



STRATEGY FORMULATION AND SUSTAINABILITY PERFORMANCE IN INDIGENOUS (BUMIPUTERA) CONSTRUCTION COMPANIES IN MALAYSIA: EXAMINING THE MEDIATING ROLE OF STRATEGIC AGILITY

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Abstract

This study examines the mediating role of strategic agility in the relationship between strategy formulation and sustainability performance of Indigenous construction companies in Selangor. Adopting a quantitative design, data were collected through an online survey of G7 Indigenous construction, with 69 responses obtained from random sample of 100 companies registered in the Construction Industry Development Board of Malaysia database. Using SmartPLS 4.0 for Structural Equation Modeling (SEM), the analysis revealed that both strategy formulation and strategic agility significantly improve firm performance. Moreover, strategic agility was found to mediate the positive relationship between strategy formulation and sustainable performance. These findings provide empirical support to the theory of maneuvers and the strategic management literature by examining the relationships between the variables. The findings of this study will encourage Indigenous construction companies to incorporate strategic agility practices into strategy formulation to survive and remain competitive in the challenging environment of the construction industry.

Keywords: Strategic planning; strategy formulation; strategic agility; sustainability performance; Indigenous construction companies

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INTRODUCTION

The construction sector in Malaysia has played a pivotal role in the country's socioeconomic development, particularly through the New Economic Policy (NEP) of 1970, which sought to increase Indigenous (Bumiputera) participation in business. While the number of Indigenous construction companies has grown significantly from 2,049 in 1972 to 66,906 by 2021 (CIDB, 2021), their competitiveness remains questionable. Indigenous companies continue to rely heavily on government contracts and face persistent challenges such as weak financial management, inadequate planning, and high bankruptcy rates (Rahman & Rahmat, 2016). Large-scale projects remain dominated by non-Indigenous construction firms, highlighting the ongoing vulnerability of Indigenous construction companies (Janipha et al., 2021). To enhance competitiveness, such companies must strengthen technical expertise, build robust networks, secure financial resources, and strategically align organizational objectives.

International evidence suggests that Indigenous companies often struggle to sustain competitiveness. For example, Irish-owned companies have lost domestic market share since the 1960s under free trade (O'Malley, 2024), while Indigenous oil and gas companies in Ghana and Ivory Coast face capital mobilization challenges (Adjei & Ackah, 2023). These cases emphasize the significance of strategic planning and agility for organizational survival in highly competitive and dynamic environments. Although strategic planning is often associated with improved organizational performance, research findings remain mixed, with some studies reporting positive effects while others find negligible or even negative outcomes (Jayawarna & Dissanayake, 2019). Scholars increasingly argue that strategic planning must be complemented by strategic agility—the ability to anticipate, adapt, and reconfigure resources in response to environmental change (Roberts & Stockport, 2009). To remain viable, companies must adopt adaptable strategies that address globalization, technological advancements, workforce mobility, and accelerated knowledge transfer (Chen et al., 2010).

Despite the growing recognition of strategic agility, limited empirical research has examined its interaction with strategic planning and sustainability performance, particularly among Indigenous construction companies in Malaysia. Balancing structured planning with agility remains an unresolved challenge in both theory and practice. While strategic planning offers structure, agility provides adaptability. Yet, the mechanism through which these two constructs jointly influence sustainability outcomes remain underexplored. Furthermore, existing research highlights gaps in stakeholder engagement during strategy formulation (Desta, 2019) and in understanding the contextual realities faced by Indigenous construction companies in volatile markets (Balatbat et al., 2011; Yesil & Kaya, 2013).

This study addresses these gaps by investigating the relationship between strategic planning, strategic agility, and corporate sustainability performance among Indigenous construction companies in Malaysia, focusing on G7 Indigenous construction companies in Selangor. This context is significant given Selangor's concentration of high-tier Indigenous companies and its central role in Malaysia's construction industry. By integrating insights from strategic management, contingency theory, and sustainability research, this study provides new perspectives on how Indigenous construction companies can balance formalized planning with adaptive agility to improve long-term performance.

The remaining of this paper is structured as follows. The next sections review the relevant literature and develops research framework. The methodology of the empirical study is then outlined, followed by the presentation of results. The paper concludes with a discussion of findings, implications, and recommendations for both theory and practice.

LITERATURE REVIEW

Research Model

Grounded in contingency theory, this study proposed that strategic agility mediates the relationship between strategy formulation and sustainability performance (Figure 1). Contingency theory is a well-recognized framework in strategic management literature, widely applied to explain variations in organizational performance (Ho, 2016; Wilden et al., 2013). The theory posits that an organization's performance is contingent upon the alignment of its strategy with structural and contextual factors such as organizational culture, management style, and problem-solving approaches (Wilden et al., 2013). Within this framework, strategy formulation is conceptualized as a critical element of the broader strategic planning process, while strategic agility provides a more holistic understanding of how organizations translate strategic intent into performance outcomes. Accordingly, this study investigates the direct relationship between strategy formulation and sustainability performance, while also theorizing that strategic agility serves as a mediator in this relationship. This conceptualization advances current understanding by integrating planning and adaptability as complementary mechanism that jointly enhance sustainability-oriented performance.

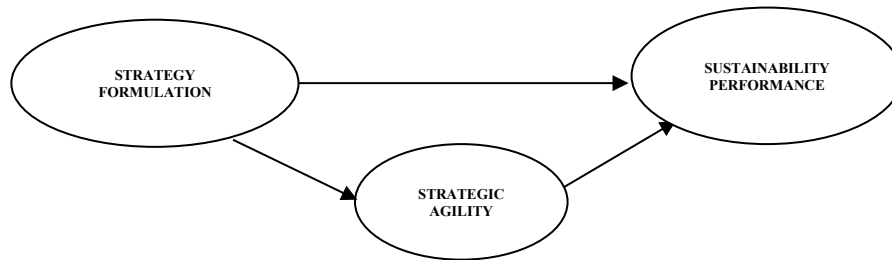


Figure 1: Research Framework

Strategic Planning

Strategic planning is a long-established process that helps organization sustain operations and enhance competitiveness (Aminu Umar et al., 2020; Chaudhry et al., 2012). It is considered essential for effective management organizational success (Tarifi, 2021; Al-Ghrairee, 2021). To be effective, strategic plans must be simple, practical, and flexible enough to adapt to uncertainties and environmental changes (Arend et al., 2017). Fundamentally, strategic planning involves formulating, implementing, and evaluating decisions that collectively guide an organization towards its long-term goals (Gurel & Tat, 2017).

Strategy Formulation

Strategy formulation is a process by which organizations define their business scope, set objectives, and determine the methods to achieve them (Meier, 2010). It generally begins with environmental analysis to guide the development of action plans that enhance competitiveness (Král & Králová, 2016). Effective strategy formulation is essential for improving performance and sustaining growth (Nwachukwu et al., 2018). A sound strategy must align with organizational resources, industry conditions, and situational demands to ensure relevance and success (Kimanthi, 2015).

Strategic Agility

Strategic agility refers to an organization's ability to continuously adapt and refine its strategic direction in response to evolving goals and dynamic environmental conditions. Although definitions vary, three core capabilities are widely recognized: strategic sensitivity, resources fluidity, and leadership unity (Doz & Kosonen, 2008). In the construction industry, where volatility and competition are high, companies require adaptive strategies for survival. Earlier studies emphasized the importance of clear strategic goals (Mulcahy, 1990), and the adoption of long-term planning in the 1990s (Betts & Ofori, 1992), though the implementation has often been limited due to its complexity and cost. Industry volatility continues to threaten companies, with bankruptcy remaining a common

challenge (Omar & Azmi, 2015). In Malaysia, despite government efforts to support Indigenous entrepreneurship, growth of Indigenous companies has lagged behind overall economic expansion (Ramli et al., 2017). Accordingly, construction companies must adopt strategic agility practices to remain competitive and resilient in uncertain markets.

Indigenous Construction Companies

In Malaysia, construction companies are categorized as either Indigenous or non-Indigenous. To qualify as Indigenous, a business must have at least 51% Malays or other Bumiputera groups, with the majority of its workforce also comprising Indigenous employees (Rahman & Rahmat, 2016). Non-Indigenous firms are owned by individuals from other ethnic groups. Regardless of ownership, all construction companies operating in Malaysia must register with the Construction Industry Development Board (CIDB), which regulates their paid-up capital and bidding capacity (Mustafa Kamal et al., 2012). Registered contractors are assigned grades ranging from G1 to G7, reflecting their financial strength and capacity to undertake projects of varying size. A company's organizational structure is closely tied to its registration grade, which determines its bidding eligibility and overall competitiveness. As firms expand their financial resources, they may apply for higher grades, enabling them to compete for larger projects. According to CIDB classifications, construction small and medium - sized enterprises (SMEs) are categorized as small-sized (G1 to G3), medium-sized (G4 and G5), and large-sized (G6 and G7).

Sustainability Performance

Firm performance refers to the outcomes achieved relative to internal and external objectives, encompassing both financial and non-financial measures (Njeri, 2017). Financial indicators include return on investment (ROI), profit margin, and capital ratios, while non-financial indicators involved productivity, growth, and customer satisfaction. In contrast, sustainability performance extends beyond traditional measures by integrating the triple bottom line-economic, environmental, and social dimension (Elkington, 1998; Amrollahi et al., 2014; Nguyen et al., 2018; Amin et al., 2019). It reflects an organization's capacity to address risks and responsibilities while creating long-term value across these three dimensions (Amin et al., 2019).

Strategy Formulation and Sustainability Performance of Indigenous Construction Companies

Organizational strategy formulation is crucial for establishing both long-term and short-term goals, aligning objectives with actions, and ensuring competitiveness. Strategic planning provides a structured process for creating, implementing, and

managing strategies to achieve organization's goals within a defined timeframe. Previous studies highlight its positive and significant impact on organizational performance (Skokan, 2013; Babafemi, 2015; Gomera, 2018). However, critics argue that traditional strategic planning can be rigid and less effective in dynamic environments that flexibility, creativity, and rapid response (Weber & Tarba, 2014). In the construction sector, strategy formulation is particularly important for navigating turbulence and sustaining competitiveness (Langford & Male, 2001; Amrollahi & Rowlands, 2017). Thus, Indigenous construction companies must treat strategy formulation as a critical starting point for effective strategic planning.

Nonetheless, strategic planning alone may not guarantee improved performance (Abuzaid, 2018; Hartmann & Stillings, 2015). Companies must adapt quickly to environmental changes, as flexibility is essential for long-term survival (Gotcher, 1977). Empirical evidence shows that organizations with formalized strategic planning process outperform those without (Hakimpoor, 2014). Similarly, Arasa & K'Obonyo (2012) emphasized the importance of formulating, implementing, monitoring, and evaluating strategies to enhance organizational outcomes. Based on these arguments, this study proposes the following hypothesis:

H₁ – Strategy formulation positively influences sustainability performance of Indigenous (Bumiputera) construction companies in Selangor.

H₂ – Strategy formulation positively influences strategic agility of Indigenous (Bumiputera) construction companies in Selangor.

H₃ – Strategic agility positively influences the sustainability performance of Indigenous (Bumiputera) construction companies in Selangor.

H₄ – Strategic agility mediates the relationship between strategy formulation and the sustainability performance of the Indigenous (Bumiputera) construction companies in Selangor.

RESEARCH METHODOLOGY

This study employed a quantitative research design using document analysis and survey data collected via questionnaires distributed between 2022-2023. The population consisted of 855 grade G7 Indigenous construction companies officially registered in Selangor. Grade G7 denotes large-scale companies with paid up capital exceeding RM750,000.00 and unrestricted tendering capacity. The focus on Indigenous construction companies was based on their limited economic participation (EPU, 2018), their significant presence in the construction sector, and ongoing sustainability challenges (Rahman & Rahmat, 2016; Ayub & Eman, 2006). Companies were randomly selected from the CIDB's Centralized Information Management System (CIMS), and participation was voluntary.

The sample size was determined using G-Power 3.1 statistical power analysis (Cohen, 1992), with 66 respondents required. Ultimately, 69 responses were obtained. This aligns with Chuan's (2006) recommendations to apply statistical power analysis to ensure confidence in study results.

The study began with a literature review emphasizing Contingency Theory and strategic agility, leading to the development of metrics and dimensions for empirical analysis. Measurement items were adapted from established works (El-Mobayed, 2006; Cegarra-Navarro et al., 2016; Nafei, 2016; Thompson et al., 2020). Sustainability performance was assessed through Elkington's Triple Bottom Line framework, using the multi-dimensional scales from Manaff (2019), and Asha'Ari (2020). Responses were captured using a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). Data were analyzed using Partial Least Square Structural Equation Modeling (PLS-SEM) with SmartPLS 4, covering descriptive statistics, measurement and structural model evaluation, and hypothesis testing.

ANALYSIS AND RESULTS

From 69 valid responses (69% response rate), 53.6% were CEOs, 17.4 % were Senior Managers, and 29.0% were department managers, ensuring respondents were qualified to represent their companies. Most had over six years of tenure (85.5%), and 68.1% of companies had operated more than 15 years, indicating experienced leadership and established organizations. The demographic profile is presented in Table 1.

Table 1: Respondent's demography for the study

Category	Items	Frequency	Percentage (%)
Designation	CEO	37	53.6
	Senior Manager	12	17.4
	Manager	20	29.0
Highest educational qualification	PhD	12	17.4
	Masters	19	27.5
	Bachelor's Degree	38	55.1
Number of years in the construction industry	Less than 5 years	3	4.3
	5-10 years	14	20.3
	11 – 15 years	22	31.9
	More than 15 years	30	43.5
Number of years working in the company	Less than 1 years	3	3.7
	1- 5 years	7	10.8
	6 - 10 years	16	23.1
	More than 10 years	43	62.4
Company establishment	Less than 5 years	1	1.7
	5-10 years	4	5.2
	11 – 15 years	17	25.0

Category	Items	Frequency	Percentage (%)
Company business structure	More than 15 years	47	68.1
	Sole proprietorship	12	17.4
	Public listed	8	11.6
	Private limited	49	71.0
Type of business	Building Construction (B)	18	26.1
	Mechanical engineering (ME)	10	14.5
	Civil Engineering Construction (CE)	34	49.3
	Facilities (F)	7	10.1

Source: Author's survey

Measurement Model Analysis

As shown in Table 2, all variables demonstrated adequate validity, with average variance extracted (AVE) values exceeding 0.5. Reliability was also confirmed, as Cronbach's α and composite reliability values were above 0.7. Although some variables display loadings below 0.7, they were retained since the AVE values exceed the 0.6 threshold, meeting acceptable standards (Byrne, 2016). Discriminant validity was also achieved. As presented in Table 3, the square roots of AVE values exceeded the inter-construct correlations, thereby satisfying the Fornell-Larcker criterion.

Table 2: Results of Reliability and Convergent Validity Tests

Descriptive	Cronbach's α	C Reliability	AVE	Loading	p-values	Conclusion
Strategic Formulation	0.922	0.935	0.616			Reliable
SF1				0.788	< 0.001*	Valid
SF2				0.812	< 0.001*	Valid
SF3				0.777	< 0.001*	Valid
SF4				0.746	< 0.001*	Valid
SF5				0.777	< 0.001*	Valid
SF6				0.840	< 0.001*	Valid
SF7				0.852	< 0.001*	Valid
SF8				0.716	< 0.001*	Valid
SF9				0.748	< 0.001*	Valid
Strategic Agility	0.751	0.855	0.666			Reliable
SA 1				0.871	< 0.001*	Valid
SA 2				0.896	< 0.001*	Valid
SA 3				0.660	< 0.001*	Valid
Sustainable Performance	0.918	0.929	0.505			Reliable
CSP1				0.714	<0.001*	Valid
CSP2				0.706	<0.001*	Valid
CSP3				0.659	<0.001*	Valid
CSP4				0.711	<0.001*	Valid
CSP5				0.651	<0.001*	Valid

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Descriptive	Cronbach's α	C Reliability	AVE	Loading	p-values	Conclusion
CSP6				0.827	<0.001*	Valid
CSP7				0.823	<0.001*	Valid
CSP8				0.643	<0.001*	Valid
CSP9				0.674	<0.001*	Valid
CSP10				0.629	<0.001*	Valid
CSP11				0.762	<0.001*	Valid
CSP12				0.671	<0.001*	Valid
CSP13				0.731	<0.001*	Valid

Note: * Indicates significant at 1% level of significance

Source: Author's analysis

Table 3: Discriminant Validity (Fornell-Larcker Criterion)

	Strategic Agility	Strategy Formulation	Sustainable Performance
Strategic Agility	0.816		
Strategy Formulation	0.656	0.785	
Sustainable Performance	0.604	0.692	0.71

Source: Author's calculation

Structural Model Analysis

The structural model was assessed using collinearity diagnostics, coefficient of determination (R^2), Standardized Root Means Square Residual (SRMR), Chi-square, and Normed Fit Index (NFI). Following Hair et al., (2011), collinearity was tested using variance inflation factor (VIF) with a threshold value of 5. As shown in Table 4, all constructs recorded VIF values between 1.000 and 1.754, well below 5, indicating no collinear issues.

Table 4: Results of Collinear Test

	VIF
Strategic _Agility -> Sustainability _Performance	1.754
Strategy _Formulation -> Strategic _Agility	1
Strategy _Formulation -> Sustainability _Performance	1.754

Source: Author's calculation

The R^2 indicates the variance of an endogenous variable due to its exogenous connections. Hair et al. (2016) categorized an R^2 value of 0.75 as indicative of substantial predictive accuracy, an R^2 value of 0.5 as representative of moderate predictive accuracy, and an R^2 value of 0.25 as a low level of predictive accuracy. From the analysis, the values of R^2 in Table 5 are below 0.75, suggesting a moderate level of predictive accuracy (Chin, 1998).

Table 5: Coefficient of Determination (R^2) Results

Dependent Variable	R^2
Sustainability Performance	0.519
Strategic Agility	0.43

Source: Author's calculation

Table 6 demonstrates that all the values fall within an acceptable range, indicating that the research model exhibits a strong fit (Hair et al., 2016). The results further corroborated the hypothesis that strategic agility mediates the relationship between strategy formulation and the sustainable performance of Indigenous construction companies in Selangor.

Table 6: Model of Goodness Fit

Parameter	Value	Criterion	Conclusion
SRMR	0.188	< 0.08	Moderate
Chi-square	851.877	> 7.37	Good
NFI	0.504	> 0.9	Moderate

Source: Author's calculation

Hypothesis Testing

The structural model examined the direct relationships among the variables. The hypothesis testing results in Table 7 revealed that the hypothesis was supported by the empirical data with its T value greater than or equal to 1.64 and P value below the acceptable significant level of 0.1 (Hair et al., 2016).

Table 7: Hypothesis Testing Results

	Path Coefficient	Std. Dev. (STDEV)	T value	P value	Conclusion
H ₁ - Strategy formulation positively influences sustainability performance of Indigenous (Bumiputera) construction companies in Selangor.	0.52	0.11	4.727	<0.001	Supported
H ₂ - Strategy formulation positively influences strategic agility of Indigenous (Bumiputera) construction companies in Selangor.	0.656	0.073	8.976	<0.001	Supported

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	Path Coefficient	Std. Dev. (STDEV)	T value	P value	Conclusion
H₃ - Strategic agility positively influences the sustainability performance of Indigenous (Bumiputera) construction companies in Selangor.	0.264	0.121	2.182	0.015	Supported
H₄ – Strategic agility mediates the relationship between strategy formulation and the sustainability performance of the Indigenous (Bumiputera) construction companies in Selangor.	0.173	0.089	1.947	0.026	Supported
Note: * indicates significant at 10% level of significance (one-tailed).					

Source: Author's calculation

DISCUSSION

The results obtained in this study revealed that strategy formulation has a positive effect on the sustainability performance of Indigenous construction companies ($\beta=0.52$, $t=4.727$, $p<0.001$) and strategic agility ($\beta=0.656$, $t=8.976$, $p<0.001$). Thus, H1 and H2 were supported. These findings are in line with many literatures that shows favourable correlation between strategic planning and performance (Glaister et al., 2008; Arasa & K'Obonyo, 2012; Skokan, 2013; Babafemi, 2015; Gomera, 2018; Kabeyi, 2019; Nzewi & Mgbemena, 2016; Asil et al., 2019). For the third hypothesis H3, the study shows that strategic agility practices have a positive effect on the sustainability performance of Indigenous construction companies ($\beta=0.264$, $t=2.182$, $p<0.01$). Therefore, H3 was supported. Previous research has consistently reported similar results, suggesting a positive correlation between company performance and strategic agility (Claver-Cortés et al., 2007; Kornelius et al., 2021). The result of this study also confirms that strategic agility practices mediate the relationship between strategy formulation and the sustainability performance of the Indigenous construction companies in Selangor. This is due to the fact that the indirect path (Strategy Formulation → Strategic Agility → Sustainability Performance) is significant ($\beta=0.173$, $p<0.01$). Thus, H4 was supported. This result is consistent with numerous other studies that have shown that strategic agility practices serve as a mediator for the impact of strategic planning specifically strategy formulation on company performance (Dibrell et al., 2014; Gabrielsson et al., 2018; Kornelius et al., 2021).

CONCLUSION

The study intended to establish a link between strategy formulation and sustainable performance among Indigenous construction companies in Selangor as well as the impact of strategic agility on this relationship. Findings highlight the importance of integrating strategic agility into strategy formulation to enhance resilience, competitiveness, and sustainability performance in a volatile business environment. The unique contribution of this research is to draw attention to the need to incorporate strategic agility into the strategy formulation process in order to achieve sustainability performance. Consistent with prior research (Nwezi & Mgbemena, 2016; Asil & Farahmand, 2019; Dubey et al., 2019; Kornelius et al., 2021), these results confirm that strategic agility improves company performance. This baseline study examines how strategy formulation and strategic agility affects sustainability performance of Indigenous construction companies in Malaysia. The study contributes to both theory and practice by emphasizing the necessity of agile strategic planning for Indigenous construction companies, offering insights for managers and policymakers seeking to strengthen sustainable industrialization and resilient infrastructure in Malaysia.

ACKNOWLEDGEMENT

The author(s) would like to express their sincere gratitude to all respondents who participated in this study and to the Construction Industry Development Board (CIDB) Malaysia for providing access to industry data. Appreciation is also extended to colleagues and reviewers whose constructive feedback greatly improved the quality of this paper.

DISCLOSURE STATEMENT

The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work reported in this paper. No funding was received for this study.

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Received: 2nd May 2025. Accepted: 10th September 2025