JBS Nexus

JOHOR BUSINESS SCHOOL (JBS) NEXUS
e-ISSN: 3083-9130

Vol. 3 No. 1 (2026) 76-90
https://publisher.uthm.edu.my/ojs/index.php/jbsnexus

From Block Grants to Performance Governance: An Agency Theory Investigation of Public University Funding Reform Readiness in Malaysia

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DOI: https://doi.org/10.30880/jbsnexus.2026.03.01.008

Article Info

Received: 17 March 2026
Accepted: 25 May 2026
Available online: 26 June 2026

Keywords

Performance-based funding, higher education finance reform, Agency Theory, Malaysian public universities, mixed-methods, institutional capacity

Abstract

The Ministry of Higher Education is addressing the systemic efficiency gap in Malaysia's public universities through the New Funding Formula (NFF) as part of the Malaysia Education Blueprint 2015–2025. Although government funding for higher education has increased by 14% annually, the country ranks 45th out of 50 in terms of educational output. This study is the first empirical examination of NFF implementation readiness using Agency Theory in all 20 public universities in Malaysia at the same time. Three senior higher education funding specialists provided qualitative data, and 107 top management officials from Research, Comprehensive, and Focused universities provided quantitative data using an exploratory sequential mixed-methods design. Goals and Objectives, Outcome, Agency Relationship, Risk, Agent Ability, and Monitoring were the six-agency theory-based strategic constructs that were assessed. Agent Ability (r_s = 0.605, β = 0.249, $p < .05$), Risk (r_s = 0.574, β = 0.223, $p < .05$), and Outcome (r_s = 0.489, β = 0.203, $p < .05$) are the three significant predictors of NFF implementation effectiveness, collectively accounting for 53.8% of the variance (Adjusted R^2 = 0.538). Goals and Objectives (β=−0.200), Agency Relationship (β = 0.074), and Monitoring (β = 0.185), on the other hand, were statistically non-significant, indicating a crucial paradox: Malaysian universities show aspirational readiness but are hampered by risk exposure and capability deficiencies. A framework for the NFF's phased implementation is put forth, along with practical suggestions for university administration and the Ministry of Higher Education.

1. Introduction

The reform of higher education finance is a substantial yet understudied policy challenge for emerging economies. Government block grants provide approximately 60 to 70% of the funding for public universities in Malaysia, a system that has remained unaltered for more than three decades. However, the nation was ranked 45th out of 50 nations in educational outputs in the 2020 Universitas 21 ranking, despite being 15th in terms of resources invested (Williams & Leahy, 2020). This finding is disheartening. The primary policy issue that motivates the New Funding Formula (NFF) is the contradiction of substantial input and minimal output.

Shift 5 (Financial Sustainability) of the Malaysia Education Blueprint for Higher Education 2015–2025 (MEB HE) outlines the NFF, which advocates for a transition from non-transparent, negotiated block grants to a transparent, two-pillar formula that integrates input-based funding (cost per student) with performance-based funding linked to teaching outcomes, research productivity, innovation, and commercialisation (MoHE, 2015). Concurrently, this reform affects the financial sustainability of the entire national higher education system, all 20 public universities, and over 840 senior administrators. Its scope is unparalleled.

Despite the policy significance of NFF implementation readiness in Malaysia, empirical research on the subject is significantly scarce. The current body of research primarily emphasises the design of funding reforms (Ahmad & Farley, 2013, 2014) or the experiences of developed nations (Jongbloed, 2018; Orr, 2005), yielding limited insight into the governance conditions and strategic capabilities that are essential for the successful implementation of such reforms in developing countries. As the global failure rate of performance-based funding reforms is substantial, the importance of this gap is paramount. Inadequately executed transitions can exacerbate institutional inequality and generate detrimental incentive effects, as evidenced by the United States, Germany, and South Korea (Dougherty & Reddy, 2013).

The strategic conditions that influence the effectiveness of NFF implementation are examined in this study using Agency Theory as an analytical framework. The government-university funding relationship is a classic principal-agent dyad, characterised by delegated authority, information asymmetry, and potential goal divergence, which is why Agency Theory is particularly relevant to this study (Kivistö, 2007). The theory provides a systematic lexicon for examining the ways in which the design of funding mechanisms can synchronise incentives, mitigate risks, and enhance agent capability. These factors are critical for the successful reform of formula-based funding.

Three novel contributions are presented in this paper. Initially, it provides the first empirical multi-university assessment of NFF implementation readiness, utilising primary data from all 20 public universities in Malaysia. Secondly, it operationalises Agency Theory into six strategic dimensions that are relevant to the governance of higher education in developing nations and can be tested. Third, it demonstrates a substantial capability paradox: the sequencing and design of the NFF implementation are directly influenced by the substantial capacity deficiencies that are juxtaposed with elevated institutional aspirations.

2. Theoretical Framework and Literature Review

2.1 The Global Shift from Block Grants to Formula Funding

The overall transition from negotiated block grants to formula-based allocations represents a more extensive change in governance, in which higher education institutions are reclassified as performance-accountable entities rather than public servants (Marginson, 2018). In the 1990s, funding formulas, which are mathematical mechanisms that allocate resources based on specific criteria such as student enrolment, unit costs, and performance indicators, gained prominence as higher education institution systems expanded beyond the efficient management capabilities of bilateral budget negotiations (Jongbloed & Vossensteyn, 2001). Within this context, Table 1 delineates the funding methodologies of a variety of countries, situating Malaysia's reform path.

Table 1 *International comparison of higher education funding formula models*

Country	Primary Formula Basis	Performance Component (%)	Funding Authority
United States	Enrolment + Outcomes	Up to 100% (state-specific)	State Legislatures
United Kingdom	Teaching Excellence + Research	~30%	HEFCE / OfS
Australia	Demand-Driven Enrolment	~15%	Dept. of Education

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Country	Primary Formula Basis	Performance Component (%)	Funding Authority
Germany	Performance Agreements	~20–25%	State (Länder)
Finland	Output + Quality Indicators	~35%	MoEaC
Malaysia (Current)	Negotiated Block Grant	~0% (emolument-based)	MoHE
Malaysia (NFF Proposed)	Input + Performance	30% (revised from 5%)	MoHE

Note: MoHE = Ministry of Higher Education Malaysia; MoEaC = Ministry of Education and Culture (Finland); OfS = Office for Students (UK). Percentage figures are approximate and reflect the performance-weighted share of total operating grant.

Table 1 illustrates that Malaysia's current block grant system is an anomaly among comparable nations, as it offers virtually no funding that is contingent upon institutional performance. Although the 70:30 input-to-performance ratio proposed by the NFF is modest in comparison to Anglophone benchmarks, it represents a significant transformation in the Malaysian context.

2.2 Agency Theory in Higher Education Governance

Agency Theory, established by Jensen and Meckling (1976), asserts that when a principal (government) confers authority to an agent (university), a potential conflict arises from differing objectives and information asymmetry. The principal must allocate resources towards incentive mechanisms and monitoring systems to align agent behaviour, thereby mitigating agency costs. Kivistö (2007) was the inaugural scholar to systematically implement this framework in the context of higher education funding, illustrating that government-university relationships encompass all fundamental agency characteristics: delegation, information asymmetry, goal divergence, and contract incompleteness.

This study operationalises six strategic dimensions derived from agency theory literature, as illustrated in Figure 1. Government constructs (Goals and Objectives, Outcomes, Agency Relationships) exemplify the principal's strategies for aligning agent behaviour. The constructs from the university perspective (Risk, Agent Ability, Monitoring) denote the agent's capability to perceive and respond to these mechanisms. NFF Implementation Effectiveness is the outcome variable that measures the extent to which the funding reform fulfils its objectives of transparency, accountability, equity, and financial sustainability.

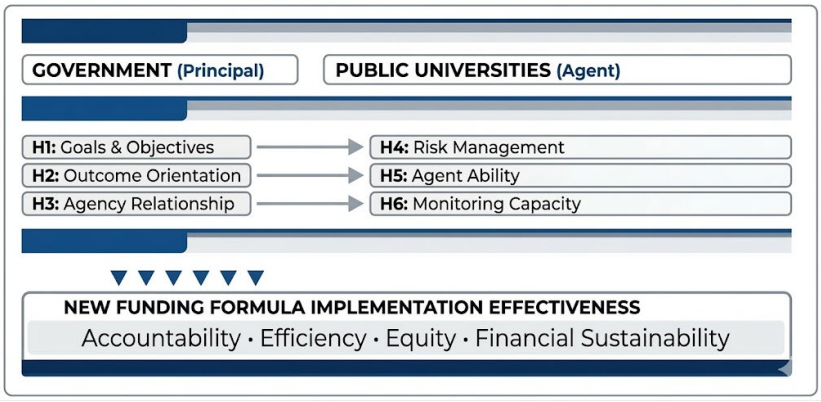

Fig. 1 *Conceptual framework integrating Agency Theory dimensions with NFF Implementation Effectiveness*

The framework argues that principal-side constructs (H1–H3) establish the governance conditions for NFF adoption, whereas agent-side constructs (H4–H6) dictate the institutional capacity to realise those conditions. Both dimensions are essential for the effective implementation of the formula.

2.3 The Malaysian New Funding Formula

The NFF, established through innovative research by the Accounting Research Institute (ARI) at Universiti Teknologi MARA, allocates operating grants via two interconnected pillars. Figure 2 illustrates the NFF architecture as disclosed by expert interviews carried out in this study.

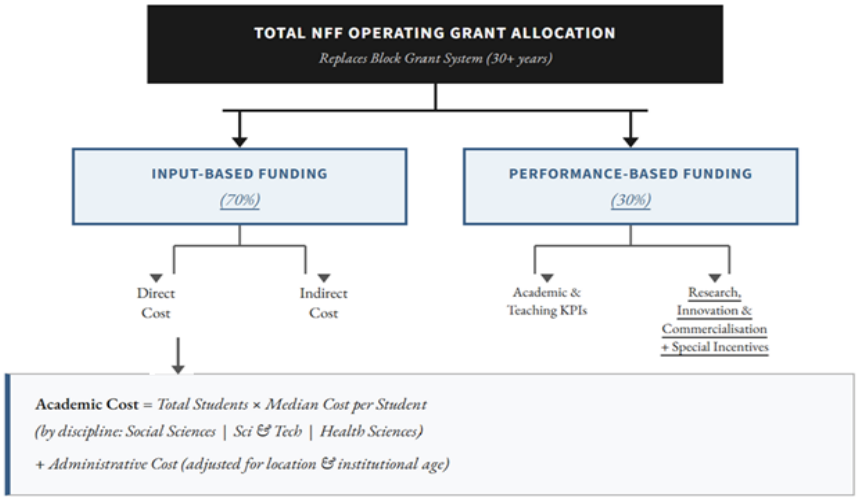

Fig. 2 *NFF two-pillar architecture showing the shift from 95:5 (initial) to 70:30 (revised) input-to-performance allocation ratio*

The decision to utilise median cost-per-student instead of mean cost-per-student as the calculation foundation is methodologically important: it safeguards against outlier institutions skewing the allocation baseline, thereby fostering equitable distribution among Research Universities (RU), Comprehensive Universities, and Focused Universities, the three classifications of Malaysia's 20 public universities.

3. Methodology

3.1 Research Design

An exploratory sequential mixed-methods design (Creswell & Plano Clark, 2018) was utilised, consisting of two interconnected phases as depicted in Figure 3. This design was chosen due to the NFF's institutional complexity, necessitating qualitative exploration prior to the valid operationalisation of quantitative measurement.

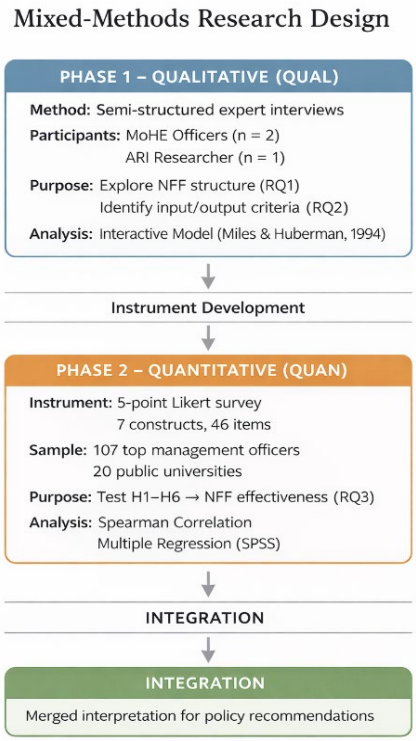

Fig. 3 *Two-phase exploratory sequential mixed-methods design*

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3.2 Phase 1 Qualitative Sample

Three participants were deliberately selected for their direct involvement in NFF policy development: Participant A and B (funding officers from MoHE) and Participant C (a senior researcher at the Accounting Research Institute, UiTM Shah Alam, who led the initial NFF cost modelling study). Interviews were audio-recorded, transcribed verbatim, and analysed using thematic coding, with member-checking employed to ensure credibility.

3.3 Phase 2 Quantitative Sample

The survey included senior management across Malaysia's 20 public universities, including Vice Chancellors, Deputy Vice Chancellors, and representatives from the Bursary, Strategic Planning, Endowment and Waqf, and Research Management Centres. Of the 265 distributed questionnaires, 107 valid responses were obtained, yielding a response rate of 40.37%, which conforms to acceptable benchmarks for senior management surveys in public sector contexts (Baruch & Holtom, 2008). Table 2 outlines the demographic profile.

Table 2 *Demographic profile of survey respondents*

Characteristic	Category	Frequency (n)	Percentage (%)
University Category	Research University (RU)	49	45.8
	Focused University	41	38.3
	Comprehensive University	17	15.9
Designated Position	Officer of Bursary	47	43.9
	Officer of Strategic Planning	24	22.4
	Officer of Research Management	20	18.7
	Officer of Endowment & Waqf	14	13.1
	Vice Chancellor / Deputy VC	2	1.9
Years in Position	More than 7 years	46	43.0
	Less than 2 years	23	21.5
	5 to 7 years	22	20.6
	2 to 4 years	16	15.0
Years in University	11 to 20 years	48	44.9
	5 to 10 years	25	23.4
	Less than 5 years	22	20.6
	More than 20 years	12	11.2

Note: Total N = 107 across all 20 Malaysian public universities.

3.4 Measures and Reliability

The questionnaire comprised six independent variable scales and one dependent variable scale, all assessed using a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). Items were extracted from validated instruments in agency theory and higher education governance literature and subsequently refined based on Phase 1 qualitative findings and expert assessment. The Shapiro-Wilk normality test demonstrated non-normality for all constructs ($p < .05$), thereby justifying the use of Spearman rank-order correlation and non-parametric analyses. Table 3 presents reliability statistics.

Table 3 *Reliability analysis Cronbach's Alpha values*

Construct	Source / Side	No. of Items	Cronbach's α	Interpretation
Goals and Objectives	Government (Principal)	6	0.876	Good
Outcome	Government (Principal)	6	0.822	Good
Agency Relationship	Government (Principal)	5	0.881	Good
Risk	University (Agent)	5	0.810	Good
Agent Ability	University (Agent)	8	0.848	Good
Monitoring	University (Agent)	6	0.836	Good
NFF Effectiveness (DV)	Outcome Variable	10	0.894	Good
Overall Government Scale		17	0.913	Excellent
Overall University Scale		19	0.916	Excellent

Note: α > 0.70 acceptable; α > 0.80 good; α > 0.90 excellent (Hair et al., 2007). All constructs exceeded the 0.70 threshold.

4. Qualitative Findings

4.1 Current Funding Architecture: The Block Grant Problem

The three participants described a system in which universities submit annual budget proposals to the Ministry of Higher Education, which evaluates them against governmental priorities and conducts negotiations limited by ceiling constraints set by the Ministry of Finance. Participant B characterised the system as predominantly supply-driven, asserting, 'The current funding methodology... is the block grant approach.'

I believe it surpasses 30 years. A block grant primarily relates to the hiring of lecturers at the university and the obligation to remunerate their salaries. The emphasis on emoluments, a pattern noted across all 20 universities in the quantitative phase, clarifies why 60–70% of public university budgets are restricted by personnel costs, leading to diminished capacity for strategic investments in research or infrastructure. Participant C revealed that public universities, particularly Research Universities, were necessitated to deplete financial reserves to mitigate operating deficits from 2016 onwards, attributed to a decline in grant management in relation to operating expenses. The primary motivation for NFF reform is financial unsustainability.

4.2 The NFF Architecture: Expert Perspectives

Attendee A acknowledged that the NFF is a component of Shift 5 (Financial Sustainability) of MEB HE 2015–2025, developed through ARI's financial sustainability research. The formula's principal innovation is the computation of cost-per-student using discipline-level median expenses across three categories: Social Sciences, Science and Technology, and Health Sciences, at both undergraduate and postgraduate tiers. Participant C remarked: 'We employ the median owing to the substantial volatility in cost per student, as the variation is considerable.' The use of the median rather than the mean functions as a deliberate equity measure to prevent high-cost universities from distorting the overall baseline.

The progression of funding allocation is noteworthy: ARI's initial simulation indicated a 95% allocation based on input and a 5% allocation based on performance. The revised policy allocated 70% to input and 30% to performance, signifying a choice to accelerate performance incentives while preventing financial instability for institutions dependent on stable, formula-driven revenue. Table 4 summarises key qualitative themes organised by research question.

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Table 4 *Summary of qualitative findings by research question*

Research Question	Key Theme	Evidence from Interviews	Policy Implication
RQ1: NFF Structure	Block grant obsolescence	30+ years; no performance link; emolument-centric	Full reform is justified and overdue
RQ1: NFF Structure	Dual-pillar NFF design	70% input (cost/student) + 30% performance	Phased performance increase recommended
RQ2: Input/Output Criteria	Median cost-per-student	Discipline-level median prevents variance distortion	Equity mechanism for smaller HEIs
RQ2: Input/Output Criteria	Administrative cost adjustment	Location, age, and size factors included	Protects peripheral and newer universities
RQ2: Input/Output Criteria	Performance indicators	QS ranking + OBB metrics suggested	KPI framework urgently needed
RQ2: Output Orientation	Financial sustainability	Reduce government dependency; cost efficiency	NFF as strategic autonomy enabler

Note: OBB = Outcome-Based Budgeting; KPI = Key Performance Indicator; HEI = Higher Education Institution.

5. Quantitative Findings

5.1 Descriptive Analysis: Construct Mean Scores

Table 5 presents descriptive statistics for all seven constructs. All constructs recorded mean scores in the 'High' range (M > 3.80 on a 5-point scale), signifying robust overall consensus within the sample. The Agency Relationship exhibited the highest mean (M = 4.185), succeeded by Goals and Objectives (M = 4.129) and Risk (M = 4.153). The effectiveness of NFF implementation was recorded at M = 4.108, indicating moderate to high confidence in the formula's potential, albeit moderated by concerns regarding implementation.

Table 5 *Descriptive statistics for all study constructs (N = 107)*

Construct	N	Mean (M)	Std. Dev. (SD)	Extent Level	Rank
Agency Relationship	107	4.185	0.595	High	1st
Goals and Objectives	107	4.129	0.576	High	2nd
Risk	107	4.153	0.525	High	3rd
Agent Ability	107	4.103	0.467	High	4th
Monitoring	107	4.114	0.509	High	5th
Outcome	107	4.009	0.610	High	6th
NFF Implementation Effectiveness (DV)	107	4.108	0.544	High	-

Note: 'High' extent level = Mean ≥ 3.80 on a 5-point Likert scale. Ranking is based on mean score, descending.

The construct with the highest aspiration, Agency Relationship (M = 4.185), was not a significant predictor of NFF effectiveness in regression analysis, presenting the study's central empirical paradox, which is addressed in Section 6.

5.2 Normality Testing

The Kolmogorov-Smirnov and Shapiro-Wilk tests confirmed non-normality across all constructs ($p < .001$ for all variables), warranting non-parametric statistical analysis. Table 6 presents the normality test results.

Table 6 *Normality tests Kolmogorov-Smirnov and Shapiro-Wilk results (N = 107)*

Variable	KS Statistic	KS Sig.	SW Statistic	SW Sig.	Distribution
Goals and Objectives	0.121	.001	0.955	.001	Non-normal
Outcome	0.157	.000	0.928	.000	Non-normal
Agency Relationship	0.163	.000	0.928	.000	Non-normal
Risk	0.157	.000	0.953	.001	Non-normal
Agent Ability	0.157	.000	0.957	.001	Non-normal
Monitoring	0.124	.000	0.965	.007	Non-normal
NFF Effectiveness (DV)	0.177	.000	0.934	.000	Non-normal

Note: KS = Kolmogorov-Smirnov; SW = Shapiro-Wilk. $p < .05$ for all variables confirms non-normal distribution, justifying Spearman rank-order correlation.

5.3 Spearman Correlation Analysis

Spearman's rank-order correlation was obtained for each independent variable in relation to NFF Implementation Effectiveness. Table 7 presents the complete correlation matrix, indicating that all six constructs are positively and significantly correlated with NFF effectiveness at the 0.01 level.

Table 7 *Spearman rank-order correlation results all constructs vs. NFF implementation effectiveness*

Construct	r_s	Sig. (2-tailed)	Strength	H Decision
H1: Goals and Objectives → NFF	.421	.000**	Moderate	Accepted (bivariate)
H2: Outcome → NFF	.489	.000**	Moderate	Accepted (bivariate)
H3: Agency Relationship → NFF	.538	.000**	Moderate-Strong	Accepted (bivariate)
H4: Risk → NFF	.574	.000**	Strong	Accepted (bivariate)
H5: Agent Ability → NFF	.605	.000**	Strong	Accepted (bivariate)
H6: Monitoring → NFF	.613	.000**	Strong	Accepted (bivariate)

Note: ** Correlation significant at 0.01 level (2-tailed). Strength interpreted per Evans (1996): < .20 = very weak; .20–.39 = weak; .40–.59 = moderate; .60–.79 = strong; ≥ .80 = very strong. N = 107 for all.

Monitoring ($r_s = .613$) and Agent Ability ($r_s = .605$) were identified as the most robust bivariate correlates, succeeded by Risk ($r_s = .574$) and Agency Relationship ($r_s = .538$). Figure 4 illustrates the strength ranking through a correlation heat map.

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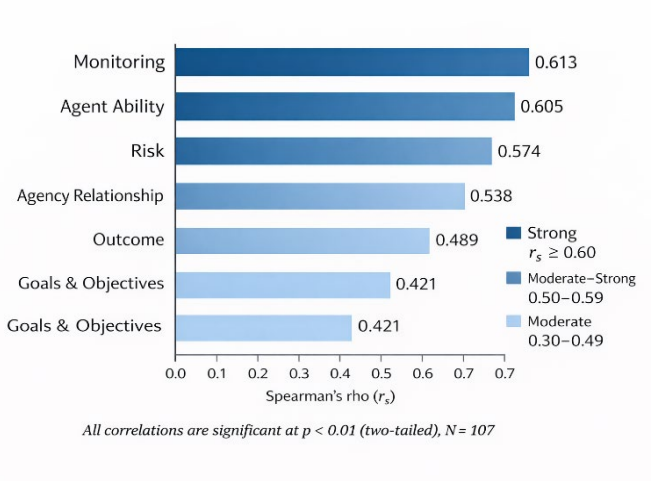

Fig. 4 *Visual ranking of Spearman correlation coefficients between all constructs and NFF Implementation Effectiveness*

5.4 Multiple Regression Analysis

A multiple regression analysis was conducted with all six constructs simultaneously included as predictors of NFF Implementation Effectiveness. The comprehensive model demonstrated statistical significance, with R = .734, R^2 = .538, and Adjusted R^2 = .510 (Standard Error = .381). The six-construct model accounts for 53.8% of the variance in NFF effectiveness. Table 8 displays the model summary, while Table 9 exhibits standardised regression coefficients.

Table 8 *Multiple regression model summary (N = 107)*

Model	R	R^2	Adjusted R^2	Std. Error	Variance Explained
Full Model	.734	.538	.510	.381	53.8%
Residual (unexplained)	-	-	-	-	46.2%

Note: Predictors: (Constant) Goals & Objectives, Outcome, Agency Relationship, Risk, Agent Ability, Monitoring. Dependent Variable: NFF Implementation Effectiveness.

Table 9 *Multiple Regression Standardised Coefficients and Hypothesis Results (N = 107)*

Hypothesis	Construct	Standardised β	Sig.	Outcome
H1	Goals and Objectives	−0.200	.829	*Rejected*
H2	Outcome	0.203	.028*	**Accepted**
H3	Agency Relationship	0.074	.467	*Rejected*
H4	Risk	0.223	.018*	**Accepted**
H5	Agent Ability	0.249	.016*	**Accepted**
H6	Monitoring	0.185	.103	*Rejected*

Note: * p < .05. Outcome: 'Accepted' = significant unique contribution to NFF effectiveness in multiple regression; 'Rejected' = non-significant unique contribution (β not statistically significant at p < .05). All bivariate correlations were significant (Table 7); regression results reveal unique contributions after controlling for inter-construct correlations.

The regression analysis indicates that Agent Ability (β = 0.249, p = .016) is the most significant unique predictor of NFF effectiveness, succeeded by Risk (β = 0.223, p = .018) and Outcome (β = 0.203, p = .028). Three constructs that were significant at the bivariate level Goals and Objectives, Agency Relationship, and Monitoring were found to be non-significant in the multiple regression analysis, suggesting that their impacts on NFF effectiveness are mediated or encompassed by the three significant predictors. Figure 5 illustrate encapsulates all hypothesis outcomes.

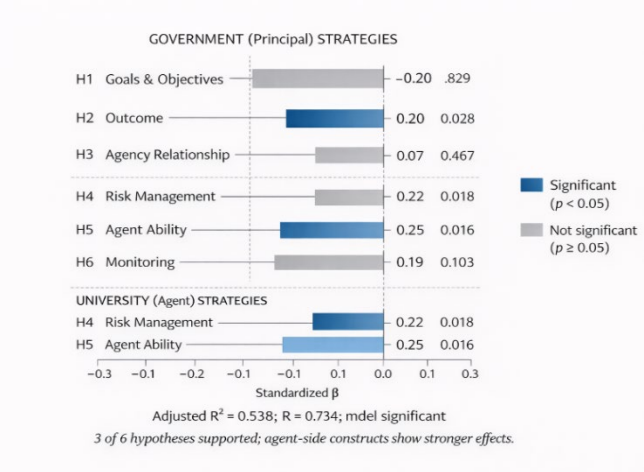

Fig. 5 *Summary of hypothesis testing results with standardised regression coefficients and significance values*

6. Discussion

6.1 The Capability Paradox: High Aspiration, Constrained Readiness

The principal finding of the study is the 'Malaysian Higher Education Funding Capability Paradox': all six constructs display high mean scores (M > 4.00), indicating a strong institutional inclination towards NFF adoption; however, only three constructs Agent Ability, Risk, and Outcome exhibit statistically significant unique contributions to NFF effectiveness in regression analysis. This paradox demonstrates that ambition and readiness are distinct concepts in higher education reform, and that institutional confidence can mask genuine deficiencies in capability. This discovery corresponds with Grindle and Thomas's (1991) seminal research on public sector reform, which asserts that the gap between policy formulation and implementation is rarely bridged by motivation alone; it requires capability, resources, and systematic risk management. In Malaysia, universities demonstrate significant alignment with governmental objectives and relationships; however, they are constrained by limitations in capability and unmanaged implementation risks that cannot be alleviated solely through relational goodwill.

6.2 Agent Ability as the Master Predictor

The Agent Ability variable is recognised as the primary predictor (β = 0.249, r_s = .605), yielding considerable policy implications. This framework encompasses institutional capacity across eight dimensions: indicator design, autonomous decision-making, leadership efficacy, excellence scheme management, private partnership utilisation, administrative simplicity, transparency, and formula comprehension. This finding is significant as it underscores that the risk of NFF failure may arise even with a well-structured formula if universities lack the requisite managerial expertise for execution. This finding supports Schiller and Liefner's (2007) claim that higher education institutions in developing countries face distinct implementation challenges due to constraints in administrative capacity rather than motivational deficiencies. The elevated autonomy aspiration item (M = 4.168) within this construct signifies that universities desire enhanced operational freedom; however, this must be coupled with demonstrable capacity, posing a sequencing challenge for the Ministry of Higher Education.

6.3 Risk Management as Structural Imperative

Risk has been determined as the second most substantial predictor (β = 0.223, r_s = .574). The five risk factors illustrate a sophisticated comprehension among respondents regarding implementation challenges: financial sustainability risks (particularly for smaller specialised universities), data integrity risks in cost-per-student evaluations, policy uncertainty risks, and strategic misalignment risks. The top-rated risk item, 'Possessing an understanding and knowledge of risk management to assist the university in attaining its strategic objectives' (M = 4.271), indicates that respondents regard risk knowledge as a strategic asset. This finding suggests that the implementation of NFF should be preceded by a systematic risk assessment, rather than treating risk management as a mere operational afterthought. The variations in Malaysia's governmental education budget (Figure 6) highlight the imperative for risk preparedness.

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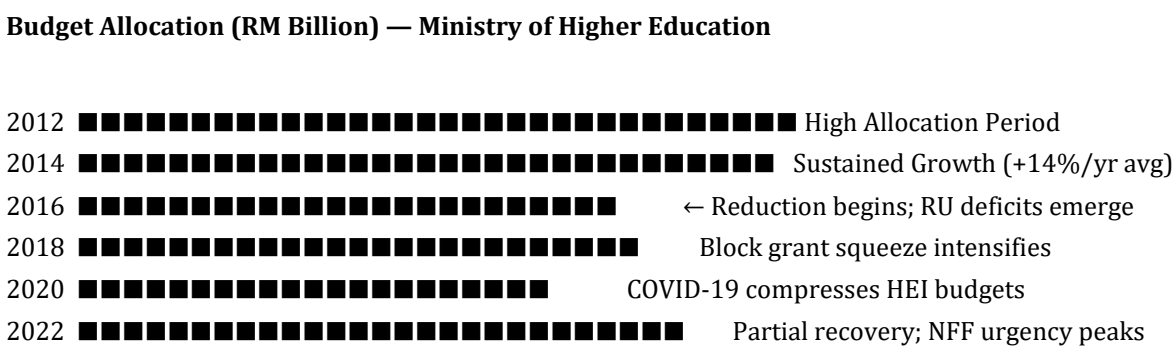

Fig. 6 *Illustrative trend of Malaysia's higher education budget allocation and the structural context driving NFF reform (2012–2022)*

6.4 Outcome Orientation as the Formula's Philosophical Core

The affirmation of H2 (Outcome, $\beta = 0.203$, $r_s = .489$) substantiates the core rationale of performance-based funding: systems that explicitly delineate and quantify university expectations establish accountability frameworks that enhance implementation efficacy. The outcome metrics encompass graduate employability, publication output, citation impact, income generation, enhancement of QS rankings, and allocation of teaching budgets based on student enrolment, forming a multidimensional output profile aligned with exemplary performance funding frameworks (Orr, 2005; Välimaa & Hoffman, 2008).

6.5 The Non-Significant Triad: Necessary but Not Sufficient

The dismissal of H1 (Goals and Objectives), H3 (Agency Relationship), and H6 (Monitoring) in the regression model necessitates meticulous interpretation. These constructs are significant, as all three exhibit moderate-to-strong bivariate correlations (r_s range: .421–.613); however, they do not provide unique contributions beyond what is accounted for by Agent Ability, Risk, and Outcome. This pattern aligns with a mediation hypothesis: goal clarity and relational quality may indirectly enhance NFF effectiveness by influencing agent capability and outcome orientation. The monitoring paradox is notable: Monitoring exhibits the highest bivariate correlation ($r_s = .613$) but is non-significant in regression ($\beta = 0.185$, $p = .103$), indicating it is the most redundant predictor, with its effect fully encompassed by the three significant constructs.

7. Proposed Nff Implementation Readiness Framework

This study proposes a three-phase NFF Implementation Readiness Framework (NFF-IRF), illustrated in Figure 7 and Table 10, based on the amalgamated qualitative and quantitative findings. The framework is based on three empirically validated predictors: Agent Ability, Risk, and Outcome, and offers actionable sequencing guidance for Ministry of Higher Education and university leadership.

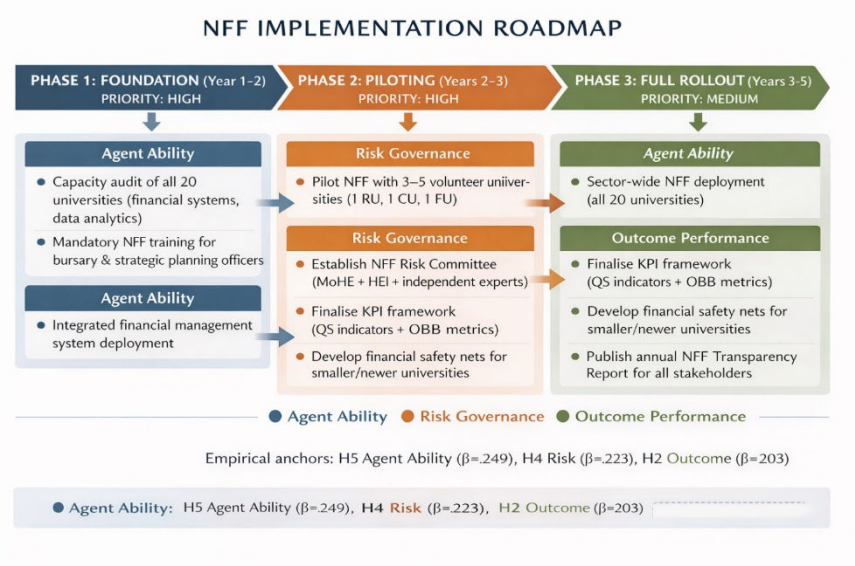

Fig. 7 *Three-phase NFF Implementation Readiness Framework (NFF-IRF) derived from empirical findings*

Table 10 *NFF-IRF phase summary with responsibilities and timelines*

Phase	Primary Focus	Key Actions	Responsible Party	Timeline
1: Foundation	Agent Ability (H5)	Capacity audit; NFF training; financial system upgrade	MoHE + All Universities	Year 1–2
2: Piloting	Risk (H4) + Outcome (H2)	3–5 university pilot; Risk Committee; KPI finalisation	MoHE + Pilot Universities	Year 2–3
3: Full Rollout	System Integration	Sector-wide NFF; annual recalibration; transparency reporting	MoHE + All Universities	Year 3–5

Note: RU = Research University; CU = Comprehensive University; FU = Focused University. Phase timelines are indicative and subject to MoHE policy decisions.

8. Theoretical And Practical Implications

8.1 Theoretical Contributions

This study provides three theoretical contributions. This study extends the application of Agency Theory beyond corporate governance and higher education in developed nations to a Southeast Asian emerging economy, demonstrating that the principal-agent constructs of the theory retain their explanatory effectiveness across varied cultural and institutional contexts. Secondly, it elucidates a longstanding ambiguity in agency theory literature by establishing that agent capability, rather than the quality of the agency relationship, is the primary determinant of implementation success when there is already a high degree of principal-agent goal alignment, a conclusion that has implications for theoretical progress beyond higher education. The recognition of the Capability Paradox, characterised by elevated aspirations alongside a minimal distinctive contribution of relational constructs, enriches the comprehension of reform readiness, surpassing simplistic binary assessments of readiness.

8.2 Practical Contributions

As the MoHE, the empirical validation of Agent Ability as the principal predictor requires that capacity development takes place prior to, rather than simultaneously with, the execution of the NFF. The ministry should conduct a formal National University Funding Readiness Assessment before setting a sector-wide implementation timeline. The findings advocate for university leadership to invest in financial management systems capable of generating accurate, discipline-specific cost-per-student data, which is presently the most critical technical

prerequisite for participation in NFF. This study presents a validated, theoretical framework for assessing readiness for performance-based funding reform, adaptable to Indonesia, Vietnam, Thailand, and the Philippines, all of which are considering similar transitions.

9. Limitations And Future Research Directions

The qualitative component initially involved three expert participants. Future research should encompass university finance officers and academic staff to obtain insights on bottom-up implementation. Secondly, the cross-sectional design inhibits causal inference; longitudinal assessment of NFF outcomes following implementation would provide deeper insights. Third, non-response bias cannot be completely overlooked given the survey response rate of 40.37%; however, the incorporation of all 20 universities alleviates this concern. It is essential to examine the participation of students, industry, and community stakeholders in NFF governance, as the study solely concentrates on the government-university relationship.

Future research directions encompass: (i) cross-national comparative analyses of performance funding readiness among ASEAN countries; (ii) structural equation modelling to examine mediation pathways between relational constructs and implementation efficacy through capability constructs; (iii) quasi-experimental evaluations of NFF pilot universities relative to non-pilot controls; and (iv) an investigation of how institutional culture moderates the relationship between Agent Ability and NFF effectiveness across Research, Comprehensive, and Focused university classifications.

10. Conclusion

The capacity of Malaysia to reform the funding of public universities is inextricably linked to its aspiration to establish a world-class higher education system. This study is the first empirical, theory-based, multi-university evaluation of the New Funding Formula implementation readiness in Malaysia. It reveals a significant conclusion: the efficacy of this key reform is not primarily dependent on the quality of the government-university relationship or the clarity of shared objectives, but rather on the institutional competencies and risk management sophistication of the universities themselves. The empirically validated predictors of NFF effectiveness are the triad of Agent Ability, Risk Management, and Outcome Orientation, which collectively account for 53.8% of the implementation variance across all 20 Malaysian public universities. This study introduces a three-phase NFF Implementation Readiness Framework that offers a practical, sequential plan for transitioning from the current block grant system to a transparent, performance-based funding structure. This framework can be used as a policy model for other developing-country higher education systems that are undergoing similar reforms. The primary message is clear: Malaysia has the institutional ambition, policy directive, and structural framework to reform higher education funding. Currently, a strategic investment in agent capacity is necessary to transform that aspiration into sustainable institutional performance.

Acknowledgements

The authors would like to thank all participants and individuals who contributed to this study and supported the completion of this research.

Conflict of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

Author Contributions

The authors confirm contribution to the paper as follows: ***study conception and design****: Abd Rahman Ahmad, Hairul Rizad Md Sapry, Alaa S. Jameel, and Mohamud M. Hassan; data collection: Abd Rahman Ahmad and Hairul Rizad Md Sapry;* ***analysis and interpretation of results****: Abd Rahman Ahmad and Alaa S. Jameel;* ***draft manuscript preparation****: Abd Rahman Ahmad and Mohamud M. Hassan. All authors reviewed the results and approved the final version of the manuscript.*

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