriented green industry practices and national economic policy transformation. The study first verifies that the prosperity dimension within the framework delivers a significant positive contribution to both dependent variables, then conducts standardized empirical analysis of the three remaining core dimensions (innovation, respect, and trust) in sequence. For the innovation dimension, the regression results of this study show that its regression coefficient β for green industry practices is 0.164, with a significance level of $p < 0.001$, accounting for a 16.4% contribution share; its β for national economic policy transformation is 0.204, $p < 0.001$, with a 20.4% contribution share. This result aligns with the cutting-edge research conclusions of Alsharif et al. (2024), and also conforms to the core logic of the classic stakeholder theory proposed by Freeman (1984), providing quantitative support for the design of Malaysia's local green industry policies.

This study carries out independent empirical research through regression analysis, to test the impact of each dimension of Malaysia's MADANI governance framework on the country's overall national sustainable transition agenda. The core empirical results are as follows: The care and empathy dimension records a regression coefficient of $\beta = 0.143$ ($p < 0.001$) and a contribution rate of 14.3% for green industry practices, and a regression coefficient of $\beta = 0.219$ ($p < 0.001$) and a contribution rate of 21.9% for national economic policy; this dimension is the indicator with the strongest impact on economic policy among all MADANI dimensions. The respect dimension has a β value of 0.178 ($p < 0.001$) and a contribution rate of 17.8% for green industry practices, and a β value of 0.162 ($p < 0.001$) and a contribution rate of 16.2% for economic policy transition. The trust dimension has a β value of 0.198 ($p < 0.001$) and a contribution rate of 19.8% for green industry practices, and a β value of 0.180 ($p < 0.001$) and a contribution rate of 18.0% for economic policy transition. The core findings of this study align with existing research by Bocken & Short (2021), Joseph et al. (2023), Jaeger-Erben et al. (2021), and Wang et al. (2022), as well as the assessments set out in the United Nations Development Programme's 2024 Southeast Asia Sustainable Development Report. This research not only expands existing scholarship in the field of sustainable governance, verifies the core connotations of the MADANI framework, and proves that the Care and Empathy dimension is measurable and capable of generating tangible real-world impacts, but also provides support for Malaysia to implement inclusive policies and consolidate the social foundation for policy implementation.

8. Conclusion

This study focuses on Malaysia's sustainable transition agenda, and applies the partial least squares structural equation modeling (PLS-SEM) method to test the impact of six dimensions of the country's MADANI sustainable governance framework on green industrial practices and national economic policies. This paper proposes a high-level MADANI sustainable governance model adapted to the Malaysian context. This framework comprises six dimensions grouped into two pillar categories: the development-oriented set includes three dimensions: sustainability, prosperity, and innovation; the ethics-oriented set covers three dimensions: respect, trust, and care and empathy. This study adopts the PLS-SEM method to conduct empirical testing. The results show that all six dimensions have a significant positive effect on sustainability-oriented industrial transformation and economic policy formulation, overturning the long-held assumption in mainstream research that sustainable governance relies solely on environmental regulation and technological progress. Among these, the development-oriented dimensions strengthen green industrial competitiveness, environmental responsibility, and sustainable economic resilience, while the ethics-oriented dimensions enhance institutional legitimacy, stakeholder collaboration levels, and social responsibility governance practices. This framework exhibits extremely strong explanatory power for the two core dependent variables. This study delivers threefold contributions. Theoretically, it expands the sustainable governance literature and verifies the effectiveness of a multi-dimensional value-driven governance model. Methodologically, it uses PLS-SEM to clarify the complex governance relationships underpinning sustainable transition. Practically, it provides Malaysian policymakers, industrial entities, and relevant stakeholders with an implementable plan that integrates ethical values, and clarifies the core improvement priorities for the country's long-term transformation. This study has two limitations: its cross-sectional research design cannot track changes across the time dimension, and its scope only covers local stakeholders, which limits the generalizability of its conclusions. Future research can adopt longitudinal studies, cross-national comparisons, and mixed-methods research designs to test the long-term utility of this framework. The findings of this study support the growing global academic consensus that governance frameworks integrating values are increasingly critical for emerging economies to achieve long-term development.

Declarations

Acknowledgement

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Ethical Approval and accordance

Ethical approval for this study was granted by the Research Ethics Committee, Jadara University, Irbid, Jordan (Approval No. REC1059/JU/JO-208), on 15 August 2026. The study was carried out in accordance with the Jadara University Ethics Policy (2025, EP-v20.85), and in particular with Section 12 of this policy, which concerns the use of the human subjects in the research.

Consent to participate

Informed consent was obtained from all the participants prior to their involvement in this study. The participants were informed about the purpose, the procedures, and the voluntary nature of the study, and the consent of the participants to participate was implied through the voluntary completion and the submission of the questionnaire.

Data Availability

The data generated and analyzed during the current study are available from the corresponding author upon reasonable request. The data are not publicly available because they contain information collected from the research participants, and the data are subject to confidentiality and ethical restrictions.

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Figures

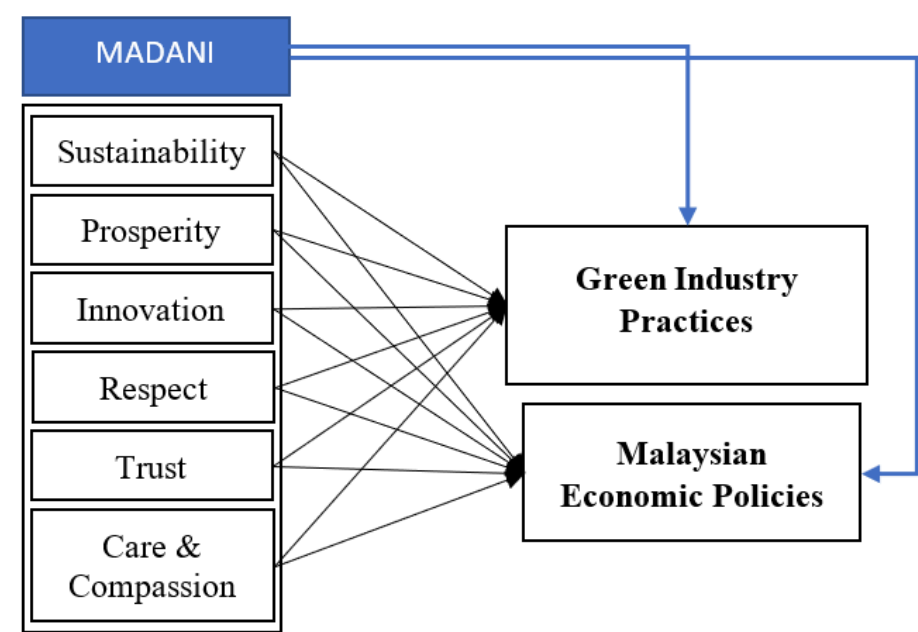


Figure 1
Conceptual Framework

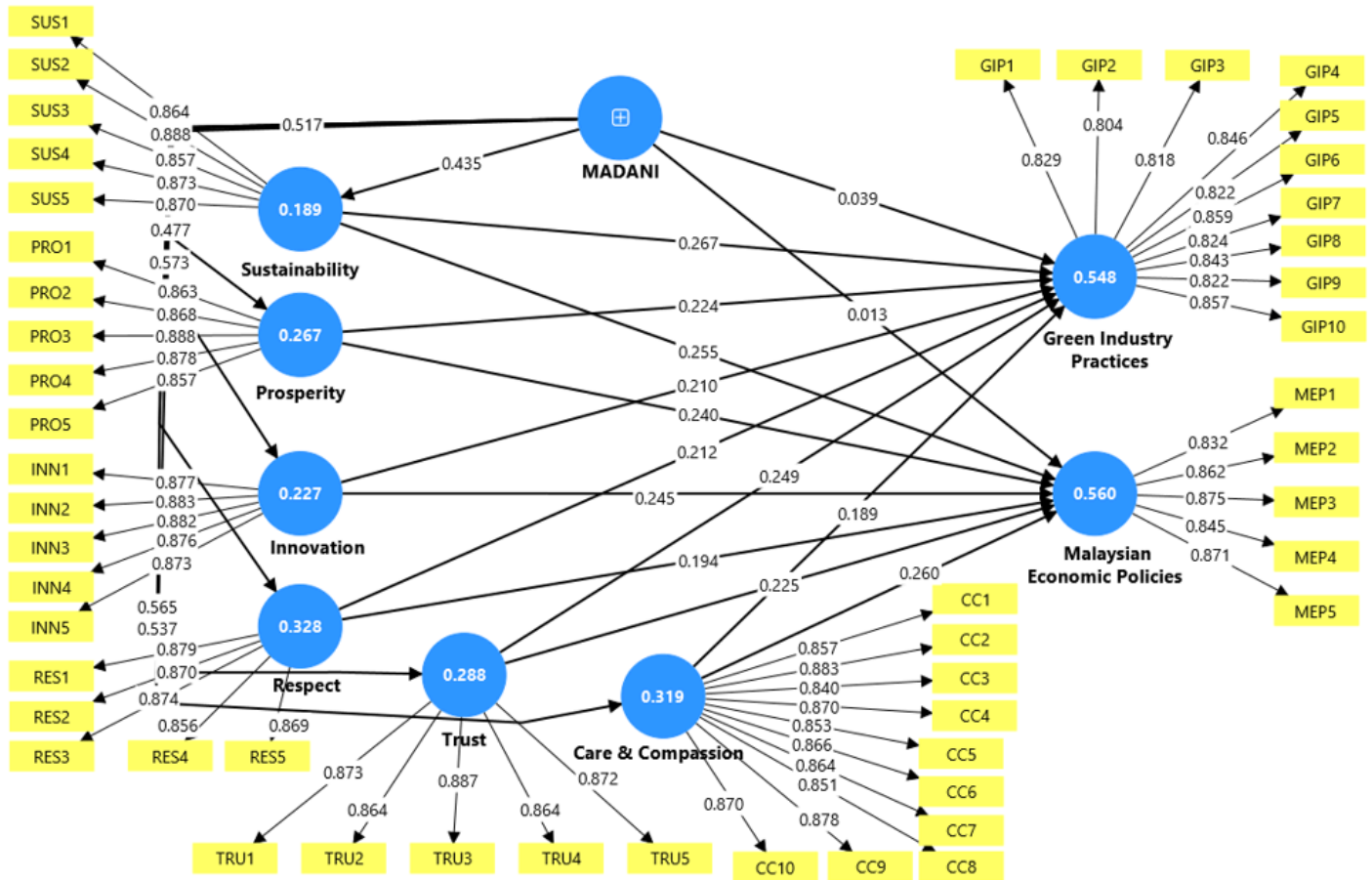


Figure 2
Measurement Model Assessment

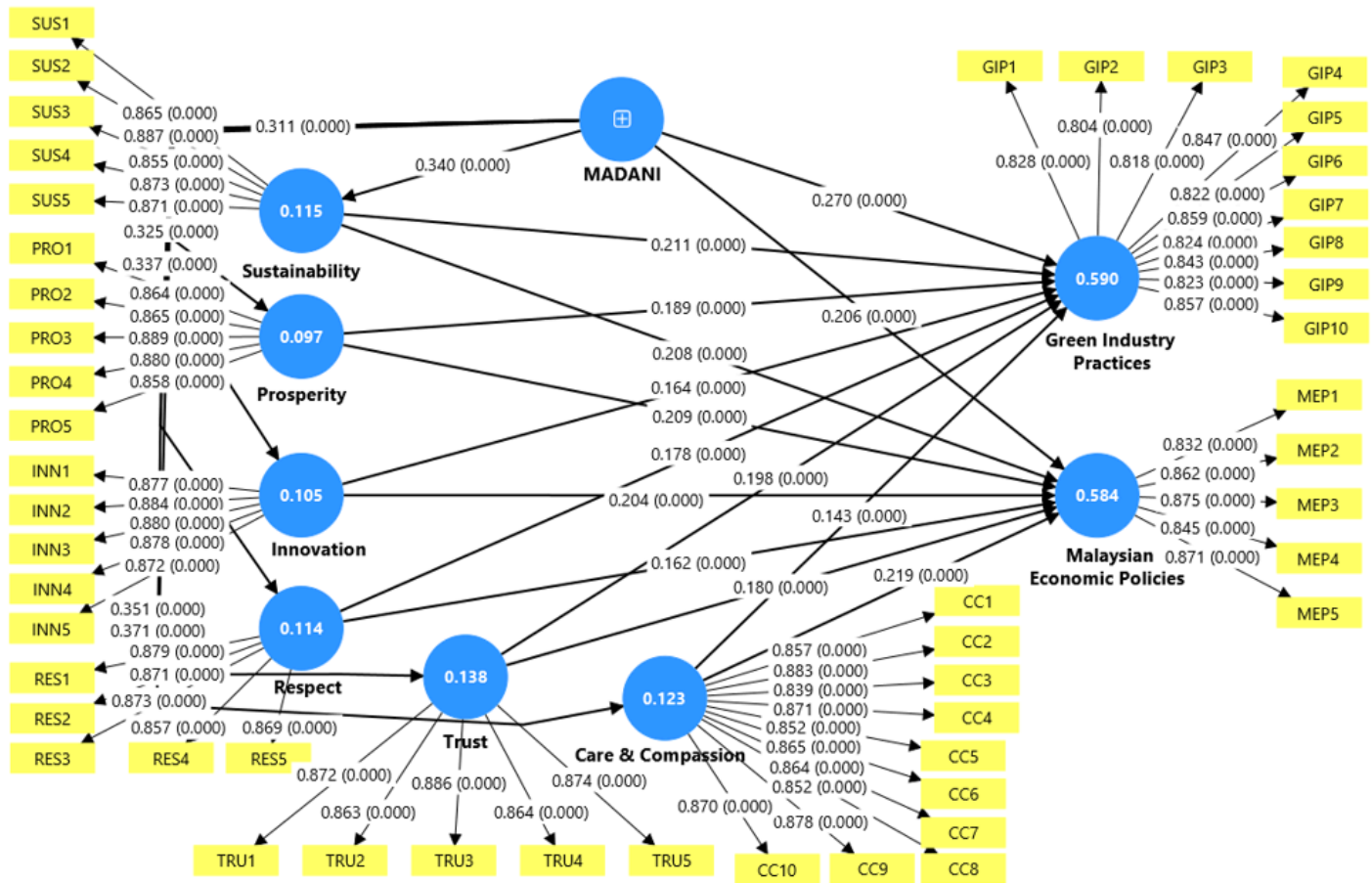


Figure 3

Structural Model Results