
Linking Organizational Resilience, Strategic Change, and Home Country Competitiveness to SDGs Performance: Evidence from Emerging Markets

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ABSTRACT

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This study examines the impact of organizational resilience on the performance of multinational companies in emerging markets in achieving the SDGs. The study also examines the mediating role of strategic change. We used panel data on 623 multinational firms from Pakistan, India, and China from 2015 to 2024. The study employed a baseline direct effect Model (OLS) and the generalised method of moments (GMM), a dynamic panel estimation technique, to test our models. Based on the analysis, the study found that organisational resilience significantly enhances MNEs' SDG performance in emerging Asian economies. Moreover, strategic change mediates between organizational resilience and SDG performance. Organizational resilience enhances strategic change in organizations that leads to overall SDG performance. The study also found that home-country competitiveness further strengthens the relationship between organisational resilience and SDG performance. The study proposes several theoretical and practical research implications for policymakers, managers, and owners of MNEs focused on leveraging resilience to achieve organisational SDG alignment. The policy makers in emerging markets should focus on strengthening national competitiveness and supporting institutional resilience to promote growth guided by the SDGs.

1. Introduction

The Sustainable Development Goals (SDGs) have become an important framework for assessing companies' contributions to social, environmental, and economic sustainability. Frameworks such as the Paris Agreement and the 2030 Agenda for Sustainable Development have established and strengthened the framework for global sustainability information disclosure (Hepburn et al., 2024). It allowed MNEs to reshape and define their roles in countries' environmental, societal, and economic growth (Mestdagh, 2024). So, firms' SDG performance has been developed as a real indicator for assessing firms for policymakers and researchers worldwide (Ugwu et al., 2025). Goals such as climate change, gender equality, and clean energy can be assessed using firm-level SDG performance indicators rather than conventional ESG indicators (Bebbington & Unerman, 2018). It is clear that enhancing

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traditional indicators or measurements alone cannot produce substantial change (Khan et al., 2025; Mestdagh, 2024). Thus, transitioning to corporate-level resilience and SDG performance metrics will enhance organizations' adaptability (Chang et al., 2025).

Companies need to be able to predict, respond to, and recover from unexpected circumstances from both inside and outside the company, and organizational resilience is a fundamental skill to accomplish this. Multinational firms encounter diverse shocks, necessitating the cultivation of defensive capacities and organizational resilience (Abdullahi et al., 2023). Organizational resilience is a dynamic and proactive skill that helps businesses deal with severe shocks (Adamu et al., 2024; Adda, 2024). These skills are very important for coming up with new ideas, making changes, driving strategic change, and reaching the Sustainable Development Goals (Adhika, 2024; Ahmed et al., 2025). Strategic change is another important skill that helps multinational companies reach the SDGs (Ahmić, 2022; Al-Abrow et al., 2019).

MNCs must prioritize organizational resiliency. It is very important to study how MNCs adapt their strategies and how that affects the achievement of the Sustainable Development Goals (SDGs) in emerging markets. As emerging markets put more and more emphasis on sustainable development and reaching the SDGs, organizational resilience has become an important consideration for MNCs. First, (Gathmyr et al., 2025; Ingram et al., 2023) strategic change is an important skill for MNCs to have if they want to make their organizations more resilient and reach their SDGs more often. Nevertheless, the influence of strategic change on MNC sustainability is infrequently examined in the literature (Ingram et al., 2023; Iqbal et al., 2024). Consequently, we assert that strategic transformation functions as a conduit linking organizational resilience and SDG performance, and affirm that its mediating role requires further investigation (Khan et al., 2023; Liang & Bo, 2025; Ooi & Memon, 2025; Zainurrafiqi et al., 2024). Second, home-country competitiveness (HCC) is another crucial factor in enhancing MNEs' SDG performance (Ahmed et al., 2025; Gunawan & Mikhail, 2025). Third, the nexus of the proposed framework is still underexplored. Few studies empirically examined how firms' resilience helps organisations achieve sustainable development (Abdulrahman & Dweiri, 2025; Al-Abrow et al., 2019; Ciasullo et al., 2024).

Although there are numerous studies that examined organizational resilience and SDG performance. But few studies have examined the role of home-country competitiveness and strategic change in this relationship. This study aims to fill the literature gap of mediation effect of strategic change. Most of the multinational firms face different institutional pressures in emerging markets (Ahmadova, 2022). The study's findings provide unique guidance for firms navigating institutional pressure. The study also contributes to the existing theoretical perspectives of institutional theory, dynamic capabilities, and conservation of resources theory on empirical findings and scientific research. Multinational corporations in emerging markets face a dual challenge: navigating dramatic environmental changes while simultaneously bearing the increasing pressure to achieve the Sustainable Development Goals (SDGs). Although existing literature acknowledges the significance of organizational resilience for corporate survival, the relationship between resilience and larger sustainable development objectives remains ambiguous. There are still issues about how resilience affects the achievement of the Sustainable Development Goals (SDGs) and if this relationship depends on changes made within a country or its ability to compete with other countries. This leads to a lack of knowledge of how multinational firms in unstable Asian economies use resilience to not only stay in business but also make a lasting difference in society.

The main goal of this study is to explain how organizational resilience affects multinational firms in emerging economies' ability to meet the SDGs. This study also seeks

to investigate the mediating function of strategic shift and the moderating influence of home country competitiveness. This study examines multinational firms in Pakistan, India, and China, offering an in-depth analysis of the distinctive dynamics of these developing countries. These economies exhibit analogous competitive environments, advancements towards Sustainable Development Goals (SDGs), and distinct institutional cultures (Ugwu et al., 2025; Vargas-Hernández & Calderón-Campos, 2022).

This research brings together several concepts of organizational resilience, strategic change, and SDG performance within the framework of emerging markets, so offering a substantial contribution to the pertinent literature. It puts up a novel theoretical framework that links organizational resilience with SDG performance. It looks at how strategic transformation acts as a mediator and how national competitiveness acts as a moderator. The results give policymakers and managers useful information that helps them figure out how to use organizational resilience to better align with the SDGs. Additionally, employing advanced statistical techniques, such as the Generalized Method of Moments (GMM), fortifies the robustness and dependability of the findings, elucidating a deeper awareness of the dynamic interrelations among organizational resilience, strategic transformation, and SDG performance. This study offers significant insights into the challenges and opportunities encountered by multinational firms in emerging economies, considering the distinctive institutional pressures and competitive environments they face. It also gives politicians in emerging markets fresh ideas for how to make their countries' institutional frameworks stronger and more competitive, and it helps businesses turn resilience into long-term success. This study has significant research implications for managers and owners of multinational corporations aiming to utilize resilience to align their firms with the Sustainable Development Goals (SDGs). It also emphasizes how important it is to manage strategic change in a way that supports sustainable development and organizational resilience. Many multinational firms in emerging markets are under a lot of pressure from different institutions. This study's results offer distinctive direction for businesses aiming to navigate these institutional influences.

The rest of the paper is organized as follows: Section 2 explains the literature review, theoretical background, and empirical background. Section 3 presents data, sample, methods, and variable descriptions. Section 4 provides the analysis and results of the study. Section 5 discusses conclusions, implications, limitations, and future directions.

2. Literature Review

2.1 Theoretical Background

This study employs Conservation of Resources (COR), Dynamic Capability (DC), and institutional theory to formulate a comprehensive framework that elucidates how multinational corporations in emerging markets attain sustainable development goals, incorporating resources, processes, and the environment. We propose that organizational resilience functions as a vital critical resource reserve (COR), safeguarding companies against resource depletion. Resilience alone is not enough; it needs to be activated through strategic transformation, which is a dynamic capability (DC) that can find and take advantage of new opportunities. This shift takes place inside an institutional context. Institutional theory elucidates how the competitive landscape of the home country furnishes essential legitimacy and structural support, consequently magnifying these effects.

The Conservation of Resources idea says that businesses are always trying to keep, safeguard, and make valuable resources for their own use (Hobfoll, 2011; Holmgren et al., 2017). Companies invest in organizational resilience to defend themselves from losses and

unpredictability. Multinational firms depend on resilience to navigate crises and losses while concurrently attaining sustainable development objectives (Halbesleben et al., 2014; Hobfoll et al., 2016). Companies that work in emerging markets need a wide range of skills to stay in business (Bleady et al., 2018; Gremme & Wohlgemuth, 2017). Institutional theory is another major theoretical basis for the investigation. This theory elucidates the impact of external forces on organizational behavior (Scott, 2005; Tina Dacin et al., 2002). This theory explains how external factors influence organizational behavior. Organizations in competitive markets can use institutional support systems to come up with methods for staying strong (Amenta & Ramsey, 2010; Scott, 2005; Willmott, 2015). Companies need to turn their inherent strengths into means to reach the SDGs because of problems with policies and other things (Bleady et al., 2018; Gremme & Wohlgemuth, 2017; Malik et al., 2025). Using these three theoretical frameworks, we analyze the dynamic influence of resilience on the strategic transformation and SDG performance of multinational firms.

2.2 Hypotheses Development

2.2.1 Organizational Resilience and SDG Performance

The Conservation of Resources (COR) theory suggests that companies want to keep the resources they already have. In unstable emerging markets, businesses that aren't strong enough may get stuck in a "resource spiral," where they go into survival mode and give up on long-term goals like the Sustainable Development Goals (SDGs). On the other hand, organizational resilience acts as a "resource buffer," allowing multinational companies to handle shocks without using up resources set aside for long-term growth. So, resilience is not only necessary for survival, but also for creating long-term value.

It is very important for the world economy to reach the 2030 SDGs (Hepburn et al., 2024; Mushtaq & Akhtar, 2024; Rahman, 2021). This framework makes sustainable development the most important part of a company's strategy. The sustainable development framework urges companies to incorporate resilience into their fundamental strategy (Organization, 2022; Singh et al., 2025; Ugwu et al., 2025). Organizational resilience has developed as an internal competency affecting companies' attainment of the SDGs (Suryaningtyas et al., 2019; Werner et al., 2021; Zainurrafiqi et al., 2024). Asian multinational businesses possess a superior advantage in attaining sustained digital transformation (Ugwu et al., 2025; Yao & Wang, 2024). These abilities help companies take the lead on the SDG agenda and make organizational resilience more important for reaching the SDGs. Consequently, the subsequent hypothesis is posited:

H1: There is a positive and significant relationship between organizational resilience and SDG performance of MNEs in emerging markets.

2.2.2 Moderating Role of Home Country Competitiveness (SDG Performance)

According to institutional theory, we contend that home country competitiveness serves as a structural driver. In very competitive home markets, multinational companies do better when there are stronger institutional frameworks, faster access to new technologies, and clearer rules for sustainable growth. These "institutional assets" make internal resilience even stronger. In very competitive home markets, strong corporations can use outside infrastructure to help them reach the Sustainable Development Goals (SDGs) faster. In less competitive settings, resilient organizations must utilize internal resources to address institutional shortcomings. So, the competitiveness of the home country makes resilience even more important for reaching the SDGs.

One of the most crucial background characteristics is how competitive a person's own nation is. The connection between organizational resilience and reaching the SDGs is based

on the skills of the company (Khan et al., 2025). Businesses that work in stable institutional settings are more likely to include environmental performance in their operations (Ameer et al., 2024; Ooi & Memon, 2025; Vallet-Bellmunt et al., 2024). These results support the main point that "national competitiveness improves the strategic assets of businesses." Companies that operate in very competitive marketplaces typically see sustainable development as both a moral duty and a chance to gain a competitive edge (AlHares, 2025; Mushtaq & Akhtar, 2024). National competitiveness dictates the capacity of enterprises to utilize resilience for the attainment of sustainable development (Ahmadova et al., 2023; Khan et al., 2025). Accordingly, the following hypothesis is proposed:

H2: *There is a positive and significant moderating effect of home country competitiveness on the relationship between organizational resilience and SDG performance of MNEs in emerging markets.*

2.2.3 Organizational Resilience and Strategic Change

Organizational resilience is the ability to anticipate, absorb, adapt to, and recover from external shocks (Lengnick-Hall et al., 2011). Theoretically, resilient firms are better equipped to detect external threats and opportunities and implement changes to remain competitive (Ahmed et al., 2025; Ooi & Memon, 2025). Resilience offers the adaptability needed to calibrate strategy across diverse contexts for MNEs (Åslund, 2019; Ingram et al., 2023). It is characterized by strong internal communication and decentralized decision-making. Many firms entered new sustainability-aligned markets, reflecting large-scale, strategic shifts in response to ecological degradation in the post-pandemic era (Joussen et al., 2025; Liang & Li, 2024). Firms must remain strategically agile across institutional boundaries. Therefore, we propose the following hypothesis:

H3: *There is a positive and significant relationship between organizational resilience and strategic change of MNEs in emerging markets.*

2.2.4 Moderating Role of Home Country Competitiveness (Strategic Change)

MNE subsidiaries embedded in networks with high national competitiveness exhibit stronger dynamic capabilities (Gunawan & Mikhail, 2025). Competitive home country contexts often provide MNEs with robust infrastructures for training and innovation (Ahmed et al., 2025; Zainurrafiqi et al., 2024). MNEs with strong home institutional support systems exhibit higher autonomy, resilience, and home competitiveness (Ahmadova et al., 2023). MNEs' resilience was more effectively transformed into strategic change because of institutional support and competitiveness during COVID-19 (Setyadi et al., 2025). MNCs adjust their innovation capabilities and strategies by leveraging their resilience-based transformation in emerging markets (Martos-Pedrero et al., 2025; Morais-Storz et al., 2018). Resilience will be expressed in proactive, future-oriented, and transformative strategic behaviors when the institutional competitiveness is efficient (Morais-Storz et al., 2018). Therefore, the following hypothesis is proposed:

H4: *There is a positive and significant moderating effect of home country competitiveness on the relationship between organizational resilience and strategic change of MNEs in emerging markets.*

2.2.5 Strategic Change and SDG Performance

Strategic change plays a vital role in shaping how firms engage with and perform against the SDGs (Joussen et al., 2025). Pursuing SDGs requires firms to embed sustainability into core strategies (Yang et al., 2025). Strategic change is a vehicle for organizational Further, strategic change strengthens organizational resilience and agility, and factors increasingly associated with sustainable performance in uncertain and dynamic

environments (Johan et al., 2024; Joussem et al., 2025). It also drives improvements in corporate governance and sustainability performance and ESG ratings (Chinoperekweyi et al., 2022; Liang & Li, 2024). MNEs that embrace strategic change in foreign subsidiaries, such as local responsiveness to environmental regulations across host countries (Asa et al., 2023; Triana et al., 2014). Hence, the following hypothesis is proposed:

H5: *There is a positive and significant relationship between strategic change and SDG performance of MNEs in emerging markets.*

2.2.6 Mediating Role of Strategic Change

Strategic change serves as the resource investment process that turns resilience into actionable strategies (Chinoperekweyi et al., 2022). It is clear that companies that are resilient may get through tough times by making strategic changes that are in line with their sustainability goals (Joussem et al., 2025; Triana et al., 2014). Resilient companies are more likely to make these kinds of changes when they are under pressure from the environment or the law (Abdulrahman & Dweiri, 2025; Nan & Chaiprasit, 2023). Resilience fosters a culture of learning and innovation, which underpins strategic change processes aimed at sustainability (Nan & Chaiprasit, 2023; Saemaldaher & Emeagwali, 2025). The mediation pathway underscores that while resilience creates the foundation for firms. Strategic change channels resilience into actionable plans that drive progress toward the SDGs. Therefore, the following mediation hypothesis is proposed:

H6: *There is a positive and significant mediating effect of strategic change on organisational resilience and SDG performance of MNEs in emerging markets.*

Table 1: Summary of Previous Studies

| Author(s) | Year | Focus | Findings | Methodology | Data |
|-----------------------------|--------|------------------------------|--|------------------|---------------|
| Ye et al. | (2022) | Resilience, Sustainability | Resilience improves green innovation | Panel regression | Chinese MNEs |
| Wang et al. | (2021) | Green Investment | Resilience is linked to energy efficiency | SEM | Listed firms |
| Qiao et al. | (2022) | Strategic Change | Strategic reorientation requires resilience | GMM | China |
| Ortiz-de-Mandojana & Bansal | (2016) | Strategic Adaptation | Resilient firms outperform in crises | Case studies | United States |
| Sachs et al. | (2022) | SDG Index | Institutional competitiveness drives SDG performance | Cross-national | Global |
| Bebbington & Unerman | (2018) | Corporate SDG Reporting | Firms need strategy realignment | Conceptual | Global |
| Teece et al. | (1997) | Dynamic Capabilities | Reconfiguring for advantage | Theoretical | N/A |
| Delmas & Toffel | (2008) | Institutions, Sustainability | Weak institutions hinder change | Regression | US, EU |
| Xia & Xiong | (2021) | Industry Competitiveness | Competition moderates innovation impact | OLS | Chinese firms |
| DesJardine et al. | (2019) | Organizational Resilience | Recovery drives long-term gains | Empirical | Fortune 500 |

2.3 Conceptual Framework of the Study

This study proposes to examine the relationship between organisational resilience and SDG performance. The study also proposed testing the moderating role of home-country competitiveness and the mediating role of strategic change. Organisational resilience is the independent variable, and SDG performance is the dependent variable in the proposed model. The following figure clearly shows the relationship among the main variables of the study.

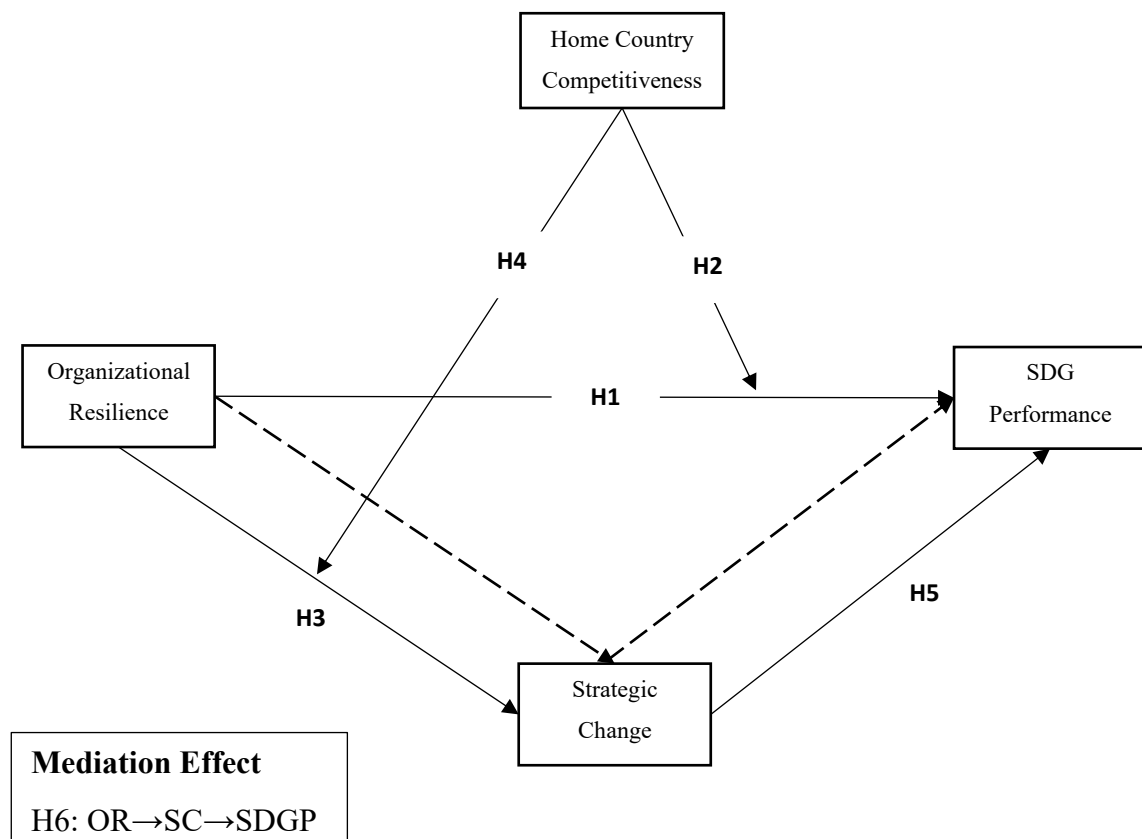


Figure 1: Conceptual Framework of the Study

3. Methodology

3.1 Data and Sample Selection

The study examines the relationship between organisational resilience and SDG performance among MNEs in emerging markets. We selected Pakistan, India, and China from emerging Asian economies due to shared organisational mechanisms, institutional environments, and cultures. We used data from multinational firms from 2015 to 2024. The selection of the data period was based on the availability of the SDG score. We used financial statements, annual reports, ESG disclosures, and SDG scores from different data sources. We selected only those firms that fall into the at least 10% foreign equity category. We included only those listed multinational corporations that are listed to accounting structures comparability. We only selected those listed multinational corporations who have at least

five consecutive years of data. Therefore, It resulted in a balanced panel of 623 MNEs, totaling 6230 firm-year observations, after cleaning for missing and extreme values using winsorization at the 1% and 99% levels. Based on higher market volatility and business environment, we selected only Pakistan, India, and China. We employ the system GMM for dynamic panel estimation to address the endogeneity.

3.2 Variable Measurement

The study constructs all variables using consistent definitions rooted in the existing literature and industry guidelines. Table 2 outlines the operationalisation and sources of each key variable.

Table 2: Variables Description and Sources

| Variable | Type | Measurement Approach | Source(s) |
|------------------------------------|----------------------|---|--|
| Organizational Resilience (OR) | Independent Variable | Composite index of financial volatility, recovery rate, adaptability (asset turnover, debt capacity, R&D volatility, growth rate post-crisis). Standardised via the entropy method. | Ortiz-de-Mandojana & Bansal (2016); DesJardine et al. (2019); CSMAR, Prowess |
| Strategic Change (SC) | Mediator | Composite score from changes in: R&D expenditure/sales, CAPEX/assets, advertising expenses/sales, and fixed asset renewal rate. | Qiao et al. (2022). Firm financials |
| SDG Performance (SDG) | Dependent Variable | Composite of ESG-aligned metrics mapped to SDGs: carbon emissions (SDG13), water use (SDG6), employee diversity (SDG5), supply chain ethics (SDG12). | CSRHub, Bloomberg ESG, Firm Reports |
| Home Country Competitiveness (HCC) | Moderator | Global Competitiveness Index (GCI), aggregated score (0–100), 3-year rolling average. | World Economic Forum (2020–2022) |
| Control Variables | Controls | Firm Size (log assets), Age (log years), Leverage (Debt/Assets), Board Size (log directors), Industry dummies, Country dummies | Annual Reports, Bloomberg |

3.3 Model Specification and Estimation Strategy

Given the dynamic nature of organizational resilience and the possibility of simultaneity bias (high performance in sustainable development goals creates reputational resources, thus enhancing resilience), static estimation methods such as ordinary least squares (OLS) or fixed effects lack consistency. Therefore, we employ the two-stage Generalized Method of Moments (GMM) as the primary identification strategy. The GMM controls for unobserved heterogeneity and dynamic endogeneity by using lagged levels and lagged differences of explanatory variables as instrumental variables.

To validate the GMM estimation results, we applied three key diagnostic methods: (1) the Arelano-Bond test to examine AR(2) serial correlation, requiring a non-significant result ($p > 0.10$) to confirm the absence of second-order autocorrelation in the error term; and (2) the Hansen J test to examine over-identification constraints, requiring a non-significant result ($p > 0.10$) to confirm the validity of the instrumental variables. (3) When examining the number of financial instruments, we use the collapse command to limit the number of financial instruments to no more than the number of cross-sectional groups (companies), thereby avoiding financial instrument diffusion bias (Roodman, 2009).

The empirical strategy links organizational resilience, strategic change, and home country competitiveness to SDGs performance using panel estimations that control for firm size, age, leverage, industry classification, and year effects. This study employs multiple modelling strategies to estimate direct, mediated, and moderated effects:

i. Model 1: Baseline Direct Effect Model (OLS)

To estimate the effect of organisational resilience on SDG performance:

$$SDG_{it} = \beta_0 + \beta_1 OR_{it} + \beta_2 Controls_{it} + \mu_i + \delta_t + \epsilon_{it}$$

ii. Model 2: Generalised Method of Moments (GMM) – Dynamic Panel Estimation

To address potential endogeneity, the study employs the System-GMM estimator (Blundell et al., 2001), which is suitable for dynamic relationships with lagged dependent variables.

$$SDG_{it} = \alpha_1 SDG_{it-1} + \alpha_2 OR_{it} + \alpha_3 Controls_{it} + \mu_i + \epsilon_{it}$$

Endogenous regressors are instrumented using lagged levels and differences, satisfying moment conditions under the Hansen and Arellano-Bond tests (Arellano & Honoré, 2001).

iii. Model 3: Mediation Analysis

The mediating role of strategic change is tested using a 3-step approach and bootstrapping (5,000 resamples) with bias-corrected confidence intervals.

1. Step 1: Effect of OR on SDG
2. Step 2: Effect of OR on SC
3. Step 3: Effect of OR and SC on SDG

$$SC_{it} = \gamma_0 + \gamma_1 OR_{it} + \gamma_2 Controls_{it} + \mu_i + \delta_t + v_{it}$$

$$SDG_{it} = \theta_0 + \theta_1 OR_{it} + \theta_2 SC_{it} + \theta_3 Controls_{it} + \mu_i + \delta_t + \epsilon_{it}$$

Partial mediation is confirmed when both direct and indirect paths are significant; complete mediation occurs when the direct path becomes non-significant.

iv. Model 4: Moderated Regression for Home Country Competitiveness

To examine moderation by home country competitiveness on the resilience-SDG and resilience-SC-SC-SC-SC-SC relationships:

$$SDG_{it} = \lambda_0 + \lambda_1 OR_{it} + \lambda_2 HCC_i + \lambda_3 (OR_{it} \times HCC_i) + \lambda_4 Controls + \epsilon_{it}$$

$$SC_{it} = \phi_0 + \phi_1 OR_{it} + \phi_2 HCC_i + \phi_3 (OR_{it} \times HCC_i) + \phi_4 Controls + \epsilon_{it}$$

Interaction terms capture how home-country competitiveness moderates the impact of resilience.

3.4 Robustness Checks and Tests

Several robustness strategies are implemented, such as Sub-sample analysis by country and industry group. Instrumental variable regression using lagged regulatory shocks and home-country corruption indices. We used multicollinearity diagnostics using VIFs and Hansen and Arellano-Bond serial correlation tests for GMM (Arellano & Honoré, 2001; Blundell et al., 2001; Thompson et al., 2017). Sensitivity tests excluding outlier firms (top/bottom 5% in SDG scores. However, an organisation's SDG performance is primarily based on ESG disclosures. ESG disclosures are the proxy used by many studies, which raises

the issue of subjectivity. Measurement estimates can also be affected by sustainability inconsistencies across multinational firms and across different economies.

3.5 Data Source and Description

Our study's final sample was selected using the Propensity Score Matching (PSM) approach. The primary sample dataset was based on the availability of reports. Firms' annual reports were used to finalise the data. We also estimated the SDG score in the same way. We focused only on firms that published their annual financial statements and reports each year. Additionally, we did not include financial firms due to issues with reporting, confidentiality, and constraints imposed by rules and regulations. Table 3 shows the overall and matched-sample distributions of MNE and local firms' treatment and control groups across multiple years. For better comparisons, the matching procedure equalises MNEs and local entities across treatment and control groups. We removed firms with fewer than 5 years of data to avoid erroneous or biased estimates arising from incomplete time series. Panel estimates work because of enough and reliable data. From 2015 to 2024, the main study uses a matched sample of 6,230 firm years.

Table 3: Data Source and Description

| Year | Overall Sample (Unmatched) | | | Matched Sample | | |
|--------------|----------------------------|-------------------|------------------|----------------|-------------------|------------------|
| | Total | Treatment MNEs | Control Local | Total | Treatment MNEs | Control Local |
| 2015 | 910 | 305 | 605 | 604 | 302 | 302 |
| 2016 | 914 | 310 | 604 | 612 | 306 | 306 |
| 2017 | 926 | 330 | 596 | 616 | 308 | 308 |
| 2018 | 938 | 349 | 589 | 622 | 311 | 311 |
| 2019 | 944 | 347 | 597 | 626 | 313 | 313 |
| 2020 | 950 | 350 | 600 | 630 | 315 | 315 |
| 2021 | 950 | 350 | 600 | 630 | 315 | 315 |
| 2022 | 950 | 350 | 600 | 630 | 315 | 315 |
| 2023 | 950 | 350 | 600 | 630 | 315 | 315 |
| 2024 | 950 | 350 | 600 | 630 | 315 | 315 |
| Total | 9382 | 3391 | 5991 | 6230 | 3115 | 3115 |

4. Analysis and Results

4.1 Direct Effect

First, the firm's resilience directly impacts the SDGs, as empirically tested. Baseline regression results are in Table 3. Hypothesis 1 is preliminarily supported. Column (2) considers year and industry fixed effects. Column (3) evaluates clustering from column (2). The results confirm Hypothesis 1, which posits that organisational resilience promotes firm growth, as evidenced by significant positive coefficients. The results of the moderating effect of environmental uncertainty are also presented in Table 4. First, we find the direct impact of HCC on SDGs performance ($\beta = 0.170$, $P < 0.05$; see column 1). From the seventh column of Table 7, the moderating impact of HCC on the relationship between organisational resilience and SDGs is positive and significant ($\beta = 0.182$, $P < 0.05$; see column 1). Hence, Hypothesis 4 is supported.

Table 4: Direct and Moderating Effects

| | SDGs | SDGs | SDGs |
|-------------------------------|-----------|-----------|----------|
| Firm resilience (H1) | 0.081* | 0.092* | 0.101* |
| Moderation effect | | | |
| HCC | 0.170** | 0.185** | 0.189** |
| SDGs*HCC (H2) | 0.182** | 0.191** | 0.199** |
| Financial control | | | |
| FIRM-SIZE | 0.176*** | 0.189*** | 0.188*** |
| FIRM-AGE | 0.079* | 0.088* | 0.056* |
| LEVERAGE | -0.108** | -0.105** | -0.102** |
| MTB | 0.156** | 0.164** | 0.162** |
| SD-SALES | -0.218*** | -0.214*** | -0.162** |
| SD-CASH FLOW | -0.132** | -0.129** | -0.125** |
| TANGIBLES | 0.096** | 0.074* | 0.072* |
| DIVIDEND | 0.081* | 0.082* | 0.083* |
| TMT control | | | |
| TMT age | 0.054 | 0.058 | 0.062 |
| TMT diversity | 0.119** | 0.106** | 0.113** |
| TMT race | 0.085* | 0.091* | 0.097* |
| TMT tenure | 0.107** | 0.104** | 0.111** |
| Constant | 0.313*** | 0.289*** | 0.403*** |
| Fixed control | | | |
| Industry fixed effect | NO | YES | YES |
| Year fixed effect | NO | YES | YES |
| Cluster level | NO | NO | YES |
| Weighted statistics | | | |
| <i>R – squared</i> | 0.411 | 0.458 | 0.449 |
| <i>Adjusted R²</i> | 0.394 | 0.435 | 0.428 |
| Regression's S.E | 0.222 | 0.221 | 0.203 |
| F-statistics | 139.246 | 139.151 | 127.479 |
| Mean VIF | 1.916 | 1.829 | 1.692 |

* p < 0.05, ** p < 0.01, *** p < 0.001.

4.2 Robustness Test

The reliability of the prior results is verified in three ways. First, we replace the independent variable. Based on Qin & Tian (2023), organisational resilience was measured using employee education level (Employee-edu). The results are presented in column (1) of Table 5. Second, we used split-period criteria; the 2015–2022 and 2019–2024 sample estimate intervals were used for robustness tests. Results are in Table 5 columns (2) and (3). We used country- and industry-year fixed effects to avoid bias from omitting country- and industry-specific variables. Results are in Table 5 columns (4) and (5). Finally, we replaced the baseline regression model with cluster, industry, and country-level variables. Results are in Table 5 columns (6) and (7). The baseline regression and estimation results are consistent, indicating robust conclusions.

Table 5: Robustness of Main Findings

| | SDGs | 2015–2022 | 2019–2024 | SDGs | SDGs | SDGs | SDGs |
|-------------------------------|---------|-----------|-----------|---------|---------|----------|---------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Employee-edu (H1) | 0.092* | ----- | ----- | ----- | ----- | ----- | ----- |
| Firm resilience | ----- | 0.081* | 0.102* | 0.094* | 0.083* | 0.105* | 0.088* |
| Moderation effect | | | | | | | |
| HCC | 0.169** | 0.158** | 0.156** | 0.173** | 0.162** | 0.160** | 0.185** |
| SDGs*HCC (H2) | 0.180** | 0.179** | 0.182** | 0.185** | 0.184** | 0.187** | 0.211** |
| Financial control | YES | YES | YES | YES | YES | YES | YES |
| TMT control | YES | YES | YES | YES | YES | YES | YES |
| Fixed control | YES | YES | YES | YES | YES | YES | YES |
| Industry fixed effect | NO | NO | NO | NO | YES | NO | NO |
| Year fixed effect | NO | NO | NO | YES | NO | NO | NO |
| Cluster level | FIRM | FIRM | FIRM | FIRM | FIRM | INDUSTRY | COUNTRY |
| Weighted statistics | | | | | | | |
| <i>R – squared</i> | 0.427 | 0.467 | 0.467 | 0.438 | 0.433 | 0.438 | 0.409 |
| <i>Adjusted R²</i> | 0.409 | 0.442 | 0.446 | 0.418 | 0.412 | 0.418 | 0.390 |
| Regression's S.E | 0.231 | 0.225 | 0.212 | 0.236 | 0.209 | 0.199 | 0.220 |
| F-statistics | 144.657 | 141.595 | 132.703 | 147.972 | 131.543 | 124.324 | 138.118 |
| Mean VIF | 1.991 | 1.861 | 1.762 | 2.036 | 1.729 | 1.651 | 1.900 |

* p < 0.05, ** p < 0.01, *** p < 0.001.

4.3 Endogenous Test

We also addressed the endogeneity concern. First, the relationship between firm resilience and SDG performance is examined using an instrumental variables approach to address endogeneity. External financial access and market competition are used as instrumental variables. The IVs were chosen since they are expected to affect firm resilience but not SDG performance directly. In addition, to minimise multicollinearity and bias, we ensured that the IVs did not substantially correlate with the moderating variable—home country competitiveness. Second, we used the Generalised Method of Moments (GMM) approach to support the principal regression. Weighted GMM estimate statistics support model robustness (Blundell et al., 2001). SDGs (t-1) exhibit a significant one-year lag ($P < .01$; see column 6), validating the GMM estimation. Weighted statistics remain valid across all models; the model's predictions fit the observed data, with a low Regression Standard Error (0.248), and the independent variables affect the dependent variable (F-statistic: 97.183, p-value: 0.000).

A consistent association between firm resilience and SDG performance shows that instrumental variables did not skew it. All parameters passed the under-identification and weak-identification tests, indicating that the instruments are robust. Likewise, the moderation effect results continue to hold, thereby justifying our principal regression. The IV results confirm that firm resilience and SDG performance are not biased by endogeneity, and that home-country competitiveness moderates the relationship without confounding instrumental variables. It improves the study's dependability.

Table 6: Endogenous Test

| | Firm resilience | SDG | Firm resilience | SDG | SDGs |
|-------------------------------|-----------------|------------|-----------------|------------|------------|
| | 1 | 2 | 3 | 4 | 5 |
| SDGs (t-1) | ----- | ----- | ----- | ----- | 0.682*** |
| Firm resilience (H1) | ----- | 0.127* | ----- | 0.097* | 0.111* |
| Moderation effect | | | | | |
| HCC | | 0.169** | | 0.183** | 0.195** |
| SDGs*HCC (H2) | | 0.203** | | 0.236** | 0.209** |
| External Finance (IV1) | 0.214** | 0.031 | | | |
| Market competition (IV2) | | | 0.265*** | 0.052 | |
| Financial control | YES | YES | YES | YES | YES |
| Governance control | YES | YES | YES | YES | YES |
| Fixed control | | | | | |
| Country fixed effect | YES | YES | YES | YES | YES |
| Year fixed effect | YES | YES | YES | YES | YES |
| Industry effect | YES | YES | YES | YES | YES |
| Weighted statistics | | | | | |
| <i>R – squared</i> | 0.438 | 0.488 | 0.478 | 0.449 | 0.412 |
| <i>Adjusted R²</i> | 0.419 | 0.463 | 0.456 | 0.429 | 0.391 |
| Regression's S.E | 0.236 | 0.235 | 0.216 | 0.242 | 0.199 |
| F-statistics | 148.214*** | 148.112*** | 135.689*** | 151.672*** | 125.018*** |
| Mean VIF | 2.040 | 1.947 | 1.801 | 2.087 | 1.643 |
| AR(1) | | | | | 4.178 *** |
| AR(2) | | | | | 0.328 |
| Sargan OIR Test | | | | | 0.427 |
| Hansen OIR Test | | | | | 0.390 |
| Observations | | | | | |

* p < 0.05, ** p < 0.01, *** p < 0.001.

4.4 Mediation Effect

The results of the mediation effect are reported in Table 7. In column 1, we tested the impact of firm resilience and St-change on SDG performance. St-change positively and significantly affects SDG performance ($\beta = 0.113$, $P < 0.05$; see column 1), supporting H3. In column 2, St-change has a positive, statistically significant impact on SDG performance ($\beta = 0.127$, $P < 0.05$; see column 1), supporting H4. In column 3, we included firms' resilience and St-change simultaneously. Firms' resilience also shows a positive and statistically significant impact at an acceptable level of 10% ($\beta = 0.083$, $P < 0.10$; refer to column 2). Thus, strategic change mediates firm resilience and SDG performance. The results show that resilient firms are more likely to adopt changes. Strategic change partially mediates the relationship between firm resilience and SDG performance.

Table 7: Mediation Effect Results

| | St-change | SDG | Firm resilience |
|-------------------------------|------------|------------|-----------------|
| | 1 | 2 | 3 |
| Firm resilience (H3) | 0.113** | ----- | 0.083* |
| St-change | ----- | 0.127** | 0.119** |
| Financial control | YES | YES | YES |
| Governance control | YES | YES | YES |
| Fixed control | | | |
| Country fixed effect | YES | YES | YES |
| Year fixed effect | YES | YES | YES |
| Industry effect | YES | YES | YES |
| Weighted statistics | | | |
| <i>R – squared</i> | 0.408 | 0.437 | 0.447 |
| <i>Adjusted R²</i> | 0.391 | 0.414 | 0.426 |
| Regression's S.E | 0.220 | 0.211 | 0.202 |
| F-statistics | 138.079*** | 132.387*** | 126.928*** |
| Mean VIF | 1.900 | 1.740 | 1.685 |

* p < 0.05, ** p < 0.01, *** p < 0.001.

Further, we split our sample into strategic continuity and volatile subsamples. A firm is grouped in the continuity subsample if it continues to undergo strategic change. The firm-year observations with an increasing trend of strategic change (current year value of strategic change-last year value/last year value) are included in subsample B, and the remainder are included in subsample A. The results of both subsamples are presented in Table 8. In subsample A, the results of those firms that do not continue to opt for strategic change are reported. Findings exhibit a negative impact of firm resilience on strategic change ($\beta = -0,081$, $P < 0.10$; refer to column 1). Further, strategic change does not affect firms' SDGs performance (see column 2 in subsample A).

In subsample B, the findings are contradictory. Firms' resilience has a more substantial impact on strategic change ($p < .01$), and strategic change leads to SDG performance ($p < .01$). Further, the strategic change has a more substantial mediation effect when compared to our primary results as reported above in Table 4 ($p < .01$). Thus, firms following strategic change are likely to follow strategic change that mediates the relationship between. These two sub-samples indicate that firms with long-term strategic change policies exhibit better performance on the SDGs.

Thus, the two subsamples yield different results. In the volatile strategic change subsample (A), resilience hinders strategic change and does not improve SDG performance, refuting the hypothesised positive mediation. In contrast, resilience greatly enables strategic change, thereby improving SDG performance in the dynamic strategic change subsample (B), highlighting the need for flexible, long-term strategic adaptations for sustainable development.

Table 8: Subsample Analysis Results

| | Subsample A: Volatile Strategic Change | | | Subsample B: Stable Strategic Change | | |
|-------------------------------|--|-----------|-----------------|--------------------------------------|-----------|-----------------|
| | St-change | SDG | Firm resilience | St-change | SDG | Firm resilience |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Firm resilience (H3) | -0.081* | | -0.094* | 0.170** | | 0.194** |
| St-change | | 0.004 | 0.019 | | 0.201*** | 0.216*** |
| Financial control | YES | YES | YES | YES | YES | YES |
| Governance control | YES | YES | YES | YES | YES | YES |
| Fixed control | | | | | | |
| Country fixed effect | YES | YES | YES | YES | YES | YES |
| Year fixed effect | YES | YES | YES | YES | YES | YES |
| Industry effect | YES | YES | YES | YES | YES | YES |
| Weighted statistics | | | | | | |
| <i>R – squared</i> | 0.408 | 0.437 | 0.447 | 0.408 | 0.437 | 0.447 |
| <i>Adjusted R²</i> | 0.391 | 0.414 | 0.426 | 0.391 | 0.414 | 0.426 |
| Regression's S.E | 0.220 | 0.211 | 0.202 | 0.220 | 0.211 | 0.202 |
| F-statistics | 138.079*** | 132.387** | 126.928** | 138.079** | 132.387** | 126.928** |
| Mean VIF | 1.900 | 1.740 | 1.685 | 1.900 | 1.740 | 1.685 |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

4.5 Heterogeneity Analysis

For additional information, we also tested the heterogeneity. There may be fluctuations in the study's findings. The impact of firms' resilience on SDG performance can vary due to heterogeneity concerns. We considered firm size, intensive attributes, and enterprise ownership to test heterogeneity. We also tested the country-level heterogeneity, which is presented in Table 9. The results demonstrate a significant difference in the coefficient estimates for China compared with those for Pakistan and India. Compared with the F-statistic results, resilience and SDG performance are also linked in Chinese MNEs. Government regulations, market dynamics, and industry practices will support the relationship between organisational adaptability and SDG results. Moreover, we could not find significant differences in the resilience of Indian and Pakistani firms.

Table 9: Heterogeneity of Firm Size and Country

| | Size Heterogeneity | | Country-level Heterogeneity | | |
|-------------------------------|--------------------|------------|-----------------------------|------------|------------|
| | Small size | Large size | Pakistan | India | China |
| | 1 | 2 | 3 | 4 | 5 |
| Firm resilience (H3) | 0.069* | 0.127** | 0.074* | 0.103* | 0.135** |
| F-statistics (column 2-1) | | (2.672**) | | | |
| (column 5-3) | | | | | 4.273*** |
| (column 5-4) | | | | | 6.717*** |
| (column 4-3) | | | | | 0.221 |
| Financial control | YES | YES | YES | YES | YES |
| Governance control | YES | YES | YES | YES | YES |
| Fixed control | | | | | |
| Country fixed effect | YES | YES | YES | YES | YES |
| Year fixed effect | YES | YES | YES | YES | YES |
| Industry effect | YES | YES | YES | YES | YES |
| Weighted statistics | | | | | |
| <i>R – squared</i> | 0.408 | 0.437 | 0.447 | 0.408 | 0.437 |
| <i>Adjusted R²</i> | 0.391 | 0.414 | 0.426 | 0.391 | 0.414 |
| Regression's S.E | 0.220 | 0.211 | 0.202 | 0.220 | 0.211 |
| F-statistics | 138.079*** | 132.387*** | 126.928*** | 138.079*** | 132.387*** |
| Mean VIF | 1.900 | 1.740 | 1.685 | 1.900 | 1.740 |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

5. Discussion and Conclusion

The study enhances organisational resilience and knowledge of SDG performance by examining the mediating role of strategic change. Panel data on listed MNEs in three emerging markets —China, India, and Pakistan —are used to test the hypotheses. Our findings are supported by previous studies (Ameer et al., 2024; Saemaladaher & Emeagwali, 2025; Suryaningtyas et al., 2019). Results are robust to alternative measures of firm resilience and endogeneity tests. Second, our mediation effect tests reveal that strategic change partially mediates the relationship between the firm's resilience and its SDG performance. Further, we show that firms undergoing strategic change are likely to exhibit a more substantial mediation effect than those with fragile strategic change policies. Our study integrates "organisational resilience-strategic change-SDGs performance" into a single analytical paradigm, expanding prior studies in the SDGs domain (Adamu et al., 2024; Yao & Wang, 2024; Zainurrafiqi et al., 2024).

Contrary to our main assumption, our analysis shows that strategic change negatively impacts the achievement of Sustainable Development Goals (SDGs) in a more volatile subsample. While this finding is unexpected, it aligns with the conservation of resources (COR) theory, which states that resources are depleted when demand exceeds capacity. In highly volatile environments, the dual burden of responding to external shocks and implementing internal strategic restructuring can lead to "transformation overload." In this scenario, the resource inputs required for strategic transformation may crowd out resources allocated to achieving non-financial objectives such as the SDGs, suggesting a threshold effect where strategic change can be counterproductive when external environments are excessively volatile.

This study is also the first to show that firms' resilience, based on Dynamic Capabilities Theory, explains how organisational resilience affects SDG performance. The theory explains how "organisational resilience - individual behaviour (strategic change) - SDGs" interact in the context of MNEs (Iqbal et al., 2024; Suryaningtyas et al., 2019; Werner et al., 2021). Moreover, strategic change mediates between organizational resilience and SDG performance. Organizational resilience enhances strategic change in organizations that leads to overall SDG performance. The study also found that home-country competitiveness further strengthens the relationship between organisational resilience and SDG performance.

6. Research Implications, Research Limitations, and Future Recommendations

Our results show that policymakers in emerging market countries need to adopt national plans to improve institutional frameworks and competitiveness. This would help businesses turn resilience into long-term results. This study offers significant insights for managers and proprietors of multinational businesses (MNEs) aiming to utilize resilience to connect their organizations with the Sustainable Development Goals (SDGs). This study also shows how important it is to manage strategic change in a way that is good for the environment and the organization's long-term health. Most MNEs in developing countries have to deal with a lot of institutional pressures. Our findings provide distinctive recommendations for companies aiming to navigate these challenges.

Our analytical methods are robust and dependable; however there are some things to keep in mind while looking at the results. First, this analysis uses secondary data at the business level, which could have built-in measurement inaccuracies because organizations and countries report information differently, use different ways to combine data, and have different levels of quality in how they share information. The study enhances the previous literature by providing novel insights on enterprises' resilience and SDG performance in emerging Asian economies. There are still several constraints that make it hard for the study to be used in other situations. This research is confined to multinational enterprises from emerging Asian economies. Future research may be undertaken across various industry sectors to elucidate the relationship between firms' resilience and their performance regarding the Sustainable Development Goals (SDGs). Moreover, different organisational cultures are also explored in MNEs of these Asian emerging economies. Government policies play a crucial role in organisations' success and culture. So, the impact of government policies on organisational resilience can also be explored. The current study is a causal study that tests the relationship between resilience and SDG performance within the same sector of Asian emerging economies. It is suggested that longitudinal studies can also be conducted on diverse geographical regions. Lastly, we can expand the current study by testing the impact of firms' resilience on their social and environmental SDG performance.

Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Data Fabrication/Falsification Statement

The author(s) declare that no data have been fabricated, falsified, or manipulated in this study.

Participant Consent

This study is based on secondary data obtained from publicly available sources and did not involve any human participants. Therefore, no participant consent was required, and all data were used in accordance with ethical standards for secondary data research.

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