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NAVIGATING INSTABILITY: ADAPTIVE STRATEGIES OF MALAYSIAN CONSTRUCTION FIRMS IN TIMES OF CRISIS

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ABSTRACT

The construction industry is highly vulnerable to macroeconomic fluctuations, with its performance closely linked to national indicators such as Gross Domestic Product (GDP). This study aims to identify effective survival strategies that enable construction firms in Malaysia to withstand periods of economic downturn. Specifically, the research investigates the key factors contributing to economic crises, examines their impacts on construction firms and formulates practical strategies to support contractors during recessionary conditions. A quantitative research design was adopted, utilising an online questionnaire distributed to 450 construction firms' grades G1-G7, registered with the Construction Industry Development Board (CIDB) Malaysia. The response rate yielded approximately 30.4%. The data were analysed using descriptive statistics, including mean and the Relative Importance Index (RII) to establish the prioritisation of contributing factors, impacts and survival strategies. The analysis identified nine critical strategies that offered a structured and actionable framework for firms seeking to enhance resilience during economic disruptions. Among the strategies are strengthening client relationships, enhancing financial management, improving operational efficiency, and diversifying markets to support business continuity. The findings provide valuable insights for industry practitioners and policymakers by highlighting the major economic pressures faced by construction firms and presenting strategic measures to mitigate the adverse effects of future economic crises.

Keywords: Construction firms, Survival strategies, Economic crisis, business resilience

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1. INTRODUCTION

An economy comprises interconnected systems of production, consumption, and exchange that determine how resources are allocated across society (Wagner, 2020). However, economic conditions are inherently unstable and influenced by multiple macroeconomic variables, including inflation, exchange rates, global market performance, and unemployment levels (World Bank, 2025). Due to this volatility, industries that depend heavily on financing, investment confidence, and fluctuating input costs, such as the construction sector, are especially exposed to risk during periods of economic stress. Economic contractions typically reduce project demand, restrict access to credit, and intensify price fluctuations for materials, equipment, and labour (Anireddy, 2024), creating significant challenges for firms attempting to maintain operational continuity and financial stability.

Malaysia's experience during major economic downturns, particularly the 1997 Asian Financial Crisis and the 2007-2009 Global Financial Crisis, demonstrates the vulnerability of its construction sector. Both events led to sharp GDP declines, rising unemployment, and widespread financial strain across domestic industries. More analyses reaffirm these vulnerabilities, noting that economic slowdowns continue to restrict project pipelines and elevate financial risk in the Malaysian construction sector (Nee, Xing & Yong, 2024). During these crises, construction activity slowed significantly, non-performing loans increased, and many firms were forced to halt or abandon projects. These disruptions not only reflect the immediate financial pressures on the industry but also reveal structural vulnerabilities that can hinder recovery and long-term growth.

Given the construction industry's central role in national development, understanding how economic shocks influence firm behaviour, resource allocation, and strategic decision-making is of critical importance. Economic crises do not merely affect project pipelines; they reshape labour dynamics, investment flows, supply chain stability, and the broader competitive landscape. As construction firms navigate tightening financial conditions, fluctuating material prices, and declining investor confidence, their capacity to adapt and implement effective strategies becomes a key determinant of industry resilience. Insights into these adaptive mechanisms can support policymakers, investors, and practitioners in developing more robust crisis-response frameworks.

In light of these challenges, this study aims to investigate the key factors contributing to economic crises and examine how these disruptions affect the operations and performance of construction firms. Furthermore, the study seeks to propose practical strategies that firms can adopt to mitigate the adverse impacts of economic instability. By analysing crisis drivers, industry-specific vulnerabilities, and effective organisational responses, this research contributes to strengthening the resilience of Malaysia's construction sector and enhancing its capacity to withstand future economic shocks.

2. LITERATURE REVIEW

2.1 Economic Crisis and Its Implications for the Construction Industry

Economic crises, whether stemming from global recessions, financial market breakdowns, or systemic shocks like pandemics, tend to hit construction industries hard worldwide. The global construction sector is especially vulnerable because projects typically involve large capital outlays, long durations, and complex supply chains. Disruptions in financing or in the supply of materials and labour can therefore cause cascading difficulties.

Empirical research after the COVID-19 pandemic shows how these vulnerabilities materialise. For example, a global-level analysis documents how pandemic-related shutdowns, supply-chain breakdowns and workforce constraints caused widespread project delays, cost overruns and financial stress for contractors (Selçuk, 2025). Another study that examined post-disaster effects in multiple

countries highlights that scarcity of materials, often because international supply routes are disrupted, becomes a "major risk factor" for construction firms in crises (Nee, Xing & Yong, 2024). Moreover, changes in demand and cash-flow constraints tend to compound the risks. Firms with already thin liquidity or limited access to credit are more likely to suspend operations, delay payments, or even exit the market (Okpo et al., 2023). In many cases, smaller contractors are disproportionately affected because they lack the capital reserves or diversified project portfolios that larger firms may hold.

Overall, the global literature suggests that economic crises impact construction industries through three main channels: (1) demand shock (Selçuk, 2025), (2) supply-chain disruption (Deep et al., 2025), and (3) liquidity and financial stress (Zakaria & Singh, 2021). These combined effects often lead to delayed or abandoned projects, cost overruns, and reduced sector capacity, consequences that may persist long after the initial economic shock subsides.

The construction industry in Malaysia mirrors many of these global trends, and in some respects may be even more exposed, given the prevalence of small and medium-sized contractors, dependence on imported materials, and sensitivities to external economic conditions. For instance, a 2024 study of Malaysian contractors found that the COVID-19 pandemic caused widespread financial burdens, rising material costs, labour shortages, and project delays or cancellations (Mohd Naseri, Ahmad Sekak & Suratkon, 2024). Another study focusing on projects in Sarawak identified project delays, cost increases, supply-chain disruptions, and declines in site productivity as major consequences of pandemic-induced economic disturbances (Gara et al., 2022). More broadly, contractors reported that material-cost escalation, limited availability of skilled labour, and strict health-regulation compliance significantly disrupted planned construction programmes (Zakaria & Singh, 2021). Because many Malaysian construction firms rely on imported inputs, global supply-chain disruption tends to hit especially hard: price inflation, delayed shipments, and uncertainty combine to cut margins and raise risk.

These disruptions appear to have long-lasting effects. A 2023 analysis that reviewed pre- and post-pandemic conditions concluded that many firms are now operating under tighter liquidity constraints, reducing risk appetite and deferring new tenders, suggesting a prolonged contraction in construction activity until macroeconomic stability returns (Ahmad et al., 2023). Thus, economic crises in Malaysia do more than temporarily stall construction; they strain the financial stability of firms, erode industry resilience, and may degrade sector capacity over time unless mitigated through efficient cash-flow management, supply-chain diversification, and policy support.

Understanding these patterns is critical for both practitioners and policymakers. For contractors anticipating demand shocks, building liquidity buffers, and planning for supply-chain disruptions should be standard parts of risk management. For governments and regulatory bodies, ensuring timely payment for public contracts, facilitating credit access, and supporting local material supply chains can significantly reduce systemic risk.

In emerging economies such as Malaysia, proactive measures, including financial support schemes, streamlined procurement processes, and incentives for domestic material production, may help cushion the blow of future crises. Without such interventions, repeated economic shocks may lead to contractor exits, delays in critical infrastructure projects, and broader negative economic spill-overs.

2.2 Impacts Faced by Construction Firms during Crisis

Construction firms typically confront financial, operational, and strategic pressures during periods of economic crisis, each of which affects their stability in different but interconnected ways (Tan & Zainon, 2023; Zhang et al., 2025). Financial impacts are often the most immediate, as firms experience cash-flow shortages, difficulties securing credit, shrinking profit margins, and rising debt

burdens when clients delay payments or when lending institutions tighten financing conditions (Mahdi & Muhsin, 2024).

Operational impacts emerge as disruptions in supply chains and labour availability intensify. Firms may face delayed delivery of materials, workforce reductions, and productivity declines due to resource constraints, restricted mobility, or heightened uncertainty within the construction environment. These operational challenges slow project progress and increase the likelihood of time and cost overruns.

Strategic impacts arise when firms must reassess their competitive position, revisit contractual arrangements, or diversify into alternative markets to stabilise revenue streams. Such strategic adjustments often become necessary as firms navigate heightened risk exposure and shifting client demand during crises (Nee, Xing & Yong, 2024).

These impacts rarely occur in isolation. Instead, they compound one another, accelerating financial strain and reducing firms' capacity to withstand prolonged instability. Research has shown that firms with limited financial reserves or inflexible operational systems are particularly vulnerable, facing greater risks of severe disruption, slow recovery, and even business failure (Vy & Giang, 2025). Accordingly, the adoption of effective survival and resilience strategies is crucial for construction firms seeking to maintain continuity and safeguard long-term viability under adverse economic conditions.

2.3 Survival Strategies Adopted by Construction Firms

The literature highlights a range of survival strategies that firms adopt during economic downturns to mitigate risk and maintain continuity. One widely reported approach is strengthening the relationship with clients, which helps companies secure repeat work and improve payment reliability during periods of uncertainty (Simanjuntak & Siagian, 2023). Firms also focus on improving operational efficiency, minimising wastage and controlling costs to preserve cash flow (Gerami & Gerami 2025). Effective financial management, including better budgeting, conservative investment practices and maintaining adequate reserves, has been identified as a critical buffer against economic shocks (Kangari, 1988).

Another strategy involves diversification, whether by expanding into new markets, adopting new services or shifting towards public sector projects that may remain active during recessions (Arslan, Ulubeyli & Dogan, 2023). Innovation and digitalisation are increasingly recognised as resilience-enhancing strategies, enabling firms to reduce operational costs, strengthen. Project monitoring and improving competitiveness in volatile markets (Dumitra, Stana & Popa, 2022). In addition, firms may negotiate contract terms, optimise their supply chain arrangements or form strategic partnerships to share risks and stabilise workloads.

The effectiveness of these strategies often depends on firm size, resources, leadership capability and market conditions. Therefore, understanding how construction firms prioritise these survival measures, particularly in emerging economies, provides valuable insights into strengthening industry resilience.

3. METHODOLOGY

This research employed a quantitative research design using a structured questionnaire survey to assess factors contributing to economic crises, the impacts of the economic and the survival strategies adopted by construction firms during an economic crisis. Below are the details of the methodology used.

3.1 Literature Review

The goal of a literature review is to develop the fundamental theory that will be applied in performing the research. Its sources may include books, the media, experts, or other researchers. A literature review is crucial for determining the course of future research. During the literature review process, basically the topics that were reviewed are about the economic crisis that happened in Malaysia, the factors that contribute towards the acceleration of the economic crisis, the impacts of the economic crisis towards the construction industry and available strategies that can be developed so that construction firms can sustain the ugh economic crisis.

The literature reviewed for this study consists of journal articles, newspaper articles, and official websites between 1979 and 2025. This wide timespan was selected to capture the major economic crisis that has affected Malaysia, as understanding these historical events is essential for informing future preparedness strategies within the construction industry. The keywords that are being used during the process are construction industry, construction firms, economic crisis, impacts, and survival. The databases used in this process are from ResearchGate, Emerald, ScienceDirect, Sage Journal, IOPscience Journals and ProQuest Dissertation & Thesis Global.

3.2 Questionnaire Survey

Questionnaire surveys were selected as the primary data collection method due to their efficiency and ability to reach a large number of respondents. The insights gathered will be used to develop comprehensive strategies aimed at enhancing the resilience and sustainability of construction firms during economic crises.

3.2.1 Questionnaire Development

A structured questionnaire was designed with the following sections:

- Section 1: Respondents' Demographic Information
- Section 2: Factors that led to the economic Crisis.
- Section 3: Impacts that the firms experience during an economic crisis.
- Section 4: Strategies to reduce the impact.

Sections 2, 3, and 4 included open-ended questions, allowing respondents to provide additional factors, impacts and strategies that they had experienced but were not included in the predefined questionnaire item. This approach ensured that the data captured a broader and more nuanced range of insights beyond the structured response options. A 5-point Likert scale was employed in these sections, ranging from 1 (very unimportant) to 5 (very important), to measure the perceived significance of each listed item in a systematic and quantifiable manner.

3.2.2 Sampling Strategy

The sampling frame for this research comprises all contractors registered with the Construction Industry Development Board (CIDB) Malaysia, ranging from class G1 to G7. A total of 124,049 contractor firms were listed. This broad inclusion ensures that the study captures diverse organisational characteristics, thereby enhancing the relevance and generalisability of the findings to the entire Malaysian construction sector.

Based on Krejcie and Morgan's (1970) sample size determination table, a minimum sample of 384 respondents is required for the population of 124,049 firms. Accordingly, this study adopts cluster sampling, which is appropriate, given the wide geographical distribution of contractors across Malaysia. Using this approach, the questionnaire was disseminated nationwide, making it a suitable strategy for collecting data from a large, spatially dispersed population.

3.2.3 Data Collection

The list of the participating construction firms was obtained from the Construction Industry Development Board (CIDB) Malaysia, available through its official registry of registered contractors on the CIDB website. 450 sets of questionnaires were distributed to the targeted construction firms were retrieved from this platform to facilitate survey distribution. A total of 450 questionnaires were distributed to the selected construction firms. Following the distribution, each firm was given two weeks to respond to the questionnaire. During this period, a structured follow-up procedure was implemented to enhance the response rate. The first follow-up reminder was sent on the 7th day after the distribution via email. A second reminder was issued on the 10th day, also via email. A final reminder was conducted on the 13th day through phone calls, using contact numbers published in the firm's official pages in the CIDB directory. This systematic follow-up approach was designed to encourage participation and ensure that the data collected represented the targeted population accurately. A total of 30.4% responses were received, which is acceptable for construction research, where the typical response rate ranges from 20% to 30% (Akintoye,2000).

3.2.4 Data Analysis

The data were analysed one week after the questionnaire submission deadline. The analysis comprised several sequential procedures to ensure statistical robustness and interpretive clarity. Descriptive statistics were generated to summarise the distributional characteristics of all measured variables. Internal consistency reliability was then examined using Cronbach's alpha, which indicates the degree to which items within the same construct exhibit interrelatedness. Cronbach's alpha (α) is derived from the ratio sum of item covariances to the total scale variance, expressed as

$$\alpha = \frac{k}{k-1}\left(1 - \frac{\sum_{i=1}^{k} \sigma_{y_i}^2}{\sigma_X^2}\right)$$

where:

k	represents the number of "parts" (items, test parts, etc.) in the measure;
the $k/(k-1)$	term causes alpha to be an unbiased estimate of reliability when the parts are parallel or essentially tau equivalent;
$\sigma_{Y_i}^2$	the variance associated with each part *i*; and
σ_X^2	the observed score variance (the variance associated with the total test scores).

To determine the priority and significance of the factors, impacts and strategies, the Relative Importance Index (RII) and mean scores were used. RII has been widely used in construction and project management studies for ranking risks, delays and cost factors, which strengthens the methodological credibility of this study (Kassem et al., 2020). Furthermore, the RII allows comparative ranking based on respondents' ratings and is commonly applied in construction industry studies. The index is calculated using the following formula:

$$RII = \frac{\sum W}{AN}$$

Note(s):
RII – is the Relative Importance Index
W- is the weight of scores awarded to a variable by respondents, from 1-5 for very low, low, neutral high and very high respectively
Is the highest integer on the response scale (i.e.,5)
N – is the total number of respondents
(Typically, the sum of n respondents selecting a response point multiplied by the point's integer value, for each option on the scale stem)

4. RESULTS AND DISCUSSION

4.1 Background of the Respondents

The demographic profile of the respondents indicates strong representation from experienced and well-established construction firms. The majority of the responses were contributed by G7 contractors (33.58%), which is advantageous because this category comprises firms with the highest financial capacity and broad project experience. Their participation enhances the robustness and credibility of the findings, as G7 contractors are typically more familiar with industry-wide challenges and economic fluctuations.

In terms of firm maturity, most participating organisations had been operating for approximately 5-10years (29.20%) and 16-20 years (23.36%). This distribution reflects a balanced mix of developing and mature firms, allowing the dataset to capture diverse operational experiences and strategic perspectives. The geographical distribution of respondents further strengthens the dataset. The highest proportion of responses originated from Pulau Pinang (15.33%), followed by Kuala Lumpur and Pahang (12.41% each), representing both northern and central economic regions of Malaysia. These regions are known for active construction activity, which increases the relevance of the input. Table 1 shows the detailed background of the respondents.

Table 1: Demographic Information of Respondents

Demographic Information Profile	Category	Percentage
Contractor Class (according to CIDB)	G1	3.65%
	G2	7.30%
	G3	8.03%
	G4	6.57%
	G5	20.44%
	G6	20.44%
	G7	33.58%
Operation Period	0-4 years	12.42%
	5-10 years	29.20%
	11-15 years	0%
	16-20 years	23.36%
	21-25 years	14.60%
	More than 26 years	20.44%
Location of the Firms	Johor	5.84%
	Kedah	10.22%
	Kelantan	2.19%
	Melaka	10.22%
	Negeri Sembilan	6.57%
	Pahang	12.41%
	Perak	7.30%
	Perlis	0%
	Pulau Pinang	15.33%
	Selangor	0.73%
	Terengganu	11.68%
	Sabah	2.92%
	Sarawak	2.19%
	Kuala Lumpur	12.41%
	Labuan	0%
	Putrajaya	0%

4.2 Factors of Economic Crisis

Table 2 below shows factors contributing to economic crises as perceived by respondents. The results show that interest rate increases recorded the highest mean score (mean=4.89), corresponding to the highest Relative Importance Index (RII = 0.978), making it the most influential factor. This is followed by global currency crisis (mean = 4.83, RII = 0.966), which ranks second. The third-ranked factor is hyperinflation (mean = 4.4, RII = 0.888), while a decrease in demand for goods and services decreases ranked fourth (mean = 4.12, RII = 0.823). Lastly, stock market crashes recorded the lowest mean and RII value (mean = 3.28, RII = 0657), placing it as the least influential factor among those assessed.

Table 2: Factors of Economic Crisis

Factors of Economic Crisis	Mean	RII	Rank
Interest rates increase	4.89	0.9781	1
Global currency crisis	4.83	0.9664	2
Hyperinflation	4.44	0.8876	3
Demand for goods and services decreases	4.12	0.8234	4
Stock market crashes	3.28	0.6569	5

These rankings were computed using the RII, a widely applied method in construction management research for prioritising factors based on their perceived impact (Aibinu & Jagbori, 2002; Kassem et al., 2020). Higher RII values reflect higher perceived importance, supporting systematic decision-making in complex contexts such as economic crises.

The findings indicate that respondents consider monetary conditions, particularly interest rate movements, as the central drivers of economic crises. This aligns with international evidence showing that monetary tightening significantly increases the probability of recession by rising borrowing costs, slowing investment, and weakening overall economic activity (Jordà et al., 2020). For construction firms highly dependent on credit and long-term financing, interest rate hikes can immediately suppress project funding and reduce market confidence, explaining the factor's top ranking.

The second-ranked factor, global currency crises, reflects respondents' concern regarding exchange rate volatility. Studies emphasise that currency shocks disrupt trade flows, increase import costs and intensify inflationary pressures, especially in economies reliant on important construction materials (Gopinath & Itskhoki, 2020; IMF, 2022). Currency depreciation directly raises the cost of steel, fuel and machinery, which can significantly affect contractors' cash flow and profitability.

Hyperinflation, ranked third, remains a critical concern because inflation surges erode purchasing power and destabilise cost structures. Analyses highlight how inflation spikes, although not always reaching hyperinflation levels, which will create uncertainty and complicate project budgeting, tendering and contract pricing (Auer et al., 2021; IMF, 2023). Construction firms are particularly vulnerable, as inflation rapidly increases material and labour costs while contract rates remain fixed.

The fourth-ranked factor, demand contraction, is consistent with evidence showing that economic downturn typically leads to reductions in consumption, delayed investments and postponed construction projects (Baldwin & Wader di Murano, 2020). When clients defer projects, the firm faced reduced workloads, weaker revenue streams and increased competition for a smaller pool of viable jobs. Strengthening cash-flow management, diversifying services and adopting flexible operational strategies are therefore essential survival responses.

Lastly, stock market crashes, although important, were rated the least influential factor. Financial research shows that stock market downturns mainly affect firms indirectly through investor sentiment

and liquidity constraints rather than through immediate operational impacts (Kozlowski et al., 2020; Zhang et al., 2020). This may explain why respondents viewed this factor as less critical compared to more direct macroeconomic pressures such as interest rates, inflation and currency instability.

Respondents perceive monetary tightening, currency shocks, and inflationary pressures as the main economic risks, directly impacting project costs, financing, and market demand. Construction firms must develop financial resilience strategies, including stronger cash-flow monitoring, diversified portfolios, and currency and price volatility hedging, to withstand future economic disruptions.

4.3 The impact of the Economic Crisis on Construction Firm

Table 3 summarises the mean score and RII value, and rank for the impacts of the economic crisis reported by respondents. The results indicate a clear prioritisation of financial and supply-related disruptions as the most critical challenges experienced by construction firms.

Table 3: Impact of the economic crisis on construction firms

Impact of Economic Crisis	Mean value	RII	Rank
Project cost is affected	4.78	0.9562	1
Disruption of the supplier	4.70	0.9358	2
Project duration is affected	4.67	0.9343	3
Firms having financial problems	4.66	0.9328	4
Disruption of supply chain materials	4.52	0.9036	5
The fund for the project is affected	4.51	0.9022	6
New projects decrease	4.51	0.9022	6
Hard-to-obtain materials	3.82	0.7650	8
The rate of employment decreases	3.37	0.6745	9
Contractual implication arises	2.34	0.4696	10
Depreciation happens	2.17	0.4336	11

The factor project cost is affected after recording the highest mean value (mean = 4.78, RII = 0.9562; Rank 1). This indicates strong agreement that cost escalation is the most severe impact of the economic crisis. The second was disruption of the supplier (mean = 4.70, RII = 0.9358; Rank 2), followed by project duration is affected (mean = 4.67, RII = 0.9343, Rank 3). Next, respondents rated firms having financial problems (mean = 4.66, RII = 0.9328, Rank 4) and disruption of supply chain materials (mean = 4.52, RII = 0.9036; Rank 5) as major impacts. The fund for the project is affected, and new projects decrease, both mean values are 4.51 and RII = 0.90, are tied at Rank 6. Moderate concern was recorded for hard-to-obtain materials (mean = 3.82, RII = 0.7650; Rank 8) and the rate of employment decreases (mean = 3.37, RII = 0.6745; Rank 9). The lowest perceived impacts were contractual implications arises (mean = 2.34, RII = 0.4696; Rank 9) and depreciation happens (mean = 2.17, RII = 0.4336; Rank 10), indicating these were not widely perceived as critical by the respondents.

The dominant ranking of project cost escalation aligns with global evidence showing that economic downturns and pandemic-related disruption significantly accelerated construction material inflation (Paul & Chowdhury, 2020). Supply bottlenecks, rising logistics costs and volatile commodity markets were widely reported to increase project budgets and strain contractors' financial stability. Similar trends were documented across multiple regions as firms faced unpredictable procurement cycles and price fluctuations.

The strong ratings for supplier disruption and material supply chain interruptions are consistent with contemporary supply chain research. Studies show that macroeconomic shocks, including the COVID-19 crisis, caused severe disturbance in sourcing, transportation and inventory flows, particularly for construction material dependent on international suppliers (Ivanov, 2020; Queiroz et

al., 2020). Respondents' perceptions, therefore, reflect a global pattern of vulnerable and highly interdependent supply networks within the construction sector.

The high ranking of project duration being affected reflects the typical consequences of supply irregularities and financial constraints. Reduced cash flow, delayed payments and inconsistent material delivery have been shown to slow project execution and extend schedules in construction projects worldwide (Paul & Chowdhury, 2020). This aligns with respondents' experiences of time-related disruptions during the crisis.

Respondents also identified financial problems, reduced project funding and a decline in new projects as major impacts; these are expected outcomes during periods of economic contraction, where investors and clients delay or withdraw capital commitments. Empirical studies confirm that crises reduce demand for construction services and contribute to pipeline contraction across infrastructure and building markets (Queiroz et al., 2020).

Factors with moderate ratings, such as difficulty obtaining materials and employment reduction, suggest that while respondents recognised these issues, they perceived them as secondary compared to direct financial and supply chain pressures. This prioritisation resembles the cascading effect model proposed by Chowdhury et al. (2021), where material shortages and workforce impacts follow earlier supply and cost shocks.

The least significant impacts were contractual implications and depreciation of materials or equipment. Lower concern for contractual disputes may reflect industry-wide adoption of more cooperative or flexible contract administration approaches during the crisis. Research suggests that many clients and contractors negotiated adjustments or relief measures to manage the unprecedented disruptions (Chowdhury et al., 2021).

Overall, the ranking pattern in this study demonstrates that cost escalation, supply chain instability, schedule impacts and financial strain remain the core challenges for construction firms during economic crises, highlighting the need for resilience procurement strategies, diversified supply networks and strengthened financial risk management.

4.4 Survival Strategies of Construction Firms

Table results in Table 4 show a clear hierarchy of survival strategies adopted by construction firms during an economic crisis.

Table 4: Survival Strategies of Construction Firms

Survival Strategies	Mean	RII	Rank
Maintain a good relationship with clients	4.93	0.9869	1
Control and monitor the project's cost	4.62	0.9241	2
Opt to fast-track project	4.32	0.8628	3
Diversifying the type of projects taken	4.00	0.8015	4
Downsize the firm	3.93	0.7854	5
Quality improvement	3.92	0.7839	6
Impose stricter procurement procedure when appointing supplier and sub-contractor	3.43	0.6861	7
Financial investment	3.01	0.6029	8
Leverage on information and communication technology in the construction industry	2.89	0.5781	9

Ranked first, maintaining a good relationship with clients received the highest mean score (mean = 4.93, RII = 0.9869), reflecting its critical importance for sustaining business continuity under

unstable economic conditions. The second-highest ranked factor is controlling and monitoring project costs (mean = 4.62, RII = 0.9241), demonstrating that strong financial management is widely viewed as essential for survival. Fast-tracking projects is placed third (mean = 4.32, RII = 0.8628), reflecting firms' efforts to shorten project duration and reduce prolonged exposure to economic volatility. Diversifying project types is ranked fourth (mean = 4.00, RII = 0.8015), suggesting that firms recognise diversification as a risk-spreading mechanism. Downsizing follows in fifth place (mean = 3.93, RII = 0.7854), while quality improvement is ranked sixth (mean = 3.92, RII = 0.8015), indicating that firms attempt to balance cost reduction with maintaining competitiveness. Imposing stricter procurement procedures when appointing suppliers and subcontractors is ranked seventh (mean = 3.43, RII = 0.6861), whereas financial investment is placed eighth (mean = 3.01, RII = 0.6029), likely due to the high uncertainty associated with making new financial commitments during crises. Finally, leveraging information and communication technology (ICT) ranks ninth, the lowest priority (mean = 2.89, RII = 0.5781).

These findings resonate with industry research. For instance, a study of construction companies in Malaysia during the COVID-19 pandemic identified stricter financial management and cost control as essential survival strategies in crisis conditions (Norhaidin & Keng, 2023). Similarly, the low priority given to ICT adoption aligns with previous studies documenting persistent barriers to digitalisation in construction, such as high costs, lack of skilled workforce, resistance to change and uncertainty about returns on investment (Sahamir et al., 2021; Alsofiani, 2024). Although digital tools can enhance efficiency and long-term resilience, firms under immediate financial stress may deprioritise technology investment in favour of strategies that preserve liquidity and maintain client trust. Overall, construction firms during economic crises prioritise client relationships, cost control and swift project completion, reflecting a pragmatic focus on cash-flow conservation, risk mitigation and short-term survival over long-term investment.

These findings imply that recommendations may differ depending on firm size. Small contractors, with generally limited financial reserves and narrower project portfolios, may benefit most from strategies that prioritise liquidity preservation, such as strengthening client relationships, exercising strict cost control and diversifying into small-scale or lower-risk project types. Large contractors, on the other hand, typically possess greater financial capacity and organisational resources, enabling them to adopt more capital-intensive or strategic responses. These include investing in ICT systems, enhancing quality management frameworks and engaging in long-term financial planning. As such, while core survival strategies remain broadly relevant across the sector, their implementation should be tailored to the distinct operational capacities and risk profiles of small versus large contractors.

5. CONCLUSION

This study analysed how construction firms cope with economic downturns by examining key factors contributing to crises, their impacts on performance, and strategies for sustaining operations. It found that construction firms are vulnerable to macroeconomic fluctuations like rising interest rates, inflation, tightening credit conditions, and global market instability. These conditions exacerbate financial pressure, disrupt supply chains, reduce project availability, and increase operational risks, ultimately destabilising contractors' productivity and profitability.

Despite challenges, construction firms adopt various survival strategies to withstand economic shocks. Strengthening client relationships, enhancing financial management, improving operational efficiency, and diversifying markets support business continuity. Proactive risk management, digitalisation, and flexible organisational structures better prepare firms for prolonged uncertainty. The findings emphasise the need for construction firms to build resilience through strategic planning and adaptive capabilities, while policymakers and industry should consider supportive frameworks for sector stability during future economic disruptions.

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6. REFERENCES

Ahmad, R., Said, R., Arsad, S., Abu Bakar, M, & Mohd Ezanee, A.A. (2023). Enhancing the resilience of the construction industry's performance in Malaysia: pre- and post-COVID-19 perspectives. *International Journal of Academic Research in Business & Social Sciences*, Vol.13(10), 167-175. http://dx.doi.org/10.6007/IJARBSS/v13-i10/18670

Aibinu, A. A., & Jagboro, G. O. (2002). The effects of construction delays on project delivery in Nigerian construction industry. *International Journal of Project Management*, 20(8), 593–599. https://doi.org/10.1016/S0263-7863(02)00028-5

Akintoye, A. (2000). Analysis of factors influencing project cost estimating practice. *Construction Management and Economics*, Vol.18, 77-89. https://doi.org/10.1080/014461900370979

Alsofiani, M. A. (2024). Digitalization in infrastructure construction projects: A PRISMA-based review of benefits and obstacles. *arXiv.* https://doi.org/10.48550/arXiv.2405.16875

Anireddy, R. (2024). A. Material Cost Fluctuations: Analyzing the effects of market volatility on civil project budgets. *International Journal of Scientific Research*, Vol. 13, 1606-1610. https://dx.doi.org/10.21275/SR241022220456

Arslan, V., Ulubeyli, S. & Dogan, E. (2023). *Diversification strategy of construction companies: benefits and risks*. Cumhuriyet 8th International Conference on Appleis Sciences, Ankara.

Auer, R., Borio, C., & Filardo, A. (2021). The globalisation of inflation: The growing importance of global factors. *BIS Working Papers No. 934*. Bank for International Settlements.

Baldwin, R., & Weder di Mauro, B. (2020). *Economics in the time of COVID-19*. CEPR Press.

Chowdhury, P., Paul, S. K., Kaisar, S., & Moktadir, M. A. (2021). COVID-19 pandemic related supply chain studies: A systematic review. *Transportation Research Part E: Logistics and Transportation Review, 148*, Article 102271. https://doi.org/10.1016/j.tre.2021.102271

Deep, S., Jha, K. N., Vishnoi, S., Kumar, A., & Shetty, P. B. (2025). Disruption to construction supply chains during COVID-19 in developing economies: A strategic framework for sustainable and resilient logistics. *Cleaner Logistics and Supply Chain*, 100235. https://doi.org/10.1016/j.clscn.2025.100235

Dumitra, E.C., Stana, C., & Popa, C. (2022). The role of digitalisation in restarting business and reducing the national and global economic impact of the COVID-19 crisis. *Theoretical and Applied Economics*. Special Issue, 207-215.

Gara, J. A., Zakaria, R., Aminudin, E., Yahya, K., Sam, A. R. M., Loganathan, Munikanan, V., Yahya, M.A., Wahi, N, & Shamsuddin, S. M. (2022). Effects of the COVID-19 pandemic on construction work progress: An on-site analysis from the Sarawak Construction Project, Malaysia. *Sustainability*, Vol.14(10), 6007. https://doi.org/10.3390/su14106007

Gerami, S., & Gerami, H. (2025). Improving operational efficiency in construction businesses. *International Journal of Civil Infrastructure*, *8*, 68-83. https://doi.org/10.11159/ijci.2025.008

Gopinath, G., & Itskhoki, O. (2020). International prices and exchange rates. In G. Gopinath, E. Helpman, & K. Rogoff (Eds.), *Handbook of International Economics* (Vol. 4, pp. 437–505). Elsevier. https://doi.org/10.1016/bs.hesint.2020.02.006

International Monetary Fund. (2022). *World economic outlook: war sets back the global recovery*. IMF. https://www.imf.org/en/Publications/WEO

International Monetary Fund. (2023). *World economic outlook: inflation peaking amid low growth*. IMF. https://www.imf.org/en/Publications/WEO

Ivanov, D. (2020). Predicting the impacts of epidemic outbreaks on global supply chains: A simulation-based analysis on the coronavirus outbreak (COVID-19/SARS-CoV-2) case. *Transportation Research Part E: Logistics and Transportation Review, 136*, Article 101922. https://doi.org/10.1016/j.tre.2020.101922

Jordà, Ò., Singh, S. R., & Taylor, A. M. (2020). The long-run effects of monetary policy. *American Economic Journal: Macroeconomics*, 12(4), 1–43. https://doi.org/10.1257/mac.20180237

Kozlowski, J., Veldkamp, L., & Venkateswaran, V. (2020). *Scarring body and mind: The long-term belief-scarring effects of COVID-19*. Federal Reserve Bank of Minneapolis Staff Report No. 618. https://doi.org/10.21034/sr.618

Mahdi, Z. A., & Muhsin, I. F. (2024). The Financial Crisis Affecting the Construction Sector. *Journal of Engineering*, *30*(07), 109-124. https://doi.org/10.31026/j.eng.2024.07.07

Mohd Naseri, N. F. F., Ahmad Sekak, S. N. A., & Suratkon, A. (2024). The impact of the COVID-19 outbreaks towards Malaysian contractors: an analysis of contractors' strategies. *Built Environment Journal*, *21*, 12-22. https://doi.org/10.24191/bej.v21iSpecial

Nassereddine, H., & Seo, K. W. (2021). Propositions for a resilient, post-COVID-19 future for the AEC industry. *Frontiers in Built Environment*, 7, 687021. https://doi.org/10.3389/fbuil.2021.68702

Nee, T. S., Xing, A. C., & Yong, L. Y. (2024). Assessing the Post-Disaster Effects of COVID-19 Pandemic Towards Malaysian Construction Industry. *Journal of Construction in Developing Countries*, *29*(2), 59-75. https://doi.org/10.21315/jcdc.2024.29.S1.4

Norhaidin, N. A. F., & Keng, T. C. (2023). Strategies by the construction companies in Malaysia to survive from the impacts of COVID-19 pandemic. *Journal of Architecture, Planning and Construction Management, 13*(1), 17–28. https://doi.org/10.31436/japcm.v13i1.705

Okpo, H. A., & Offiong, J. (2023). Problem Caused by COVID-19 Pandemic on the Construction Industry of Akwa Ibom State, Nigeria. *International Journal of Real Estate Studies*, *17*(2), 23-32. https://doi.org/10.11113/intrest.v17n2.276

Paul, S. K., & Chowdhury, P. (2020). A production recovery plan in manufacturing supply chains for a high-demand item during COVID-19. *International Journal of Physical Distribution & Logistics Management,* 51(2), 104–125. https://doi.org/10.1108/IJPDLM-04-2020-0112

Queiroz, M. M., Ivanov, D., Dolgui, A., & Fosso Wamba, S. (2020). Impacts of epidemic outbreaks on supply chains: Mapping a research agenda amid the COVID-19 pandemic through a structured literature review. *Annals of Operations Research, 319*, 1159–1196. https://doi.org/10.1007/s10479-020-03685-7

Sahamir, S. R., Ismail, N. A. A., Raja Muhammad Rooshdi, R. R., & Zainordin, Z. M. (2021). Barriers impeding the adoption of information and communication technology (ICT) in construction project management. *International Journal of Integrated Engineering, 13*(5), 211–219.

Selcuk, E. (2025). Impact of the COVID-19 pandemic on construction project performance: challenges and strategic responses. *Journal of Asian Architecture and Building Engineering*, 1-18. https://doi.org/10.1080/13467581.2025.2457385.

Simanjuntak, A., & Siagian, H. (2023). The role of client-contractor relationship in solving financing failure in construction project. *International Journal of Business Studies*, Vol.6(1). https://doi.org/10.9744/petraijbs.6.1.10-19

Tan, S. Y., & Zainon, N. (2023). Impact of COVID-19 pandemic on the quantity surveying practices in Malaysia. *Engineering, Construction and Architectural Management*, 30(8), 3480-3508. https://doi.org/10.1108/ECAM-11-2021-0988

Vy, N. N. T., & Giang, D. T. (2025, April). How Does Financial Resilience Enable Firms To Survive Periods Of Hardship?. In *International Conference on Emerging Challenges: Sustainable Strategies in the Data-driven Economy (ICECH 2024)* (pp. 513-530). Atlantis Press. https://doi.org/10.2991/978-94-6463-694-9_34

Wagner, R. E. (2020). *Macroeconomics as systems theory*. Springer International Publishing. https://doi.org/10.1007/978-3-030-44465-5

World Bank. (2025). *Global Economic Prospects June 2025*. World Bank Group. https://thedocs.worldbank.org/en/doc/8bf0b62ec6bcb886d97295ad930059e9-0050012025/original/GEP-June-2025.pdf

Zakaria, S. A. S., & Singh, A. K. M. (2021). Impacts of Covid-19 outbreak on civil engineering activities in the Malaysian construction industry: A review. *Jurnal Kejuruteraan*, *33*(3), 477-485. https://doi.org/10.17576/jkukm-2021-33(3)-10

Zhang, D., Hu, M., & Ji, Q. (2020). Financial markets under the global pandemic of COVID-19. *Finance Research Letters*, 36, 101528. https://doi.org/10.1016/j.frl.2020.101528

Zhang, J., Yusoff, M. M., Hamzah, T. A. A. T., Noor, N. M., Shi, Q., Li, X., & Wang, Z. (2025). Impact of the COVID-19 pandemic on urban development: a systematic review. *Journal of Surveying, Construction and Property*, 16(1), 13-37. https://doi.org/10.22452/jscp.vol16no1.2