Tianjin Daxue Xuebao (Ziran Kexue yu Gongcheng Jishu Ban)/
Journal of Tianjin University Science and Technology
ISSN (Online):0493-2137
E-Publication: Online Open Access
Vol: 59 Issue: 04:2026
DOI: 10.5281/zenodo.19886309

SOFT AND HARD BUSINESS EXCELLENCE FACTORS AS DETERMINANTS OF FINANCIAL AND NON-FINANCIAL ORGANISATIONAL PERFORMANCE: EVIDENCE FROM MALAYSIA'S E&E MANUFACTURING INDUSTRY

OON FOK-YEW*
Researcher, School of Management, Universiti Sains Malaysia, 11800 USM, Penang, Malaysia. *Corresponding Author Email: oonfokyew@gmail.com

NORMALINI MD KASSIM
Associate Professor, School of Management, Universiti Sains Malaysia, 11800 USM, Penang, Malaysia. Email: normalini@usm.my

Abstract

This study examines how soft and hard Business Excellence (BE) factors influence organisational performance in Malaysia's Electrical and Electronics (E&E) manufacturing industry. Grounded in the Resource-Based View (RBV) and Business Excellence Model (BEM), soft factors comprise leadership, customer focus, and workforce, while hard factors include strategy, information, and process. A structured questionnaire was distributed to 488 firms across four E&E subsectors using stratified random sampling, yielding 163 valid responses (33.4% response rate). Structural Equation Modelling (SEM) was applied to test the hypothesised relationships. The findings reveal distinct performance effects between soft and hard factors. Workforce and process significantly enhance financial performance, highlighting the importance of human capability and efficient operational execution as strategic organisational resources. Meanwhile, strategy, information, customer focus and workforce factors significantly improve non-financial performance, reinforcing their role in strengthening customer satisfaction, quality outcomes and internal effectiveness. Leadership shows a significant but negative relationship with both financial and non-financial performance, suggesting a possible gap between leadership intent and execution that requires managerial attention. The model demonstrates acceptable explanatory power with $R^2 = 0.303$ for financial performance and $R^2 = 0.439$ for non-financial performance. Overall, this study contributes to the BE literature by empirically differentiating the effects of soft and hard factors and validating their roles within a developing economy and high-technology manufacturing context. Practically, the results provide guidance for managers in prioritising key BE factors to enhance financial and non-financial outcomes.

Keywords: Business Excellence; Soft and Hard Factors; Resource-Based View; Organisational Performance; Malaysia E&E Manufacturing Industry.

1. INTRODUCTION

In an increasingly globalised and competitive business environment, firms are under pressure to improve performance not only financially but also across customer satisfaction, workforce effectiveness, and operational excellence (Baldrige Performance Excellence Program, 2023; EFQM, 2025). Business Excellence (BE) frameworks provide integrated criteria to guide organisations in strengthening strategic capabilities and systematic processes that support sustainable performance outcomes. The Resource-Based View (RBV) suggests that these organisational resources and capabilities, when valuable, rare, and difficult to imitate, form a basis for competitive advantage and superior

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performance (Barney, 1991). By embedding BE criteria as strategic organisational resources, firms can combine behavioural and structural capabilities to achieve both financial and non-financial outcomes.

Empirical studies have increasingly linked excellence-orientated practices to sustainable organisational performance. A recent study noted the strong role of knowledge management in supporting sustainable performance among manufacturing SMEs, emphasising the need for structured capability building (Al Koliby et al., 2025). Similarly, quality management and leadership practices have been found to drive organisational sustainability through enhanced employee commitment and democratic leadership (Irfan et al., 2025). Yet, existing research often examines individual practices in isolation rather than holistic BE dimensions, obscuring the comparative effects of soft (leadership, customer focus, workforce) and hard (strategy, information, process) factors on distinct performance outcomes.

The Malaysian Electrical and Electronics (E&E) manufacturing industry, a cornerstone of national economic growth, operates in a context of rapid technological change, intensifying global competition, and heightened stakeholder expectations. Firms in this sector must improve operational efficiency, workforce capability, innovation, and customer responsiveness to sustain competitiveness. Although BE initiatives such as the Malaysia Business Excellence Framework (MBEF) have been widely promoted to enhance productivity and competitiveness (MPC, 2024), empirical evidence on how differentiated BE factors influence financial and non-financial performance in the Malaysian E&E context remains limited.

Addressing this gap, this study examines the direct effects of soft and hard BE factors on financial and non-financial performance in Malaysian E&E manufacturing firms. Grounded in RBV theory and BEM, we posit that soft factors enhance human and relational resources, while hard factors strengthen structural and systemic capabilities that collectively shape performance outcomes (Darkal & Talib, 2026; Singh & Regasa, 2026).). Using Structural Equation Modelling (SEM) on firm-level survey data, this study advances theoretical understanding and provides managerial insights into prioritising excellence initiatives for sustainable performance.

2. LITERATURE REVIEW

2.1 Organisational Performance

Organisational performance is a multidimensional construct encompassing both financial and non-financial outcomes that reflect a firm’s ability to achieve its strategic objectives and sustain long-term competitiveness. Traditionally, performance evaluation was dominated by financial indicators such as profitability, growth, return on investment, and market share. While financial outcomes remain essential, contemporary management literature increasingly recognises the importance of non-financial dimensions such as innovation capability, customer satisfaction, employee outcomes, operational quality, and

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stakeholder value, particularly in highly competitive and technology-driven industries (Shafiq, Lasrado & Hafeez, 2017; Handoyo et al., 2023; Junejo et al., 2025).

Non-financial performance is particularly critical as it serves as a leading indicator of future financial success. Elements such as workforce capability, process reliability, information utilisation, and strong customer relationships enhance organisational resilience and adaptability in dynamic business environments (Basit et al., 2024; Arshad et al., 2024; Khan et al., 2025; Kareem & Kummitha, 2025). In developing economy contexts, including Malaysia, firms are increasingly required to balance financial performance with broader sustainability-orientated performance dimensions to remain competitive in global supply chains and align with evolving stakeholder expectations (Khaw et al., 2022; MITI, 2024).

In line with prior studies, organisational performance in the present research is therefore conceptualised as a dual construct comprising both financial and non-financial outcomes. Financial performance captures profitability-oriented indicators, while non-financial performance includes operational quality, innovation capability, customer outcomes, and workforce-related results. This dual-perspective approach provides a more comprehensive understanding of how organisational capabilities derived from BE factors translate into sustainable organisational performance.

2.2 Resource-Based View (RBV) – Underpinning Theory

The Resource-Based View (RBV) provides the primary theoretical foundation for this study, explaining how internal organisational capabilities drive superior performance. RBV posits that firms achieve sustainable competitive advantage when they possess valuable, rare, inimitable, and non-substitutable (VRIN) resources that are effectively deployed to support strategic objectives (Barney, 1991; Barney, 2001). In manufacturing environments, these resources extend beyond physical assets to include managerial capabilities, organisational routines, information utilisation, workforce competencies, and strategic execution capacity. Scholars consistently emphasise that such internal capabilities are more critical to long-term success than external market positioning alone, particularly in highly competitive and dynamic industries.

Recent studies reaffirm RBV's relevance in explaining organisational sustainability and performance, especially in emerging economy contexts. Soft capabilities such as leadership, workforce competence, and customer orientation contribute to organisational agility, innovation responsiveness, and employee commitment, while hard capabilities such as strategic planning, information and knowledge management, and process excellence enhance operational effectiveness and efficiency (Basit et al., 2024; Nelfiyanti et al., 2025). Together, these capabilities enable firms to respond effectively to uncertainty, enhance value creation, and sustain superior organisational performance.

In this study, RBV is applied to justify how BE soft and hard factors function as strategic organisational capabilities that strengthen financial and non-financial performance. By conceptualising leadership, customer focus, and workforce as soft resources, and strategy, information, and process as structural (hard) capabilities, RBV provides a robust

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lens to examine how these internal determinants contribute to sustainable performance outcomes in Malaysia's E&E manufacturing sector.

2.3 Business Excellence Models (BEMs)

Business Excellence Models (BEMs) provide structured frameworks that guide organisations in developing systems, practices, and behaviours that drive superior performance and sustainability. The European Foundation for Quality Management (EFQM) Excellence Model, the MBEF, and the Baldrige Excellence Framework (MBF) are well-known BEM frameworks that highlight leadership-driven organisational systems that include strategy, information and knowledge, customer focus, workforce capability, and process management as important facilitators of performance excellence (Baldrige Performance Excellence Program, 2023; EFQM, 2025; MPC, 2024).

BEMs conceptualise these dimensions not as isolated constructs but as interrelated organisational mechanisms that collectively influence both financial and non-financial outcomes. Prior empirical research has demonstrated that organisations effectively adopting BE principles achieve improvements in operational efficiency, quality, innovation capability, customer satisfaction, employee engagement, and long-term financial performance (He et al., 2011; Masrom et al., 2017; Fok-Yew & Hamid, 2021). However, most prior studies treat BE constructs as composite structures, offering limited clarity regarding which dimensions exert greater influence on performance outcomes, particularly in manufacturing sectors.

Consistent with the conceptual structure of BE frameworks, this study categorises BE enablers into *soft factors* (leadership, customer focus, workforce) and *hard factors* (strategy, information, process). This classification enables clearer theoretical explanation and empirical examination of how both sets of factors contribute to financial and non-financial organisational performance.

2.3.1 Soft Business Excellence (BE) Factors

Soft factors in BEM primarily concern people-centred and relational capabilities that shape organisational culture, engagement, and strategic alignment. Leadership represents a central element, as it directs organisational vision, inspires commitment, shapes governance, and drives excellence initiatives across the organisation (Baldrige Performance Excellence Program, 2023; EFQM, 2025). Effective leadership enhances clarity of direction, promotes shared purpose, and mobilises organisational members towards strategic goals.

Customer focus is another critical soft element, emphasising the organisation's ability to understand, anticipate, and fulfil customer needs. Strong customer orientation enhances satisfaction, loyalty, innovation responsiveness, and competitive positioning, particularly in industries with rapid technological change (Shafiq et al., 2017; Kareem & Kummitha, 2025). Workforce capability complements leadership and customer focus by reflecting employee competence, engagement, empowerment, motivation, and capability development (Oakland & Tanner, 2008; Khaw et al., 2022; Darkal & Talib, 2026; Singh &

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Regasa, 2026). A capable and committed workforce strengthens productivity, innovation, quality consistency, and organisational learning.

Collectively, these soft factors form behavioural and relational capabilities that align well with RBV as intangible strategic resources that are difficult to replicate. They enable organisations to build resilience, enhance adaptability, and sustain superior non-financial and ultimately financial performance outcomes.

2.3.2 Hard Business Excellence (BE) Factors

Hard BE factors comprise structured systems, organisational processes, and strategic mechanisms that shape how organisations plan, manage, and execute operations. Strategy represents the organisation's formal direction-setting mechanism, encompassing long-term objectives, strategic alignment, and resource prioritisation. Effective strategy clarifies priorities, ensures focused execution, and strengthens organisational competitiveness, particularly in globally integrated manufacturing sectors (MITI, 2024; Handoyo et al., 2023).

Information and knowledge management is another essential hard factor. BE frameworks emphasise the importance of reliable data, analytics capability, knowledge sharing, and evidence-based decision-making to support innovation, operational reliability, and performance improvement (Criado-García et al., 2020; Bocoya-Maline, 2024). Process management represents the operational backbone of excellence frameworks. Effective process design, standardisation, integration, and continuous improvement enhance quality, cost efficiency, productivity, and performance sustainability (Van Assen, 2018; Handoyo et al., 2023).

From an RBV lens, these hard factors constitute structural and systemic organisational capabilities that contribute to superior performance by strengthening operational execution, resource utilisation, and competitive positioning.

2.4 Overview of Malaysia's E&E Industry

The Electrical and Electronics (E&E) industry represents one of Malaysia's most significant economic sectors and a key driver of the nation's manufacturing competitiveness. The sector plays a strategic role in supporting Malaysia's participation in global value chains, particularly in semiconductor assembly, testing, electronic components, and advanced electronics manufacturing. **In 2024, the E&E industry contributed approximately** ***7.3% to Malaysia's GDP*****, underlining its foundational role in national economic output and industrial growth (MITI, 2025).**

In terms of trade performance, the E&E sector remains the largest contributor to the country's export portfolio. In 2023, E&E products accounted for about **40.4% of total Malaysian exports,** with strong contributions from semiconductor and electrical machinery segments. **This export dominance continued into 2024, with a total E&E export value exceeding RM600 billion** (SME Bank Economic Research, 2024). These figures highlight the industry's central role in generating foreign exchange and reinforcing Malaysia's position in international trade.

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The continued strength of the E&E sector is further evidenced by its significant share in manufacturing investments. In 2024, the E&E industry secured the largest portion of manufacturing investment approvals, amounting to **RM55.8 billion**, representing nearly half of all manufacturing sector investments and emphasising the sector's attractiveness to both domestic and foreign investors (Invest Malaysia, 2025).

Despite its prominent economic role, Malaysian E&E firms face increasing pressures from rapid technological change, digitalisation demands, global supply chain disruption, and intensifying competition across markets. These conditions require firms to strengthen internal capabilities, adopt excellence frameworks, and enhance performance across both financial and non-financial dimensions. Accordingly, the E&E industry provides a relevant empirical setting to examine how BE soft and hard factors influence organisational performance, supporting competitiveness and long-term sustainability.

3. HYPOTHESES DEVELOPMENT

Grounded in the RBV, organisational performance is driven by internal capabilities that enhance competitive advantage and sustainable results. BEM operationalises these capabilities as soft and hard excellence factors, which are theorised to influence both financial and non-financial performance outcomes. The following hypotheses are developed based on theoretical reasoning and empirical evidence from extant literature.

3.1 Soft BE Factors and Organisational Performance

Leadership and Organisational Performance

Leadership plays a central role in shaping organisational direction, motivating employees, and aligning strategic objectives with execution. Empirical studies indicate that leadership significantly influences organisational performance outcomes. For example, transformational leadership has been shown to positively affect firm performance by enhancing motivation, innovation, and employee effectiveness across contexts (Park et al., 2021). Moreover, several studies find that effective leadership contributes directly to both financial and non-financial performance dimensions, including stakeholder satisfaction and employee outcomes (Saeidi et al., 2021; Benzaquen de Las Casas et al., 2026).

H1: *Leadership will positively influence financial performance.*

H2: *Leadership will positively influence non-financial performance.*

Customer Focus and Organisational Performance

Customer focus is a core organisational capability that enables firms to understand and respond effectively to customer needs, which supports loyalty, market positioning, and performance outcomes. Research shows that customer focus and knowledge integration positively influence firm performance by enhancing competitive responsiveness and innovation outcomes. For example, customer orientation has synergistic effects with knowledge management in improving organisational performance (Zhang et al., 2024).

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H3: *Customer focus will positively influence financial performance.*

H4: *Customer focus will positively influence non-financial performance.*

Workforce Capability and Organisational Performance

A competent and engaged workforce contributes to operational efficiency, innovative capacity, and quality improvements. Studies consistently report positive linkages between workforce engagement, leadership, and organisational performance across multiple contexts, including manufacturing and services (Mohamad et al., 2024).

H5: *Workforce will positively influence financial performance.*

H6: *Workforce will positively influence non-financial performance.*

3.2 Hard BE Factors and Organisational Performance

Strategy and Organisational Performance

Strategy represents deliberate organisational planning and resource allocation mechanisms that guide long-term decisions and competitive positioning. Empirical literature suggests that strategic clarity and alignment are essential to achieving superior outcomes, as they provide coherence in performance improvement efforts (Al Koliby et al., 2025).

H7: *Strategy will positively influence financial performance.*

H8: *Strategy will positively influence non-financial performance.*

Information and Organisational Performance

Information and knowledge management processes support organisational learning, decision-making, and innovation. Research in this area shows that knowledge management capabilities positively impact organisational performance by enhancing innovation and operational effectiveness (Cristache, Croitoru & Florea, 2025).

H9: *Information will positively influence financial performance.*

H10: *Information will positively influence non-financial performance.*

Process and Organisational Performance

Process excellence, including standardisation and continuous improvement, improves efficiency, quality, and delivery performance. Prior research (e.g., Van Assen, 2018) suggests that process management is linked to firm performance improvements by reducing operational variability and enhancing productivity. Although process management evidence is broader, its role in performance, especially quality and reliability outcomes, is well established in operations management literature.

H11: *Process will positively influence financial performance.*

H12: *Process will positively influence non-financial performance.*

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3.3 Research Framework

Based on the theoretical foundations of the RBV and BEMs, and the hypotheses developed in the preceding sections, this study proposes a research framework that conceptualises BE factors as strategic organisational resources and capabilities influencing organisational performance. Specifically, soft factors (leadership, customer focus, and workforce) and hard factors (strategy, information, and process) are posited to influence both financial and non-financial performance. Figure 1 presents the proposed research framework guiding this study.

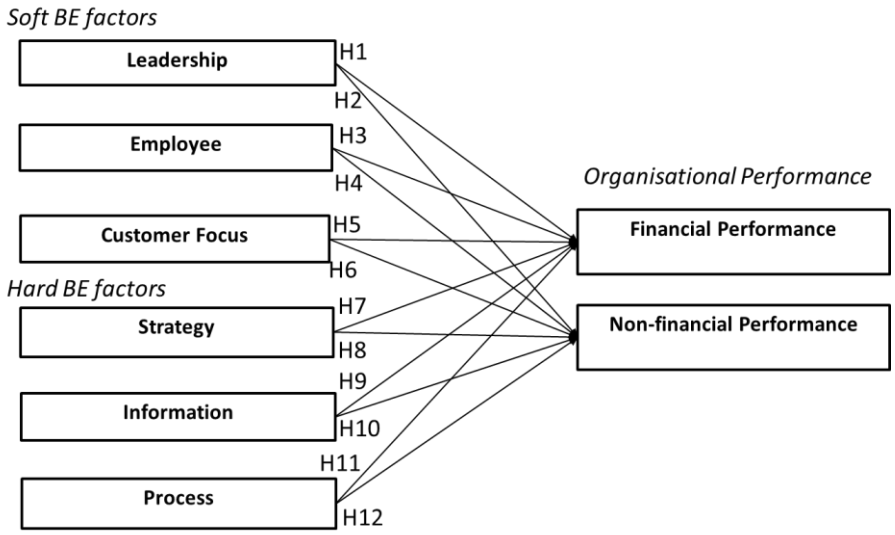

Figure 1: Research framework

4. RESEARCH METHODOLOGY

4.1 Research Design

This study adopts a **quantitative, cross-sectional research design** to examine the influence of soft and hard BE factors on organisational performance among Malaysia's E&E manufacturing firms. A structured survey questionnaire was employed, and relationships were empirically tested using SEM, which is appropriate for predictive, theory-driven, and multivariate causal analysis in management research.

4.2 Population, Sampling and Data Collection

The target population comprised E&E manufacturing firms registered under the Federation of Malaysian Manufacturers (FMM). A stratified random sampling technique was applied to ensure adequate representation across four key E&E subsectors: consumer electronics, electrical products, electronic components, and industrial electronics.

A total of 488 structured questionnaires were distributed to senior managers and executives who possess substantial knowledge of their firms' strategic orientation,

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operational practices, and performance outcomes. Of these, 163 responses were returned, resulting in a response rate of 33.4%. This response rate is considered acceptable for organisational-level survey research and SEM studies conducted in developing country contexts.

Prior to data analysis, the returned questionnaires were subjected to rigorous data screening procedures, including checks for missing values, outliers, normality, and potential common method variance. After eliminating incomplete and unusable responses, a final sample of 154 valid questionnaires was retained for analysis.

Table 1 presents the distribution of respondents across the E&E subsectors. Firms from the electronic components subsector constituted the largest proportion of the sample (46.8%), followed by industrial electronics (20.1%). Electrical products and consumer electronics accounted for 17.5% and 15.6% of the responses, respectively. This distribution reflects the structural composition of Malaysia's E&E manufacturing industry and supports the representativeness of the sample.

Table 1: Respondents in E&E sub-sector

No	Sector	Frequency	Percent	Valid Percent	Cumulative Percent
1	Consumer electronics	24	15.6	15.6	15.6
2	Electrical products	27	17.5	17.5	33.1
3	Electronic components	72	46.8	46.8	79.9
4	Industrial electronics	31	20.1	20.1	100
	Total	154	100.0	100.0	

4.3 Measurement Instruments

All constructs were measured using established and validated scales adapted from the BE literature and organisational performance studies. Respondents rated items using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree).

- **Soft BE Factors:** Leadership, Customer Focus, Workforce
- **Hard BE Factors:** Strategy, Information, Process
- **Organisational Performance:** Financial and Non-financial Performance

Items were adapted from recognised excellence frameworks (e.g., EFQM, BEF) and empirical studies on strategy, quality management, and performance to ensure conceptual validity and contextual relevance.

4.4 Data Analysis

Partial Least Squares Structural Equation Modelling (PLS-SEM) was employed using SmartPLS due to its suitability for:

- complex predictive models,
- smaller to medium sample sizes,
- non-normal data distribution conditions.

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The analysis followed a two-stage approach:

1. **Measurement Model Assessment:** reliability (Cronbach's alpha, composite reliability), convergent validity (AVE), and discriminant validity (Fornell–Larcker and HTMT criteria).
2. **Structural Model Assessment:** path coefficients, t-values, p-values, effect size (f^2), coefficient of determination (R^2), and predictive relevance (Q^2). Bootstrapping with 10,000 resamples was applied to test the significance of hypothesised relationships.

Common method bias was assessed through Harman's single-factor test and variance inflation factor (VIF), confirming that no substantive bias was present.

5. FINDINGS AND DISCUSSION

5.1 Measurement Model Results

The measurement model was evaluated to ensure construct reliability and validity before assessing the structural relationships. The analysis covered indicator reliability, internal consistency reliability, convergent validity, and discriminant validity.

5.1.1 Convergent Validity

Table 2 presents the convergent validity results. All item loadings exceeded 0.70, except for one slightly lower loading (I3 = 0.698), which was retained as it did not adversely affect construct reliability. Cronbach's alpha and Composite Reliability (CR) values were above 0.70 for all constructs, indicating satisfactory internal consistency. Average Variance Extracted (AVE) values ranged between 0.578 and 0.809, surpassing the recommended 0.50 threshold. One indicator (BC3) was removed due to low loading, improving model quality.

Table 2: Convergent Validity Results

Variable	Item	Outer Loading	Cronbach's Alpha	CR (rho_C)	AVE
Leadership	L1	0.824	0.849	0.898	0.687
	L2	0.838			
	L3	0.828			
	L4	0.826			
Strategy	S1	0.755	0.795	0.866	0.619
	S2	0.800			
	S3	0.842			
	S4	0.745			
Information	I1	0.788	0.768	0.851	0.589
	I2	0.783			
	I3	0.698			
	I4	0.797			
Customers focus	C1	0.896	0.921	0.944	0.809
	C2	0.894			
	C3	0.905			
	C4	0.904			
Workforce	W1	0.868	0.911	0.938	0.790

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	W2	0.862			
	W3	0.894			
	W4	0.929			
Process	P1	0.862	0.868	0.910	0.717
	P2	0.853			
	P3	0.825			
	P4	0.847			
Financial Performance	F1	0.898	0.912	0.934	0.739
	F2	0.877			
	F3	0.869			
	F4	0.850			
	F5	0.801			
Non-financial Performance	NF1	0.709	0.855	0.891	0.578
	NF2	0.731			
	NF3	0.755			
	NF4	0.771			
	NF5	0.804			
	NF6	0.787			

5.1.2 Discriminant Validity

Discriminant validity was established using the Fornell–Larcker criterion and the Heterotrait–Monotrait (HTMT) ratio. As shown in Table 3, the square root of AVE (diagonal values) is greater than inter-construct correlations, indicating that each construct is empirically distinct. Similarly, HTMT values in Table 4 are below the recommended thresholds of 0.85 (strict) and 0.90 (liberal), confirming satisfactory discriminant validity.

Table 3: Discriminant Validity (Fornell–Larcker Criterion)

	Customers Focus	Financial Performance	Information	Leadership	Non-Financial Performance	Process	Strategy	Workforce
Customers Focus	0.900							
Financial Performance	0.394	0.860						
Information	0.360	0.216	0.768					
Leadership	0.532	0.160	0.335	0.829				
Non-Financial Performance	0.586	0.696	0.346	0.253	0.760			
Process	0.699	0.448	0.335	0.585	0.503	0.847		
Strategy	0.624	0.346	0.337	0.574	0.484	0.663	0.787	
Workforce	0.735	0.479	0.365	0.531	0.563	0.644	0.617	0.889

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Table 4: Discriminant Validity (HTMT Criterion)

	Customers Focus	Financial Performance	Information	Leadership	Non-Financial Performance	Process	Strategy	Workforce
Customers Focus								
Financial Performance	0.428							
Information	0.43	0.247						
Leadership	0.596	0.183	0.407					
Non-Financial Performance	0.649	0.805	0.418	0.286				
Process	0.78	0.501	0.405	0.678	0.576			
Strategy	0.727	0.389	0.413	0.697	0.565	0.795		
Workforce	0.802	0.524	0.433	0.601	0.631	0.721	0.716	

Note: Shaded boxes are the standard reporting format for HTMT procedure.

5.1.3 Common Method Bias

Common Method Variance (CMV) was assessed using Harman's single-factor test and full collinearity VIF assessment. No single factor accounted for the majority of variance, and all VIF values were below 3.3, indicating CMV was not a concern.

5.1.4 Summary

Overall, the results confirm that the measurement model demonstrates strong reliability, convergent validity, and discriminant validity, supporting the suitability of the constructs for subsequent structural model analysis.

5.2 Structural Model Results

Following the assessment of the measurement model, the structural model was examined to evaluate the hypothesised relationships between the BE factors and organisational performance. Bootstrapping with 10,000 resamples and a 90% confidence interval was applied to test path significance. Table 5 presents the results, including path coefficients, t-values, p-values, coefficient of determination (R^2), effect sizes (f^2), and predictive relevance (Q^2).

Table 5: Hypotheses Testing Results for Direct Relationships

Hypothesis	Relationship	Std. Beta	Std. Error	T value >1.645	P Values	R^2	f^2 Effect Size	Q^2	Supported
H1	Leadership -> Financial performance	-0.262	0.098	2.687	P<0.01	0.303	0.056	0.303	No
H2	Leadership -> Non-financial performance	-0.248	0.095	2.612	P<0.01	0.439	0.063	0.439	No

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H3	Strategy -> Financial performance	-0.040	0.1130	0.3510	P>0.05	0.303	0.001	0.303	No
H4	Strategy -> Non-financial performance	0.155	0.087	1.783	P<0.05	0.439	0.020	0.439	Yes
H5	Information -> Financial performance	0.048	0.091	0.534	P>0.05	0.303	0.003	0.303	No
H6	Information -> Non-financial performance	0.135	0.070	1.930	P<0.05	0.439	0.027	0.439	Yes
H7	Customers Focus -> Financial performance	-0.015	0.116	0.127	P>0.05	0.303	0.000	0.303	No
H8	Customers Focus -> Non-financial performance	0.301	0.124	2.435	P<0.01	0.439	0.058	0.439	Yes
H9	Workforce -> Financial performance	0.377	0.113	3.348	P<0.001	0.303	0.081	0.303	Yes
H10	Workforce -> Non-financial performance	0.244	0.102	2.388	P<0.01	0.439	0.042	0.439	Yes
H11	Process -> Financial performance	0.326	0.116	2.813	P<0.05	0.303	0.060	0.303	Yes
H12	Process -> Non-financial performance	0.133	0.105	1.268	P>0.05	0.439	0.012	0.439	No

Note: We use 90% confidence interval with a bootstrapping of 10,000.

5.2.1 Structural Model Interpretation

The results demonstrate that the structural model has satisfactory explanatory power, with $R^2 = 0.303$ for financial performance and $R^2 = 0.439$ for non-financial performance, indicating moderate predictive capability. The Q^2 values (0.303 and 0.439) further confirm the model's predictive relevance.

Among the soft factors, workforce shows significant positive effects on both financial and non-financial performance, highlighting the critical role of human capital capability in driving organisational outcomes. Customer focus significantly influences non-financial performance but not financial performance, suggesting its benefits materialise more strongly through operational and stakeholder-based outcomes. Leadership shows significant negative paths; however, these were statistically significant with negative coefficients, leading to unsupported hypotheses.

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DOI: 10.5281/zenodo.19886309

Among the hard factors, process management significantly enhances financial performance, reinforcing the role of efficient operations in improving profitability. Strategy and information significantly enhance non-financial performance, aligning with the view that strategic clarity and effective information utilisation primarily strengthen operational and organisational capabilities rather than immediate financial gains.

Overall, the findings indicate that soft and hard BE factors contribute differently to organisational performance, with workforce and process emerging as the most influential predictors of financial outcomes, while strategy, information, customer focus, and workforce capabilities play stronger roles in enhancing non-financial performance.

6. DISCUSSION

This study investigated how soft and hard BE factors influence financial and non-financial organisational performance in Malaysia's E&E manufacturing industry, grounded in RBV and BEM. The findings demonstrate differentiated effects between soft factors (leadership, customer focus, workforce) and hard factors (strategy, information, process), contributing to both theory and practice.

First, **workforce demonstrated strong and significant influence on both financial and non-financial performance**. This finding supports RBV, which emphasises human capital as a strategic resource that is valuable, rare, and difficult to imitate, thereby enhancing competitiveness and performance (Barney, 1991). It is also consistent with prior empirical studies reporting that employee competence, engagement, and capability improve productivity, innovation, operational effectiveness, and customer outcomes (Oakland & Tanner, 2008; Khaw et al., 2022). In labour-intensive, technology-driven industries such as E&E manufacturing, skilled and motivated employees enhance process execution, quality performance, and innovation, which subsequently contribute to financial gains.

Second, **process significantly influenced financial performance but not non-financial performance.** This aligns with earlier studies demonstrating that structured, efficient, and standardised processes reduce defects, increase productivity, and yield financial benefits through cost savings and improved operational efficiency (Flynn & Saladin, 2001; Handoyo et al., 2023). However, the non-significant relationship with non-financial performance suggests that strong process control alone does not automatically enhance workforce morale, innovation capability, or customer perceptions unless complemented by people-orientated and learning-driven practices. This implies that financial gains from process improvements may materialise more immediately, while capability-building outcomes require broader organisational support systems.

Third, **strategy, information, and customer focus significantly enhanced non-financial performance,** reinforcing the proposition that these elements build long-term organisational capability rather than instant financial returns. Clear strategic direction improves alignment, organisational coherence, and execution discipline, while effective information and knowledge utilisation strengthens learning, decision-making, operational

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reliability, and innovation capability (Criado-García et al., 2019). Likewise, strong customer focus enhances quality consistency, responsiveness, and satisfaction, functioning as a leading indicator of future performance (Basit et al., 2024). These findings align with BEM propositions that customer focus, strategy, and information excellence contribute substantially to capability-based and stakeholder-orientated performance outcomes.

Interestingly, **leadership did not show a positive direct effect on financial or non-financial performance.** This contradicts many prior studies reporting leadership as a primary performance driver (Simon et al., 2014; Suriyankietkaew, 2021; Rehman et al., 2021). However, the negative coefficients may reflect contextual realities within Malaysian E&E firms, where leadership may remain hierarchical, compliance-driven, and bureaucratic rather than innovation-oriented or empowering (Selvarajah & Meyer, 2008). Alternatively, leadership effects may be **indirect**, operating through strategy, workforce, and process rather than exerting a direct performance influence an interpretation consistent with findings in Business Excellence literature (Flynn & Saladin, 2001).

Overall, the findings confirm that **soft and hard BE factors contribute differently to organisational outcomes.** Workforce capability and process excellence drive financial results, while strategy, customer focus, and information capabilities strongly shape non-financial and capability-based performance. These results extend RBV by demonstrating how BE elements function as strategic organisational resources and reinforce BEM's premise that systematic excellence practices enhance sustainable organisational performance.

7. THEORETICAL CONTRIBUTIONS

This study offers several theoretical contributions to organisational performance, RBV, and BE literature.

First, it advances understanding of BE factors as strategic organisational resources, demonstrating empirically that soft and hard excellence dimensions do not contribute uniformly to performance. Consistent with the Resource-Based View (Barney, 1991), the findings show that workforce capability and process excellence represent high-value organisational resources that significantly enhance financial performance, while strategic clarity, information utilisation, and customer focus primarily enhance capability-based non-financial outcomes. This differentiation enhances theoretical clarity by explaining which BE factors matter for which dimension of performance.

Second, the findings extend the Business Excellence Model by providing empirical evidence from a developing economy manufacturing context, where most prior BE studies have focused on developed economies. The mixed results particularly the insignificant direct effect of leadership highlight that leadership influence may operate indirectly through other system criteria rather than exerting a direct performance effect, thereby reinforcing the notion that leadership in BEM functions as an enabling mechanism rather than a direct performance determinant.

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Third, by examining both financial and non-financial performance simultaneously, this study responds to ongoing scholarly calls to adopt holistic, multidimensional performance perspectives. The evidence confirms that non-financial performance serves as an important capability foundation for sustaining long-term financial outcomes, contributing to performance measurement literature in emerging industrial economies.

8. MANAGERIAL IMPLICATIONS

The findings provide several practical implications for management, policymakers, and industry practitioners.

First, managers should prioritise workforce development as a strategic investment rather than an operational cost. Strengthening employee competence, engagement, and capability can generate tangible financial returns through productivity improvement, innovation, and operational effectiveness. Workforce empowerment programmes, targeted skills upgrading, and talent retention initiatives are therefore critical.

Second, robust process management is essential for financial success. Firms should institutionalise continuous improvement, standardisation, waste reduction, and quality assurance initiatives to achieve efficiency-driven profitability. This is particularly relevant for the E&E industry, where cost competitiveness and consistency are fundamental.

Third, strategy, information, and customer focus emerged as critical drivers of non-financial performance. Managers should ensure clear strategic direction, strong data-driven decision-making systems, and effective knowledge management practices. Enhancing customer focus strengthens relationship quality, responsiveness, and long-term competitiveness, laying the foundation for sustainable financial gains.

Finally, the absence of a positive direct leadership effect suggests that leadership effectiveness may depend on how well leaders mobilise strategy, workforce, and processes rather than their presence alone. Senior leaders in Malaysian E&E firms should therefore emphasise execution capability, empowerment, learning culture, and system integration.

9. CONCLUSION

This study examined the influence of soft and hard BE factors on financial and non-financial organisational performance within Malaysia's E&E manufacturing industry, grounded in RBV and BEM perspectives. Using survey data from 163 firms analysed via SEM, the findings reveal that workforce and process capabilities significantly influence financial performance, while strategy, information, and customer focus significantly enhance non-financial outcomes. Leadership did not demonstrate a direct positive impact on performance, suggesting its influence may be indirect or contextually constrained.

Overall, the study reinforces that BE practices represent strategic resources that enhance organisational capability and competitiveness. Importantly, different excellence factors contribute to different dimensions of performance, highlighting the need for targeted

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DOI: 10.5281/zenodo.19886309

managerial emphasis. These insights contribute to theory development, inform industry practice, and support policy efforts aimed at strengthening Malaysia's manufacturing performance in global value chains.

10. LIMITATION AND FUTURE RESEARCH

This study is subject to several limitations that provide valuable opportunities for future research.

First, the study employed a cross-sectional research design, which restricts the ability to infer causality between BE factors and organisational performance. Organisational performance, particularly financial and sustainability outcomes, often develops over time rather than instantaneously. Future research should therefore adopt **longitudinal designs** to capture temporal dynamics and better explain how BE practices evolve and influence performance in the long run, in line with recent calls in the literature for more time-sensitive quality and excellence research (Ciuciuc et al., 2025).

Second, this study focuses solely on Malaysia's E&E manufacturing sector, which limits generalisability to other industries and national contexts. Although the E&E industry represents Malaysia's largest export contributor and a strategic driver of national competitiveness, organisational structures, technological maturity, and external environments may differ substantially across sectors and economies. Future studies should therefore compare findings across **different industries and countries**, particularly between emerging and developed economies, to deepen understanding of contextual influences on BE-performance relationships (Teagarden, Glinow & Mellahi, 2018).

Third, while this research examined direct relationships between BE soft and hard factors and performance outcomes, it did not explicitly incorporate **contextual moderators** such as organisational culture, digital readiness, or environmental turbulence, which may shape the strength and direction of these relationships. Recent studies highlight that leadership effectiveness, excellence implementation, and performance outcomes are often contingent upon organisational cultural orientation, digital transformation capacity, and external market volatility (Al Koliby et al., 2024; Zhang & Jie, 2026). Future research is encouraged to incorporate such moderators to provide richer explanatory power.

Fourth, mediation mechanisms were not explored in this study. Emerging literature suggests that **dynamic capabilities, knowledge integration, and innovation capability** may act as mediating pathways through which BE practices influence performance (Kareem & Kummitha, 2025). Future studies should therefore investigate mediating constructs to uncover how BE practices are effectively transformed into superior performance outcomes.

Finally, although the distinction between **soft and hard BE factors** advanced theoretical clarity and analytical tractability, additional refinement is required. Recent quality management studies continue to debate the degree to which soft practices (e.g., leadership, workforce, customer focus) and hard practices (e.g., strategy, process,

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information) interact to generate sustainable performance (Basit et al., 2024; Handoyo, Purwanto, & Fauzi, 2024). Future research may explore interaction effects and complementary relationships between these factors to deepen theoretical insight. Extending work within the Malaysian and broader ASEAN manufacturing context remains important given the region's strategic manufacturing role and digital industrial transformation (MITI, 2024; DOSM, 2024; Khan, Rashid, & Abdullah, 2025).

Collectively, addressing these limitations will advance theoretical development in business excellence research and strengthen evidence on how BE-driven organisational capabilities enhance sustainable financial and non-financial performance across diverse industrial and national settings.

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