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# A study on strategic management, competition, and cost effective: Analyzing their combined impact on performance in malaysia's grade 1 construction industry

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## Abstract

The aim/objectives of study is to establish the effects of management strategy, competition and cost on the performance of the GRADE 1 contractors in the construction Industry of Malaysia. This research examines Strategic Management, Competition and Cost Management as the three independent variables in the context of Malaysia's GRADE 1 contractors in the industry to examine their impact and contribution on the performance as dependent variables and sustainability in Malaysia's construction industry. The research design is applied the cross-sectional method with focusing mainly on the constructions industry, The target population of this research is the G1 construction industry in Malaysia and data was collected purposively from 1,500 members of the Malaysian Malay Contractors Association (PKMM). There are 165 respondents (33.0%) from 500 members as a responsive rate involved. The quantitative technique was adopted for this study and Multiple Linear Regression as well as Spearman's correlation tests were conducted to assess the correlation between the independent variables and the dependent variable, performance of GRADE 1 construction firms. The finding of study shows that performance is positively influenced by both Strategic Management and Cost, where Cost is the leading factor. While there is a strong positive relationship between Competition and performance, its co-efficient is less than other factors, making it clear that in this particular context the aptitude of Competition is considerably low. Consequently, the implications of study is findings affirm that planning and efficient Cost Management are essential factors for enhancing performance in the GRADE 1 construction sector. As such, future studies should cover a longer period and cover other construction grades and regions. The contributions of study that this research expands the current theoretical understanding of strategic and operation factors affecting GRADE 1 construction firms in Malaysia, and presents managerial and policy implications for the construction fraternity.

**Keywords**: Construction Industry, Strategic Management, Business Competition, Cost Management Performance, Productivity.

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## 1. INTRODUCTION

As for the economist and the investors, it is common knowledge that the construction industry in Malaysia is one of the most prominent industries in the country and has been most responsible for the development of infrastructures, generation of employment opportunities as well as the growth of the country's economy. It is stated by the Ministry of Works Malaysia, the construction sector is said to be contributing around 4% to the GDP of the country and has shown fairly good growth in the last few years notwithstanding the world's troubled economy. The industry can therefore be characterized as diverse since it is involved with a variety of structures that differ in size and function and can either be for public or private use and are categorized as civil structures which include commercial buildings, industrial structures, residential buildings and infra structures. The construction industry is sub-categorized in terms of contractor's grades to meet the regulation set up by the Construction Industry Development Board CIDB Malaysia (2020). These grades are from GRADE 1 to G7 in which GRADE 1 consists of the small contractors while the G7 has

large contractors with the highest financial capacity and technical proficiency. Specifically, this work will target GRADE 1 contractors commonly referred to as the small contractors due to their significant percentage and impact on construction sector involving relatively small construction projects. GRADE 1 contractors are entitled to engage in construction projects that cost less than RM200,000, which forms a large part of constructions in Malaysia especially in the rural and semi urban areas. As of 2020, CIDB Malaysia identified 2 about 42,000 GRADE 1 contractors in the construction industry of which they manage to occupy most of the market.

However, the major challenges that GRADE 1 contractors encounter destabilises the business. This can include restricted availability of funds, challenges in containing escalating costs of operations and also rising competition from the small contractors and the large scale contractors. From CIDB data, it noted that though many contractors belong to GRADE 1 level, most of the contractors fail to sustain and expand their businesses due to constraints with available funding and increasing cost of raw materials and human resources (CIDB, 2020). Therefore, knowledge of the S.M practices, competitor pressures, and cost containment strategies of GRADE 1 contractors is highly essential in an effort to enhance their business outcomes, and to guarantee they sustain and advance their contributions to the construction industry in Malaysia. A number of studies have examined on the performance of construction firms in Malaysia; however, most of these studies are selective and tend to focus on large contractors that fall under the G7 classification. While Ahmad et al. (2023) and Alaloul et al. (2021) have focused on issues related to strategic management and operational efficiency in the construction industry, little research has been done to identify the status of strategic management for GRADE 1 contractors.

Studies conducted on GRADE 1 contractors are still scarce thus those dealing with their strategic management activities, pressures prevalent within the sector and effects of cost management on their performance. Safely, due to these reasons cited above which GRADE 1 contractors get into, it becomes important to investigate how each of these variables, which form a system impacts the other. Alkilani & Loosemore, (2022) acknowledged the issue of inefficiencies in delivery of operations in corridor smaller firms but they have not focused on Malaysian GRADE 1 contractor segment, therefore, the research gap could be achieved here.

The study show that GRADE 1 contractors play a critically important role in the Malaysian construction industry. Although GRADE 1 contractors are involved in smalIER projects, they play a great role in local economic development for they are involved in housing, minor infrastructure projects and community facilities most preferably in the rural and semiurban areas of the country. These contractors contribute to economic development by providing Capital asset, promoting employment, encouraging local procurement and supporting delivery of critical infrastructure in under-served areas. However, challenges that GRADE 1 contractors encounter destabilises the business. This can include restricted availability of funds, challenges in containing escalating costs of operations and also rising competition from the small contractors and the large scale contractors. From CIDB data, it noted that though many contractors belong to GRADE 1 level, most of the contractors fail to sustain and expand their businesses due to constraints with available funding and increasing cost of raw materials and human resources (CIDB, 2020). Therefore, knowledge of the S.M practices, competitor pressures, and cost containment strategies of GRADE 1 contractors is highly essential in an effort to enhance their business outcomes, and to guarantee they sustain and advance their contributions to the construction industry in Malaysia.

## 2.0. PROBLEM STATEMENT

GRADE 1 contractors are considered as the entry level contractors in the Malaysian construction industry, yet they are responsible for performing small-scale contracts that are crucial to the development of the country, as well as the region. They are however critical in the marketplace and experience several difficulties in continuing their work because of the increased competition, lack of funds, and increasing in construction material prices. GRADE 5 1 firms have found it challenging to compete with their larger contractors counterpart in matters relating to pricing, resource control and procurement of equipment. These external forces and a scarce resource negatively impact their performance prospects and development in a changing industry. Even though the literature concerning strategic management and operational

effectiveness of the construction industry is extensive, studies have mainly centred on the large-scale contractors with the larger resources. For instance, Ahmad et al. (2023) and Alaloul et al. (2021) revealed that there is adoption of strategic management for the enhancement of firm performance, but these papers mainly focused on the large-scale contractors. Despite the fact that many aspects of GRADE 1 contractors are more differentiated compared to those in the construction industry, the issues that are specific to smaller contractors are still not very clear: The lack of economies of scale and impact of competition pressure are recognized as the major concerns for the contractors of the lower grade. Furthermore, the existing literature fails to provide insights on how these contractors can effectively and proactively manage the costs with a view of enhancing their competitiveness.

This study aims to filling this gap by conducting an empirical analysis on the interaction between strategic management, competition and cost with an emphasis on GRADE 1 contractors in Malaysia. Thus, while the research will discuss the conditions of construction management in general, it will investigate the practices of these smaller contractors specifically, and therefore will be beneficial both for the furthering of the academic field and for the enhancement of GRADE 1 contractors' operations in a competitive market. The Resource-Based View (RBV) theory is another strategic framework crucial for explaining the competitive capabilities of firms, particularly in resource-scarce contexts, such as those faced by GRADE 1 contractors. According to the RBV, competitive advantage and sustainability of a firm depends on valuable, rare, inimitable and non-substitutable resources and capabilities (VRIN) (Barney, 1991). Therefore, in relation to GRADE 1 contractors where the contractors are generally considered small players, the RBV framework can be utilised to investigate how these players deploy the arguably scarce and valuable resources including financial capital, skilled human capital and technological skills in seeking to enhance their position in the construction market.

Although the study was carried out by Gerhart and Feng (2021), the researchers used the RBV theory to determine how construction firms can build a competitive advantage from their resources. Although most GRADE 1 contractors are small in scale and financially constrained, they can improve their position by proper utilization of the limited resources including good local contacts, low overheads, and increased efficiency. Embedded arguments for example, GRADE 1 contractors may depend on local status, resource consolidation, or cheap sourcing to complete projects than their giant rivals. Using the RBV framework in this study, the investigation will demonstrate how GRADE 1 contractors could develop sustained competitive advantage even where they had constrained resources. It will identify the key resources and capabilities that are valuable for GRADE 1 contractors; and evaluation of how these resources can be effectively managed to enhance contractors' performance in a saturated and price-sensitive environment.

Thus, this study can support the literature gap by assessing the moderating roles of competition and cost management on the relationship between strategy and performance among GRADE 1 contractors in Malaysia. It seems quite imperative for GRADE 1 contractors to comprehend how they can deal with these challenges in their line of business to survive let alone thrive. Studying these aspects, the aims at this work to contribute to the understanding of the strategic management practices that would improve the competitiveness and sustainability of GRADE 1 contractors.

### 2.1. RESEARCH OBJECTIVES

The research objective of this study is to understand the relationship of all independent variables towards the dependent variable as below:

1. Examine the relationship between strategic management influence towards the performance of the Grade 1 construction company
2. Evaluating the impact of competition on the Grade 1 contractors towards the performance of the Grade 1 construction company
3. Observing the influence of cost management on Grade 1 financial sustainability and their performance.
4. Examine the integration effect of all the variables towards Grade 1 construction company on their performance.
5. Identify and proposed the key strategies that the Grade 1 company can adopt to optimize performance with limited resources and competitive environment.

## 2.2. LITERATURE REVIEW OF STUDY

**Table 1 below show the summary of several of literature review that adopted in this study.**

**Table 1 : Summary of Literature review**

| Author(s) | Method | Sample | Context | Variables/ Factors/ Constructs | Research Problem | Research Findings |
|---|---|---|---|---|---|---|
| Nila Trisusanti et al. (2023) | Descriptive-qualitative research | Selected manufacturing firms | Manufacturing sector, Makassar, Indonesia | Strategic management, organizational performance | The impact of strategic management on improving organizational performance | Strategic management positively affects performance, recommending market diversification, tech investments, and innovation |
| Barry Gerhart & Jie Feng (2021) | Literature review, conceptual analysis | No specific sample | Human resources and human capital management | Resource-based view (RBV), firm-specific human capital (FSHC) | The role of strategic human resources in improving firm performance | RBV highlights the importance of human capital in creating value and competitive advantage; FSHC is crucial for firm success |
| Husam Mansour et al. (2022) | Meta-analysis | 20 journal papers | Construction project management | Resources, capabilities, competitive advantage, performance | Examining the effect of resources and capabilities on construction firm performance | All relationships between resources, capabilities, competitive advantage, and performance were significant |
| Dorah Gashayija & Dr. Gitahi Njenga (2024) | Descriptive research, correlation regression | 237 respondents (owners, managers) | Craft brewery industries, Kigali, Rwanda | Cost leadership, differentiation, focus, organizational performance | Assessing the relevance of strategic management strategies on organizational performance | Cost leadership, differentiation, and focus strategies positively influence organizational performance in the craft brewery industry |
| Korhan Arun & Saniye Özmutlu (2021) | Descriptive-quantitative research | Third-party logistics (3PL) firms | Logistics sector, Turkey | Dynamic capabilities, strategic management, organizational performance | Examining how environmental munificence affects dynamic capabilities and performance | Dynamic capabilities and strategic management are significantly related to organizational performance |
| Bahareh Nikmehr et al. (2021) | Critical review | No specific sample | Construction industry | Digitalization, construction performance, sustainability | Investigating the impact of digitalization on construction firm performance and sustainability | Digitalization improves construction performance, enhances efficiency, and promotes sustainability |
| Azriyah Amir et al. (2016) | Quantitative, regression analysis | SMEs in Malaysia | Malaysian construction sector | Cost management, entrepreneurship, competitiveness | How cost management and entrepreneurship affect SME competitiveness | SME competitiveness is improved through cost management strategies and entrepreneurship |
| Matthew Kwaw Somiah et al. (2020) | Principal component analysis | 667 respondents (contractors) | Indigenous construction firms in Ghana | Competitive advantage strategies (tendering, contracts, client-centered, branding) | Identifying critical success strategies for competitive advantage | Four principal components were identified as critical success strategies for indigenous firms' competitive advantage |
| Benviolent Chigara et al. (2013) | Exploratory research, questionnaires, interviews | Contractors in Zimbabwe | Zimbabwean construction industry | Cost management strategies | How effective are contractors' cost management strategies in managing project costs? | Project costs are primarily managed through monthly cost reports, budgets, and variance management |

| | | | | | | |
|---|---|---|---|---|---|---|
| Andrew Victor K. Blay Jnr et al. (2022) | Factor analysis, Structural Equation Modelling | Ghanaian construction firms | Ghanaian construction sector | Competitive strategies, SDGs | Impact of competitive strategies on achieving the SDGs | Pricing and innovation strategies have a positive impact on achieving SDGs |
| G J Johari et al. (2019) | Descriptive, statistical analysis | Small contractors in West Java | Indonesian construction industry | Competitiveness, project management | Identifying factors that influence competitiveness of small contractors | Project management factors like cost, quality, and time management significantly influence competitiveness |
| Hui Guo et al. (2023) | Case studies, archival study | Chinese international construction companies | International construction | Competitive strategies, creating shared value | How to integrate creating shared value (CSV) into competitive strategies | Four types of CSV strategies were identified: product, safety/health, local development, and environmental protection |
| Tanayut Chaitongrat et al. (2024) | Comparative analysis of data mining methods (ANN, NB, DT) | 391 construction firms in Thailand | Cost management in the construction industry | Artificial neural networks (ANN), Naive Bayes (NB), Decision Tree (DT), cost management factors | Investigating the predictive efficiency of data mining methods to anticipate project failure based on cost management datasets | Decision Tree (DT) with attribute selection achieved the highest classification accuracy (98.14%), followed by ANN and NB |
| Samad M. E. Sepasgozar et al. (2022) | Literature review and case study | No specific sample | Construction projects using BIM technology | BIM technology, cost management, cost estimation | How BIM and digital tools can improve cost management in construction projects | BIM technology and digital tools provide better cost control and real- time estimation updates, improving accuracy and reducing overruns? |
| Chalchissa Amentie Kero & Addisalem Tadesse (2023) | Systematic review, thematic analysis | Systematic review, thematic analysis | 46 studies (resource-based view & dynamic capabilities) | Various sectors | Competitive advantage, firm resources, dynamic capabilities | RBV helps firms maintain competitive advantage through VRIO resources, and dynamic capabilities help respond to market changes |
| Farrah Rina Mohd Roshdi et al. (2022) | Semi-structured interviews | 10 experts in EPC oil & gas projects, Malaysia | Engineering Procurement Construction (EPC) | Cost overruns, resource allocation (5M) | Investigating resource allocation issues in Malaysian oil & gas megaprojects | Cost overruns are caused by improper resource allocation; better financial control is needed |
| Suhair Alkilani & Martin Loosemore (2022) | Case study, qualitative analysis | Small-and-medium-sized contractors in Jordan | Jordanian construction industry | Project performance measurement, SME performance | How to effectively measure project performance for small contractors in Jordan | The study highlights key performance indicators (KPIs) such as cost, time, and quality as crucial for improving SME performance |
| Allan Nsimbe & Junzhen Di (2024) | Mixed-method (document review, surveys) | 69 professionals (BIM managers, cost estimators) | Mombasa Port Area Development, Kenya | BIM technology, cost estimation, collaboration | Evaluating the effect of BIM on cost estimation and stakeholder collaboration in civil engineering | BIM enhances cost estimation accuracy, improves collaboration, and reduces budget overruns |

**Source : Research Findings (2024)**

**2.3. THE CONCEPTUAL FRAMEWORK**

The Figure 1 below is the proposed of conceptual model showing the hypothesized relationship between the independent variables namely; Strategy, Competition and Cost on one side and the Performance on the other side. The model is also used to illustrate how each of the independent variables will impact on the performance of the GRADE 1 construction companies in the Malaysian environment.

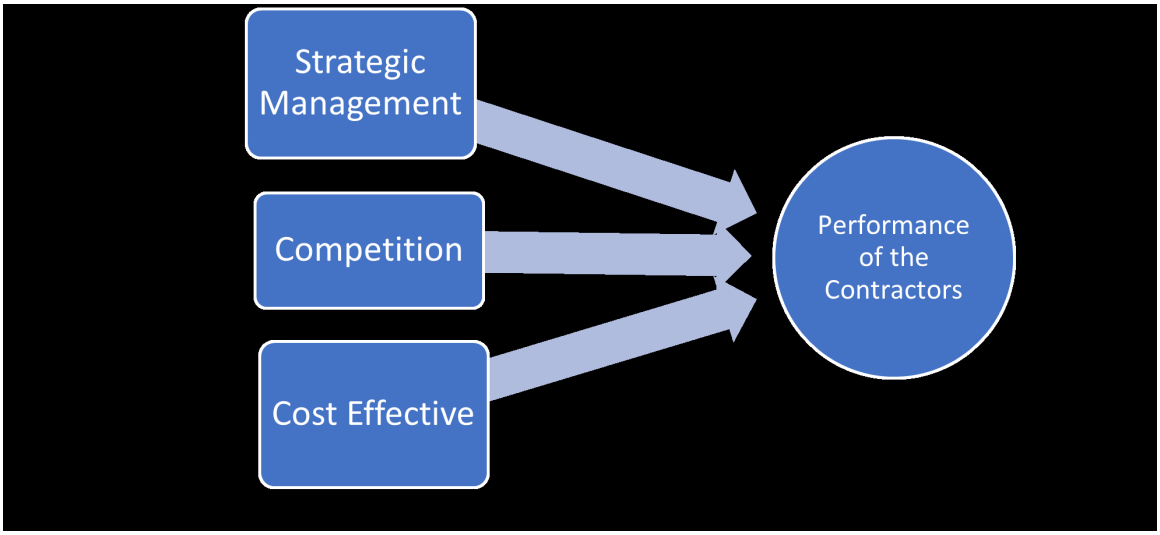


**Figure 1 : Proposed of Conceptual Framework**

**The Research Gap between Independent Variables:**

**A) Strategic Management**

Major advantages of strategic management have been documented in the past, but there is dearth of the literature on the effects of strategic management within the context of small scale enterprises such as the Grade 1 contractors in Malaysia. Many of the existing and most recent papers are based on the larger companies excluding how strategies such as resource replenishment, digitization, and flexible management can respond to the issues that small contractors encounter. There is also no systematic research which supports these strategies to performance outcomes in this context. Further studies should also focus on the best strategies such as overall cost control and stakeholders 'management to support the long-run competitiveness of Grade 1 contractors (Trisusanti et al., 2023; Zhou et al., 2024).

**B) Competition**

Although there is empirical literature regarding the impact of competitive strategies on large construction firms, few studies have addressed how Grade 1 contractors can effectively respond to competition. Like many other earlier African construction studies, there is little information provided on these contractors' constraints including small capital base, high operating expenses. It also lacks the empirical evidence of how such targeted approaches such as digital integration, resources optimization, and Creating Shared Value will improve their competitiveness. Furthermore, little work has been done on understanding how Creating Shared Value strategies can be used to enhance the competitive position of small contractors. More research should be conducted in these areas to establish sound model for grade one contractors in Malaysia (Azeem et al., 2020; Saad et al., 2021; Blay Jnr et al., 2022; Guo et al., 2024).

**C) Cost Effective**

Although most attempts aim at the configuration of cost-controlling techniques in extensive projects, less is known on how Grade 1 contractors can successfully implement BIM and EVM. Many of the previous studies do not capture the aspects of financial and operational risks that are pertinent to small contractors. Some studies should be conducted in the future to explore how the application of PA and advanced digital technologies can be tailored to the clients with the lowest size category, including Malaysia's Grade 1 contractors, to decrease cost overruns and increase financial efficiency and sustainability (Sepasgozar et al., 2022; Chaitongrat et al., 2024).

## 3.0. RESEARCH METHODOLOGY

### 3.1. Research Design

This research is considered quantitative research one in a bid to determine the relationship of strategic management, competition, cost management and performance of Grade 1 contractors in Malaysia. The cross-sectional research approach is used and 165 samples from 500 questionnaires are distributed. The data is collected once and therefore gives a correct snap shot of the current magnitude of the relations between variables. The quantitative method is chosen because it produces data in figures that can be analyzed statistically to establish how much of the relationship exists between these factors and contractor performance. This design is suitable for the research as it enables hypotheses to be tested on numerical data relative to the relations between strategic management practices, competition, cost management and performance during a certain period of time. Nonetheless, the cross sectionalism of the study is perfectly suitable for the analysis of conditions affecting the G1 contractor segment of construction industries at given time.

### 3.2. Sampling Design

The research sample for this study uses a simple random sampling method, focusing on PKMM members working steadily on consecutive projects. This study also encompasses 1,700 the members of the Malaysian Malay Contractors Association (PKMM), but mainly the GRADE 1 contractors who undertake minor construction activities. The total population is 500 PKMM members are from different areas of Malaysia where they are at different challenges since they are acted differently based on the geographical area, project type and competition. Only 165 respondents are participate in this study (33.0%). These contractors are involved in the numerous sub-sectors in the construction industry such as housing construction, building construction, and infrastructural construction among others. Applying the proposed research to GRADE 1 contractor, the study seeks to identify the specific concerns these contractors have with regard to strategic management, costs, and competition, all of which are major determinants of their capability to compete in a volatile marketplace.

### 3.3. Sample Size

In order to keep the reliability and representativeness of the results in mind, the number of samples was chosen according to the 30% rule. This is serious rule of thumb in statistics to preserve unnoticed components of variability and the credibility of conclusions drawn liable on limited survey of population (Statology, 2020; StatisticalPoint, 2023). To cover some cases when some people not respond at all or will not be willing to complete the survey, 20 more questionnaires were administered, up to 50 questionnaires will be distributed in pilot test. This approach is in a harmonious convergence with the 10% rule and protects the study from the potential of overly incomplete data by guaranteeing that the final sample size has a minimum of 165 completed responses. The application of this methodology aligns to the objectives of this study in terms of capturing the effects of strategic management, competition, and cost on GRADE 1 contractors in Malaysia.

### 3.4. Data Collections

Data for this research will be obtained through a survey via an online Google Forms which will comprise of a structured questionnaire. This method is chosen because it allows collecting quantitative data from a large number of GRADE 1 contractors located throughout Malaysia and belonging to the PKMM association (Alaloul et al., 2021). The questionnaire is designed to capture information on the key variables of the study: strategic management, the competition the cost management and firm performance. Many of the questions will adopt a 5- point Likert scale since these scales are easy to measure and analyze when determining the respondents' attitude towards such variables (Imam & Mamat, 2019). The survey will be conducted on one hundred and fifty GRADE 1 contractors from PKMM whereby the data collected will comprise 10 percent of the total number of members. Blanco et al. (2014) as well as Alaloul et al. (2021), note that follow-up emails will be sent at one and two-week intervals to probably enhance the participants' response rate of 20-30%.

### 3.5. Instruments and Data Analysis Techniques

he step involved in data analysis methods to be used in this research study will make the research to be well organized and conclusive in handling the survey data collected. Drawing from the MBA Thesis, this study will use both descriptive and inferential statistics to test the associations between the independent variables; namely, the operations management, competition and variable costs; and the dependent variable, company performance.

## 4.0. DATA ANALYSIS AND RESEARCH FINDINGS

### 4.1. Demographic Profile

In Table 2 below show the 165 valid questionnaire respondents, It is realised that 100 (60.6%) respondents have more than 10 years experiences compared to less than 1 year experience which is 14 (8.5%) respondents. Overall respondents with more than 4 years experiences contributed to the questionnaire. Most of the contribution to the

questionnaire are from Central and East Coast of Malaysia which contributed 67 respondents (40.6%) and 62 respondents (37.6%) of the total respondents. Only 8 respondent (4.8%) out of respondents coming the North of Malaysia which the lowest from the 5 regions. The result also shows that 110 respondents (66.7%) manage 1 to 5 project/s in a year and 32 respondents (19.4%) manage more than 10 projects in a year. As reported in the Table 7, average Projects managed by respondents with a small project is 77 respondents (46.7%), compared to those managing the large project which is about 51 respondents (30.9%).

**Table 2 : Respondent's Profile**

| Variable | | Frequency | Percentage (%) |
|---|---|---|---|
| 1. Years of Work Experience | Less than 1 years | 14 | 8.5 |
| | 1-3 years | 18 | 10.9 |
| | 4-7 years | 22 | 13.3 |
| | 8-10 years | 11 | 6.7 |
| | More than 10 years | 100 | 60.6 |
| 2. Regional of the company operated di Malaysia | Central | 67 | 40.6 |
| | East Coast | 62 | 37.6 |
| | East Malaysia | 12 | 7.3 |
| | Northen | 8 | 4.8 |
| | Southern | 16 | 9.7 |
| 3. Average Projects Manage in a Year | 1-5 projects | 110 | 66.7 |
| | 6-10 projects | 23 | 13.9 |
| | More than 10 projects | 32 | 19.4 |
| 4. Size of projects handled in a year | Large (above RM2 million) | 51 | 30.9 |
| | Medium (RM50,000 – RM2 million) | 37 | 22.4 |
| | Small (below RM500,000) | 77 | 46.7 |

**Source :** Research Findings (2024)

4.2. Reliability Analysis

Table 2.1 below is the reliability analysis conducted to all variables in this study. The analysis starts with the dependant variable and then the independent variables.

**Table 2.1 : Reliability Statistics for Impact on the Performance of Malaysia's GRADE 1 Construction Industry**

| Reliability Statistics | |
|---|---|
| Cronbach's Alpha | N of Items |
| 0.839 | 4 |

**Source: Research findings (2024)**

**Table 2.1. Item-Total Statistic for Impact on the Performance of Malaysia's GRADE 1 Construction Industry**

| Item-Total Statistics | | | | |
|---|---|---|---|---|
| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
| DV_Q1_Profit | 11.38 | 5.189 | .631 | .815 |
| DV_Q2_Efficiency | 10.88 | 5.205 | .671 | .796 |
| DV_Q3_Financial | 11.26 | 5.060 | .688 | .788 |
| DV_Q4_Quality | 10.73 | 5.550 | .708 | .785 |

**Source:** Research findings (2024)

**Table 2.2. Reliability Statistics for Strategic Management**

| Reliability Statistics | |
|---|---|
| **Cronbach's Alpha** | **N of Items** |
| 0.939 | 10 |

**Source:** Research findings (2024)

**Table 2.2. Item-Total Statistic for Strategic Management**

| Item-Total Statistics | | | | |
|---|---|---|---|---|
| | **Scale Mean if Item Deleted** | **Scale Variance if Item Deleted** | **Corrected Item-Total Correlation** | **Cronbach's Alpha if Item Deleted** |
| IV_Q1_STRATEGIC | 35.28 | 47.961 | .708 | .935 |
| IV_Q2_STRATEGIC | 35.25 | 47.971 | .703 | .935 |
| IV_Q3_STRATEGIC | 35.32 | 47.280 | .744 | .933 |
| IV_Q4_STRATEGIC | 35.35 | 45.715 | .813 | .930 |
| IV_Q5_STRATEGIC | 35.40 | 48.120 | .681 | .936 |
| IV_Q6_STRATEGIC | 35.36 | 47.404 | .748 | .933 |
| IV_Q7_STRATEGIC | 35.28 | 46.544 | .847 | .929 |
| IV_Q8_STRATEGIC | 35.16 | 47.308 | .812 | .930 |
| IV_Q9_STRATEGIC | 35.30 | 47.198 | .744 | .933 |
| IV_Q10_STRATEGIC | 35.36 | 47.233 | .738 | .934 |

**Source:** Research findings (2024)

**Table 2.3. Reliability Statistics for Competition**

| Reliability Statistics | |
|---|---|
| **Cronbach's Alpha** | **N of Items** |
| 0.869 | 7 |

**Source:** Research findings (2024)

**Table 2.3: Item-Total Statistic for Competition**

| Item-Total Statistics | | | | |
|---|---|---|---|---|
| | **Scale Mean if Item Deleted** | **Scale Variance if Item Deleted** | **Corrected Item-Total Correlation** | **Cronbach's Alpha if Item Deleted** |
| IV_Q1_COMPETITION | 23.39 | 19.618 | .717 | .841 |
| IV_Q2_COMPETITION | 23.96 | 19.346 | .655 | .849 |
| IV_Q3_COMPETITION | 23.62 | 19.029 | .755 | .835 |
| IV_Q4_COMPETITION | 23.71 | 19.110 | .619 | .854 |
| IV_Q5_COMPETITION | 23.84 | 20.308 | .616 | .854 |
| IV_Q6_COMPETITION | 23.99 | 20.604 | .526 | .865 |
| IV_Q7_COMPETITION | 23.92 | 19.451 | .635 | .851 |

**Source**: Research findings (2024)

**Table 2.4: Reliability Statistics for Cost**

| Reliability Statistics | |
|---|---|
| **Cronbach's Alpha** | **N of Items** |
| 0.872 | 4 |

**Source:** Research findings (2024)

**Table 2.4: Item-Total Statistic for Cost**

| Item-Total Statistics | | | | |
|---|---|---|---|---|
| | **Scale Mean if Item Deleted** | **Scale Variance if Item Deleted** | **Corrected Item-Total Correlation** | **Cronbach's Alpha if Item Deleted** |
| IV_Q1_COST | 12.15 | 5.556 | .783 | .813 |
| IV_Q2_COST | 12.02 | 5.743 | .746 | .829 |
| IV_Q3_COST | 11.96 | 5.821 | .735 | .833 |
| IV_Q5_COST | 12.38 | 5.870 | .647 | .869 |

**Source:** Research findings (2024)

In connection with the research, Table 2.1, 2.2, 2.3 and 2.4 are the term reliability itself points to the stability which an instrument gives while administering an assessment. One of the main concerns during the evaluation of the reliability of a set of questions is the internal consistency, with often referred to acceptable level of Cronbach's alpha being 0.70 or greater, according to Nunnally (1978). The following section presents the reliability test analysis of the study on the effect of factors on the construction Industry GRADE 1 in Malaysia.

### 4.3. Spearman's Correlation Analysis

**Table 2.5: Spearman's Correlation Analysis Between Strategic Management, Competition, Cost, and Performance of GRADE 1 Contractors**

| Correlations | | | | | | |
|---|---|---|---|---|---|---|
| | | | **DV** | **IV_ STRATEGIC** | **IV_ COMPETITION** | **IV_ COST** |
| Spearman's rho | DV | Correlation Coefficient | 1.000 | .483** | .233** | .544** |
| | | Sig. (2-tailed) | . | .000 | .003 | .000 |
| | | N | 165 | 165 | 165 | 165 |
| | IV_STRATEGIC | Correlation Coefficient | .483** | 1.000 | .525** | .674** |
| | | Sig. (2-tailed) | .000 | . | .000 | .000 |
| | | N | 165 | 165 | 165 | 165 |
| | IV_ COMPETITION | Correlation Coefficient | .233** | .525** | 1.000 | .573** |
| | | Sig. (2-tailed) | .003 | .000 | . | .000 |
| | | N | 165 | 165 | 165 | 165 |
| | IV_COST | Correlation Coefficient | .544** | .674** | .573** | 1.000 |
| | | Sig. (2-tailed) | .000 | .000 | .000 | . |
| | | N | 165 | 165 | 165 | 165 |

**. Correlation is significant at the 0.01 level (2-tailed).

**Source**: Research findings (2024)

Table 2.5 above is a Spearman correlation coefficients were used to determine the percentage of relationship, and direction between the dependent variable (Impact on Performance) and the independent variables (Strategic Management, Competition and Cost). It is well suited for data that is not normally distributed as the process does not involve assumptions of the parametric tests Spearman (1904). Based on the findings it is possible to define several essential links among variables.

Firstly, the Spearman's rho coefficient (ρ) relating to the variables of the study research showing a moderate positive relationship between Impact on Performance and Strategic Management is 0.483 with a p<0.000. This statistically significant result ( $p < 0.01$) supports the hypothesis indicating that corporate strategic management practices enhance performance in Malaysia's GRADE 1 construction firms. Evaluating the findings, the average correlation between, Impact on Performance and Competition is significantly lesser 0.233 and p-0.003; Hence, statistically significant at 0.01 level. This suggests that though competition has a bearing to performance it has a marginal effect.

The second covariance correlation determined in this analysis is between the variables of Impact on Performance and Cost; Spearman rho=0.544, p=0.000. This result therefore confirms cost management as a vital factor that needs to be implemented properly to increase the performance of construction firms in the GRADE 1 category.

Furthermore, interrelationships of high level of significance were noted between the independent variables. The correlations between Strategic Management and Competition ($\rho = 0.525$, $p = 0.000$) and between Strategic Management and Cost ($\rho = 0.674$, $p = 0.000$) were moderate to strong and positive, indicating that the better the Strategic Management, the higher the improved competitive capabilities, the better the cost management. Likewise, we also observe a positive and moderate coefficient of correlation between Competition and Cost where $\rho = 0.573$ at $p = 0.000$, implying that firms in higher competition also tend to better control cost.

**F) Hypotheses Testing**

**Table 2.6 : Hypotheses Test Analysis**

| Independent Variable | Null Hypothesis ($H_0$) | Alternative Hypothesis ($H_1$) | Result Hypothesis | Conclusion |
|---|---|---|---|---|
| Strategic Management | $H_0$: There is no significant relationship between Strategic Management and performance ($\rho = 0$). | $H_1$: There is a significant positive relationship Between Strategic Management and performance ($\rho \neq 0$). | p-value = 0.000($\rho$ =0.483) Accept $H_1$ | There is a significant positive relationship between Strategic Management and Performance. |
| Competition | $H_0$: There is no significant relationship between Competition and Performance ($\rho = 0$). | $H_1$: There is a significant relationship between Competition and Performance ($\rho \neq 0$). | p-value= 0.003($\rho$=0.233) Accept $H_1$ | There is a significant, but weak, positive relationship between competition and Performance. |
| Cost | $H_0$: There is no significant relationship between Cost and Performance ($\rho = 0$). | $H_1$: There is a significant positive relationship between Cost and Performance ($\rho \neq 0$). | p-value = 0.000($\rho$= 0.544) Accept $H_1$ | There is a significant positive relationship between Cost and Performance. |

**Source**: Research findings (2024)

Table 2.6 above show all Alternative hypotheses (H1) of study are accepted. Therefore, these results have provided insights into the importance of both Strategic Management and Cost for the performance of the GRADE 1 construction industries with both variables positively related to performance consequences. Although Competition also contributes to performance, it seems to be weaker in its relationship than the physical aspects.

## 5.0. CONCLUSION

### 5.1. Research Findings Results

Table 2.7 below show that strategic management and cost management are two critical factors that determine the performance of Grade 1 contractors in Malaysia. The Spearman carry result shown that cost management has the most positive and significant correlation with the contractor performance with 0.544 ($p < 0.000$), indicating that the proper control of cost directly leads to the achievement of a project goal by avoiding cost overruns in the expenditure of the resources available. Likewise, strategic management conveyed a high positive correlation with performance which stood at 0.483 Spearman rank order correlation coefficient, ($p < 0.000$). This implies that the preparation of the strategies enhances the management of resources among contractors to address several business operations to achieve the best results. However, a similar though less strong positive relationship was observed with competition where Spearman correlation coefficient was 0.233; $p = 0.03$ which thus indicates that though competition impacts on performance, the effects are not as strong as the strategic and cost management factors. These results call for the improvement of internal management practices within the Grade 1 contractor to increase the company's competitiveness and increase the performance and quality of projects on which it is engaged.

**Table 2.7: Summary**

| Objective | Hypothesis Analysis | Remarks |
|---|---|---|
| Examine the relationship between strategic management influence towards the performance of the Grade 1 construction company | H1: Accepted | Supported |
| Evaluating the impact of competition on the Grade 1 contractors towards the performance of the Grade 1 construction company | H1: Accepted | Supported |
| Observing the influence of cost management on Grade 1 financial sustainability and their performance. | H1: Accepted | Supported |
| Examine the integration effect of all the variables towards Grade 1 construction company on their performance | The integration effect of these variables suggests that Grade 1 contractors can enhance their performance by adopting strategic management practices, effectively managing costs, and finding competitive advantages despite resource constraints. | Supported |
| Identify and proposed the key strategies that the Grade 1 company can adopt to optimize performance with limited resources and competitive environment. | Proposed Key Strategies:<br>• Effective Cost Management and Budget Control<br>• Specialization in Niche Markets<br>• Strategic Resource Allocation to High-Impact Projects<br>• Collaboration and Strategic Partnerships | Proposal |

**Source:** Research findings (2024)

There are several proposed of the key strategies to supporting & enhancing the performance of Grade 1 Contractors in Malaysia such as i) Effective Cost Management and Budget Control, ii) Specialization in Niche Markets; iii) Strategic Resource Allocation to High-Impact Projects and iv) Collaboration and Strategic Partnerships.

## 6.0. RECOMMENDATIONS

### 6.1.For Industry and Policy Maker

This research reveals that strategic management and the control of costs should be implemented to improve the performance of Grade 1 contractors in Malaysia. These findings align with the views of Mahmood et al. (2017) and Kozlenkova et al. (2014), who emphasized that effective strategic management enhances firm performance, particularly in resource- constrained environments. According to the results, strategic management plans that place a high value on resource allocation, long-term plans and an awareness and understanding of the state of the industry should be the focus of industry players. Construction contractors should embrace use of technologies such as BIM in cost

control and effectiveness in delivery of construction projects. This finding is consistent with Mansour et al. (2022), who found that effective cost management practices significantly impact the profitability and sustainability of construction firms. Furthermore, business process re-engineering could eliminate delays and expenses in a highly competitive market thereby better positioning contractors for success.

Small contractors should receive financial support and training to enhance their technological skills as a way of implementing policy by the policymaker. The policymaker can assist Grade 1 contractors to overcome resource limitation and improve competitiveness by providing extension to access to digital technologies and constant with strategic management best practice. Additionally, as a part of cost reduction policies it can assist small contractors having financial assistance to manage monetary flow or more precisely cash at their disposal especially during such phenomena as fluctuating material costs and market instability.

### 6.2. Theoretical Contributions

From the theoretical background of the study, this research fills the gap in the current literature by providing research data on the connection between strategic management, competition, cost, and performance of small-scale contractors. Unlike many other earlier related studies that have mostly targeted larger construction contractors, this paper thus points out the managerial challenges in Malaysia's smaller grade contractors, stressing on successful imperatives of strategic management and cost control. Besides, this research points out several gaps in the literature relating to the subject of digital integration and predictive analytics for cost management among small contractors. It proposes that future studies focus on how these technologies can be adopted to meet the requirements of Grade 1 contractors by designing implementation mechanisms to improve their business prospects and efficiency under limited resource availability. This is corroborated by studies such as those by Ahmad et al. (2023) and Alaloul et al. (2021), which also highlight the significant role of internal management practices in enhancing the performance of construction firms in resource-limited settings.

### 6.3. Recommendations to the future researchers.

The relevance of this study is to establish the factors that affect the performance of GRADE 1 contractors in Malaysia. However, some expressed concerns about their challenges that include competition from larger firms and dearth of capital to finance projects. In so doing, this study aims to assessing the impact of strategic management, competition and cost management on these contractors then coming up with practical recommendations for its subjects to succeed. In particular, this study will be useful for GRADE 1 contractors by providing methods that can help them manage their business and resources efficiently. They find in it a guide to how they can enhance their operations and have better choices for increasing their competitiveness and stability in the industry. That is because, from a policy maker's standpoint, the findings of this study will be invaluable in designing policies and programs that would meet the requirements of GRADE 1 contractors. It could entail improving funding, capacity building, and capacity development for these contractors so that they can perform well within the market. Scholarly, this study provides a missing link by concentrating on the GRADE 1 contractors who hitherto have not been addressed sufficiently by researchers. This investigates fresh insights about small-scale contractors and how they can approach issues of strategy, competition, and cost management. It will benefit future research works with the explanation of small contractors in the construction industry.

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