Strategic Challenges and Opportunities in Malaysian Industries: A Comparative SWOT Analysis of Three Organizations

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ABSTRACT

This exploratory study examines the strategic strengths, weaknesses, opportunities and threats of three Malaysian organizations operating in the automotive, electronics manufacturing, and safety-glass manufacturing sectors. A qualitative multiple-case design was used, with the empirical evidence derived primarily from three student industrial training reports containing workplace observations, organizational information, SWOT analyses and strategic recommendations. Because the reports were not independently verified through executive interviews or official organizational datasets, the study is deliberately scoped as an exploratory analysis of internship observations rather than a comprehensive assessment of the organizations or a basis for generalisation to Malaysian industry. A structured qualitative extraction and coding protocol was applied to identify, classify and compare SWOT factors across the three cases. The cross-case analysis identified technological transformation, competition, product development, operational efficiency and sustainability as recurring themes, while the TOWS analysis further identified selected S-T and W-O strategic alignments within the cases. Organization 1 is particularly concerned with electrification and automotive technology; Organization 2 with digital integration and supply-chain resilience; and Organization 3 with production costs, automation and environmental requirements. The findings provide case-specific strategic insights and illustrate how similar external pressures may translate into different priorities according to organizational context.

Keywords: Competitiveness, Strategic management, SWOT analysis, Technological transformation

INTRODUCTION

The business environment has become increasingly dynamic as organizations face rapid technological development, intensified competition, changing consumer expectations, economic uncertainty and growing sustainability requirements. Organizations operating in different industries are required to continuously evaluate their internal capabilities and external environment in order to maintain competitiveness and achieve long-term sustainability. Strategic analysis provides organizations with a systematic approach to understanding their current position and identifying areas requiring improvement.

Among the commonly used strategic-management tools, SWOT analysis provides a structured approach for examining an organization's internal strengths and weaknesses and its external opportunities and threats. SWOT has been widely applied as a strategic planning and decision-making tool because it enables information from different sources to be organised into four major categories [1], [2]. The framework enables organizations to assess their existing capabilities while considering changes in the external environment.

The usefulness of SWOT analysis is particularly relevant in the Malaysian business environment because organizations operate within industries experiencing substantial technological and market changes. For example, the automotive industry is undergoing a transition towards electric and connected vehicles, while electronics manufacturers are increasingly affected by digitalisation, Industry 4.0 and global supply-chain developments. Manufacturing organizations such as safety-glass producers are simultaneously affected by automation, production costs, sustainability requirements and construction-market demand.

Previous SWOT studies have frequently focused on a particular organization, industry or specific strategic issue. However, a comparative perspective involving organizations operating in different industries can provide

additional insight into whether strategic challenges are industry-specific or reflect broader organizational pressures. The use of multiple cases allows similarities and differences between organizations to be examined while retaining the contextual characteristics of each case.

This study therefore examines three selected Malaysian organizations in three different sectors. Organization 1 represents the automotive sector, Organization 2 represents electronics manufacturing, while Organization 3 represents the safety-glass manufacturing sector. The evidence base is limited to the information contained in three student industrial training reports. The cases provide variation across industries, but they are not intended to represent Malaysian organizations generally.

The study aims to identify the key strengths, weaknesses, opportunities and threats documented for the selected organizations, compare the strategic issues emerging across the three cases, and examine selected S-T and W-O interactions using a TOWS perspective. The resulting implications are interpreted strictly within the scope and evidentiary limits of the three cases.

LITERATURE REVIEW

SWOT Analysis

SWOT analysis is a strategic planning framework used to assess an organization's internal and external environment. The four components consist of strengths, weaknesses, opportunities and threats. Strengths and weaknesses generally represent internal organizational factors, while opportunities and threats represent factors arising from the external environment. The framework provides a structured method for organising information and supporting strategic decision-making. [1], in their integrative review of SWOT applications, demonstrate that the framework has been used across different research contexts and organizational settings. [2] argues that SWOT provides a means of bringing different organizational factors into focus for strategic analysis. Similarly, [3] TOWS approach emphasizes the importance of matching internal capabilities with external environmental conditions in developing strategic alternatives. The value of SWOT therefore extends beyond simply identifying four categories. The analysis should enable organizations to understand how existing capabilities can be used to exploit opportunities, how weaknesses can be addressed, and how threats can be mitigated. [4] similarly demonstrate how SWOT can be used to collect information from different sources, categorise the information into four thematic clusters and subsequently discuss strategic implications.

Technological Transformation and Competitiveness

Technological transformation has become an important strategic issue across manufacturing and service industries. Organizations increasingly need to adopt digital systems, automation, artificial intelligence, data analytics and other emerging technologies to improve productivity and respond to changing customer expectations. The three cases demonstrate different forms of technological transformation. Organization 1 faces rapid developments in electric vehicles, software-defined vehicles, artificial intelligence and connected-vehicle technologies. Organization 2 faces the need for Industry 4.0 and greater integration between its information systems, while Organization 3 Safety Glass identifies Industry 4.0 and automation as opportunities. Technological transformation therefore represents both an opportunity and a competitive pressure. Organizations that fail to adapt may face difficulties maintaining competitiveness as competitors introduce new products, processes and technologies.

Competition and Organizational Adaptation

Competition is another common strategic issue across the three cases. Organization 1 faces competition from established automotive manufacturers and rapidly growing EV manufacturers. Organization 2 operates within a globally competitive electronics manufacturing industry, while Organization 3 Safety Glass competes with larger and more established safety-glass manufacturers. Consequently, organizations need to develop strategies that combine product quality, technological capability, innovation, operational efficiency and customer responsiveness.

METHODOLOGY

Research Design

This study adopts a qualitative multiple-case study design using SWOT analysis as the principal analytical framework. The multiple-case approach was selected to compare strategic issues across three organizations operating in different industries rather than statistically generalise findings to Malaysian organizations. The analysis treats the internship reports as observational documentary evidence. No executive interviews, management surveys, internal corporate datasets or independent organizational verification were available; therefore, the findings are interpreted as an exploratory account of issues observed and documented during industrial training. The revised analysis follows the general logic demonstrated by [4], while adding an explicit qualitative extraction and coding protocol.

Case Selection

Three organizations were purposively selected:

1. Organization 1 – automotive industry
2. Organization 2 – electronics manufacturing industry
3. Organization 3 – safety-glass manufacturing industry

The three cases were selected based on information richness and suitability for comparative SWOT analysis. Each industrial training report contains organizational information, workplace observations, SWOT analysis, external environmental analysis and recommendations. The cases also provide industrial variation. Organization 1 represents automotive and mobility transformation; Organization 2 represents electronics manufacturing and digital production; and Organization 3 represents manufacturing involving construction-related products. The selection of three cases is intended to provide analytical variation and cross-case comparison rather than statistical representation. Table I provides the complete case profiles.

TABLE I PROFILE OF SELECTED ORGANIZATIONS

Case	Industry	Strategic context examined
Organization 1	Automotive	Electrification, technological advancement, dealer operations and competition
Organization 2	Electronics manufacturing	Industry 4.0, digital integration, product concentration and supply-chain resilience
Organization 3	Safety-glass manufacturing	Automation, operating costs, market development, production concentration and sustainability

Data Sources

The primary documentary sources were three student industrial training reports prepared following workplace training at the selected organizations. The reports contain observations of organizational activities and processes, organizational descriptions, SWOT analyses, external environmental analysis and recommendations. Organization 2 and Organization 3 explicitly describe their SWOT analyses as being based on internship observations, while Organization 1 documents observations relating to dealer operations, reporting, tracking, root-cause analysis, meetings and dealer visits. References and secondary sources already cited within the reports were retained as contextual support, but they were not treated as independent validation of the student observations. Accordingly, the evidence base should be understood as observational and documentary rather than as independently verified corporate evidence.

Qualitative Coding and Thematic Analysis

The qualitative extraction and thematic analysis followed a predefined six-stage protocol. The protocol was

applied to the case information and SWOT factors reported in the three industrial training documents.

Stage 1 — Familiarization and extraction. Each report was reviewed for statements describing organizational capabilities, limitations, external conditions, observed operational issues, market conditions, technological developments and recommendations. Relevant statements were extracted into a case-by-factor working list while retaining the original case context.

Stage 2 — Inclusion and exclusion criteria. A statement was included when it was explicitly linked to the selected organization or its operating environment and could be interpreted as an internal capability/limitation or an external opportunity/threat. Repeated statements were consolidated. Generic industry commentary without a clear connection to a case, unsupported assumptions, purely personal opinions, and recommendations that did not identify an underlying SWOT condition were excluded from the factor list.

Stage 3 — Initial coding. Extracted factors were assigned one of four deductive SWOT codes: S (strength), W (weakness), O (opportunity), or T (threat). Strengths and weaknesses were treated as internal organizational factors, whereas opportunities and threats were treated as external environmental factors. Coding decisions were made according to the factor's source and organizational locus rather than according to whether the factor was positive or negative in isolation.

Stage 4 — Code consolidation and thematic grouping. Closely related codes were merged and labelled with concise thematic categories. For example, EV development, Industry 4.0, ERP/digital systems and automation were grouped under technological transformation, while manufacturing efficiency, system integration and energy management were grouped under operational efficiency. This step reduced duplication while retaining industry-specific manifestations.

Stage 5 — Within-case and cross-case comparison. The consolidated S, W, O and T factors were first reviewed within each organization and then compared across the three cases. Factors appearing in more than one case were treated as recurring cross-case themes, while factors unique to one case were retained as industry-specific findings. The resulting factors were presented in Table II and the recurring themes in Table III.

Stage 6 — TOWS alignment and interpretation. The coded SWOT factors were subsequently examined through selected TOWS relationships. S-T analysis considered how existing strengths could be used to respond to identified threats, while W-O analysis considered how identified opportunities could help address documented weaknesses. These alignments were treated as analytical interpretations of the case evidence rather than verified managerial strategies. Because the analysis was conducted by a single researcher, no inter-coder reliability coefficient was calculated. To limit interpretive drift, the coding categories, inclusion/exclusion rules and cross-case comparison were applied consistently across all three reports, and the final factors were checked against the corresponding case descriptions in the manuscript. The absence of independent coding and organizational verification is retained as a study limitation.

Results

Table II presents the consolidated SWOT analysis of the three selected organizations.

TABLE II COMPARATIVE SWOT MATRIX

Source: Compiled from the three industrial training reports

	Organization 1	**Organization 2**	**Organization 3**
Strengths	Strong brand reputation; dominance in motorcycle and engine sectors	Strong quality management system; support from HQ Japan	Wide range of safety-glass products; advanced manufacturing technology; experienced workforce
Weaknesses	Limited EV product line-up; slow electrification and	Limited product portfolio; multiple information systems	High production/operating costs; concentration in one

	technology advancement		production facility; limited brand recognition
Opportunities	EV development; growing demand for hybrid vehicles	Industry 4.0/digital transformation; growing demand for EV and renewable-energy applications	Industry 4.0 and automation; growing demand for safety glass
Threats	Rising industry competition; technological advancement by competitors	Global supply-chain disruption; intense competition	Fluctuating raw-material and energy costs; stricter environmental and legal compliance

RESULTS AND DISCUSSION

Cross-Case Analysis

The comparison of the three organizations identifies five recurring strategic themes. Table III summarizes the cross-case themes. The analysis is descriptive and exploratory because the evidence comes from three internship reports and has not been independently verified by organizational executives or official company datasets.

TABLE III CROSS-CASE STRATEGIC THEMES

Strategic Theme	**Organization 1**	**Organization 2**	**Organization 3**
Technological transformation	EV, AI, SDV, connected vehicles	Industry 4.0, ERP and digital systems	Automation and Industry 4.0
Competition	Automotive and EV competitors	Global electronics manufacturers	Manufacturing and glass competitors
Product development	EV and hybrid vehicles	Product diversification	Product innovation
Operational efficiency	Manufacturing and supply-chain efficiency	System integration and supply-chain resilience	Energy and production efficiency
Sustainability	Electrification and carbon neutrality	EV and renewable-energy applications	Energy efficiency and environmental compliance

The comparative analysis demonstrates that the organizations do not face identical strategic problems. Rather, similar strategic pressures are manifested differently according to industry context. For Organization 1, technology is primarily associated with mobility transformation. For Organization 2, technology is associated with digital manufacturing and information integration. For Organization 3, technology is associated with automation and production efficiency. This finding is important because it demonstrates that technological transformation should not be viewed as a uniform organizational process. Its strategic meaning depends on the industry, product, market and existing organizational capabilities.

The TOWS matrix was used selectively to move beyond descriptive SWOT lists. Table IV focuses on S-T and W-O interactions because these combinations directly connect documented internal conditions with the principal external pressures and opportunities identified in the three cases.

TABLE IV SELECTED TOWS ALIGNMENTS (S-T AND W-0)

Case	S-T interaction	W-O interaction	Case-bounded strategic implication
Organization 1	Strong brand reputation and established motorcycle/engine position can support responses to rising automotive and EV competition.	Limited EV product line-up can be addressed by leveraging EV and hybrid-vehicle demand to accelerate electrified product development.	Use established market strengths to support EV transition while reducing the documented product-line weakness.
Organization 2	Strong quality-management capability and HQ Japan support can be used to respond to global supply-chain disruption and intense competition.	Limited product portfolio and multiple information systems can be addressed by exploiting Industry 4.0/digital transformation and demand from EV and renewable-energy applications.	Integrate information systems and broaden product opportunities using existing quality and HQ capabilities.
Organization 3	Advanced manufacturing technology and an experienced workforce can support responses to cost volatility and tighter environmental/legal requirements.	High operating costs, facility concentration and limited brand recognition can be addressed through automation and growing safety-glass demand.	Use manufacturing capabilities to improve efficiency and expand market reach while reducing cost and concentration risks.

Case-Bounded Strategic Implications

The SWOT and TOWS findings support several case-specific strategic implications. These implications should not be interpreted as prescriptions for Malaysian organizations generally.

i) Technological Capability

For Organization 1, the documented weakness in EV product coverage can be considered alongside the opportunity created by EV and hybrid demand. For Organization 2, the fragmented information-system environment can be considered alongside Industry 4.0 and digital-transformation opportunities. For Organization 3, advanced manufacturing capability provides a basis for further automation and digital production monitoring. These implications arise from the three case profiles and are not independently validated organizational strategies.

ii) Product and Market Development

Product concentration is particularly relevant to Organization 2, while product development is also identified for Organizations 1 and 3. Within the case evidence, Organization 2 may use its relationship with HQ Japan to explore additional product opportunities; Organization 1 may expand its electrified vehicle portfolio; and Organization 3 may strengthen environmentally friendly and energy-saving glass products.

Organization 3 can strengthen product innovation, particularly environmentally friendly and energy-saving glass products.

iii) Operational Efficiency

Operational efficiency is a recurring theme across the three cases, but its meaning differs by organization. Organization 2's multiple information systems indicate a need for stronger integration. Organization 3's cost pressures point toward energy-efficient equipment, preventive maintenance and digital energy monitoring.

Organization 1's case points toward manufacturing and supply-chain efficiency in response to competitive pressure.

iv) Strategic Partnerships

Strategic partnerships are relevant within the evidence documented for the cases. Organization 1's report identifies partnerships with battery manufacturers, charging infrastructure providers and technology companies, while Organization 2 can leverage its relationship with HQ Japan for technology and knowledge transfer. These observations suggest possible mechanisms for addressing capability gaps, but their effectiveness was not tested in the present study.

CONCLUSIONS

This exploratory study examined the strategic strengths, weaknesses, opportunities and threats documented for three Malaysian organizations in the automotive, electronics manufacturing, and safety-glass manufacturing sectors. The comparative SWOT analysis identified organization-specific and recurring strategic issues. Organization 1 was characterized by strong brand reputation and market capabilities but also by limited EV product coverage and slower electrification. Organization 2 was characterized by a strong quality-management system and HQ support, alongside product concentration and multiple information systems. Organization 3 was characterized by product range, manufacturing technology and an experienced workforce, alongside high operating costs, facility concentration and limited brand recognition. Technological transformation was a recurring theme, but its manifestation differed across the cases: EV and software-defined mobility in Organization 1, Industry 4.0 and digital integration in Organization 2, and automation and manufacturing efficiency in Organization 3.

The selected TOWS alignments add a strategic interpretation to the descriptive SWOT findings. The S-T relationships indicate how existing strengths could potentially be used to respond to competition, supply-chain disruption, cost pressures and regulatory requirements. The W-O relationships indicate how external opportunities such as EV demand, Industry 4.0, automation and growing safety-glass demand could potentially address documented weaknesses. These relationships are analytical propositions derived from the three cases and should not be treated as verified organizational decisions or evidence of effectiveness.

The conclusions are intentionally limited to the three selected cases and the observational evidence contained in their industrial training reports. The study does not establish that the identified strategic issues apply to Malaysian organizations generally. Because the reports were prepared from student internship observations and were not independently verified through corporate executive interviews, official organizational data or a second independent coder, the findings should be interpreted as exploratory and case-bounded.

Future research should strengthen validation by collecting direct evidence from managers or organizational records, using multiple coders to establish inter-coder agreement, and expanding the number and diversity of cases. Such research could also apply a fuller TOWS analysis, AHP or quantitative SWOT prioritization to assess the relative importance of strategic factors.

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