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Exploring the Impact of Innovation Activities on Financial Performance in Developed and Emerging Markets

Hee Soo Lee , Nina Shin ^{*}  and Jinho Choi 

School of Business and Economics, Sejong University, Seoul 05006, Republic of Korea

^{*} Correspondence: ninashin@sejong.ac.kr

Abstract: M&As have been regarded significantly as an alternative entry mode in facilitating firms' internalization strategy. Limited studies uncover the integrative role of M&As on the firms' financial performance from various market perspectives. This study explores the relationship between M&As and their financial outcomes from developed and emerging markets. It provides evidence that internalization through M&As has a significant impact on the aggregate market value in both developed and emerging markets, and emerging markets can learn from the varying impact of innovation activities on financial performance in developed markets. This study provides location and time selection strategies for multinational firms seeking cross-border M&As.

Keywords: mergers and acquisitions (M&As); innovation; internalization; aggregate market value

1. Introduction

Recent studies on mergers and acquisitions (M&As) activities have abundantly explored their impact on marketing through market share [1], economic growth [2], research and development (R&D) intensity and growth [3], innovation [4,5], and operating performance [4]. However, while the vast amount of literature discusses the significance of such causal relationships as well as the extent to which M&A plays a critical role in the growth and expansion strategy, its insight on internalization strategy with respect to the level of economic development is limited.

Internalization is regarded as a strategic decision that fundamentally affects the involved firms and their internal and external operations [5]. Specifically, M&A activity has been significantly regarded as an alternative entry mode to the facilitation of firms' internalization strategy [6]. It has gained further attention in human resource management as well for its enablement of strengthening ties between firms through the integration of greater strategic and operational agility [7].

Specifically, in periods of disruption such as those caused by COVID-19, the need for a resilient and agile collaborative network is stronger than ever. An internalization strategy for market growth and expansion is attenuated by firms to enhance the collaborative and creative business environment. To that end, this study aims to explore the following: (1) the impact of M&A transactions on financial performance differing by the level of economic development; and (2) the pattern in the relationship between M&A transactions and financial performance with information (time)-lag perspectives. In addition to M&A activities, various internalization indicators of innovation activities are incorporated to examine their impact on aggregate market value according to the level of economic development. In parallel, in focusing on the M&A activity, this study will provide insights on location and time selection for multinational firms seeking cross-border M&A opportunities as part of the internalization strategy for sustainable growth.

The implementation of internalization strategies not only enables the target firm to benefit from the merger, but also allows its country to be the beneficiary. Firms often make location-specific decisions prior to merging, acquiring, or even setting up new plants and



Citation: Lee, H.S.; Shin, N.; Choi, J. Exploring the Impact of Innovation Activities on Financial Performance in Developed and Emerging Markets. *Systems* **2023**, *11*, 16. <https://doi.org/10.3390/systems11010016>

Academic Editors: Jinan Fiaidhi, Aboul Ella Hassanien and Hye-jin Kim

Received: 28 November 2022

Revised: 22 December 2022

Accepted: 25 December 2022

Published: 30 December 2022



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divisions abroad [8–10]. These decisions can lead to a significant economic impact on recipient locations [6].

This study contributes to the existing literature on innovation and internalization strategies in three ways. First, this study identifies the managerial benefit of including M&A activities as variables affecting economic performance. By validating the importance of M&A activities in improving financial performance at a county level, firms can strategically consider foreign private and/or public targets for strategic investments. Second, this study provides market-specific insights for investment-planning decisions. While M&A activities mainly affect financial performance for both the developed and emerging markets, their degree of impact differs depending on innovation capacities. Third, the time perspective in strategic investment planning is incorporated, based on each market's time-lag characteristics. As a result, this study offers practical implications to strategic investors who need to understand the time-lag perspective of the relationship between M&A activities and aggregate market values by the level of economic development.

The rest of the paper is structured in the following manner. Section 2 provides a literature background on M&A-driven perspectives of internalization and location selection studies. Research design, data, and empirical results are described in Section 3. The study's findings and its managerial benefits are discussed, and suggestions for future research are provided in Sections 4 and 5, respectively.

2. Literature Review

2.1. M&A-Driven Internalization and the Location Selection

Internalization has become the key to a firm's growth through external opportunities [6]. Firms cannot gain a competitive advantage with internal capabilities alone (i.e., R&D activities), and may suffer from escalating costs and the speed and complexity of technology developments without external advancement opportunities [11,12]. Among various operational activities for internalization, M&A transactions have gained attention as a prominent mode in facilitating internalization strategies.

Investment through M&A is considered an efficient gain of assets that are already established [13]. Through transactions, the acquiring firm is able to gain the target firm's resources, including its knowledge base, technology, human resources, and even the new market entry advantage in a local country [14]. Target firms also benefit from the transaction by gaining an opportunity to improve productivity while maximizing the return of the firm's human and technological capital [5]. These studies agree with Guadalupe et al.'s [8] finding that involved firms increase technology adoption as a result of newly acquired access to a larger market. Consequently, the pertinent role of M&A transactions in value creation processes has gained a general consensus among various disciplines such as economics, marketing, and technology management [15–17]. M&A activities are often perceived as firms' innovative efforts in unifying technology, and a common strategic approach to improve market shares [18].

However, external growth via M&A activities requires effort in making strategic decisions related to affiliating with firms in a new location or setting up entirely new production plants overseas [6]. For example, foreign investments offer a means to strengthen a specialization in the core business. In the UK context, a foreign presence leads to a positive impact on service employment [10]; in the Spanish context, manufacturing firms expect to increase process innovation and product innovation by acquiring foreign technologies [8]. These studies collectively imply that the selection of locations, regions, and countries has become pertinent to obtaining an enabling environment for business sustainability and opportunities to attract global investments over time. Moreover, the degree of impact of international acquisitions for the firms from the emerging countries has been investigated for its asymmetric outcomes compared to the firms from the developed countries [19]. By addressing the trend of international acquisitions or M&As and their outcomes in various countries, this study aims to fill the research gap in innovation-driven internalization strategies and their outcomes in emerging and developed markets.

The advantage of strategic M&A based on a location includes various positive effects by transferring a firm's "routines, resources, and capabilities" and ultimately creating synergies [20]. While prior studies largely contribute to the understanding of the location choice for foreign investment, and its impact on economic growth and innovation, few studies focus on multi-country cases [6]. To that end, this study attempts to distinguish between the differences in financial performance caused by varying efforts in economic growth and innovation.

2.2. M&A Activities from an International Economics Perspective

The studies on M&A growth mainly take two perspectives: (i) neoclassical theory concerning the driver of M&A activities, and (ii) endogenous growth theory concerning the impact of M&A activities [21]. This study adopts the latter stream to advance an understanding of the contingent effect of M&A activities based on the uncertainty of economic policy and the environment. For example, Christou and Gupta [22] recently investigated the role of economic policy uncertainty in ten OECD (Organization for Economic Co-operation and Development) countries and highlighted the importance of pooling information prior to forecasting market performance based on a measure of economic uncertainty. They also noted the need for an investigation of the distinct characteristics of developing regions such as BRICS (Brazil, Russia, India, China, and South Africa). In this regard, the potential for the varying impact of M&A activities among countries must be explored for a strategic international expansion.

A large number of foreign direct investment (FDI) studies find location choice to be an important driver of international business activities [23]. Wilson and Vencatachellum [24] noted that M&As contribute to the expansion of FDI in developed countries, and that policy makers should strengthen and improve the efficiency of the domestic financial market for an overall improvement in the economic growth rate. Similarly, Kinatader et al. [25] found that firms from BRICS and other emerging economies strive to internalize resources by combining country-specific advantages (i.e., domestic endowments) and firm-specific advantages (i.e., own operational capabilities) [25,26]. These trends have led to designing strategic economic policies and mitigating uncertainty to attract foreign investments such as cross-border M&A opportunities.

For example, Yilmaz and Tanyeri [27] found that while M&A delivers value for both the target and acquirer shareholders, its abnormal returns are higher in developed countries than in emerging markets. The authors note that such differences may be due to the differences in market efficiency, which are dependent on differences in the legal environment and/or political and economic uncertainty. The shareholder expectation of returns from M&A activities differs between developed and emerging countries mainly due to the stability of the firms' internalization approaches, supported by its rooted country economy [19].

Moreover, existing studies indicated that internalization strategies differ between developing and developed countries [19]. Bertrand and Zuniga [28] found that the significance of M&A activity on innovation performance may differ for OECD countries. Guillén and Garcia-Canal [29] found that while traditional multinational firms from developed countries tend to take an incremental internalization approach, emerging country firms "expand globally with a dizzying pace." Consequently, the effect of M&A is predicted to be conditional on the economic environment of the merging firms [30]. Thus, this study aims to investigate the relationship between M&A activities and their expected return or performance, particularly among developed and developing countries.

3. Research Design, Data, and Empirical Results

3.1. Research Design

3.1.1. M&A Theory and Research Hypotheses

This study is based on an M&A's endogenous growth theory that concerns the impact of M&A activities on economic growth. An endogenous growth theory argues that eco-

economic growth is generated from within a system as a direct result of internal processes. An M&A activity is one of the innovation-driven internalization processes of a company.

A company can either grow through the internal investment such as creating new capital or grow externally through the M&A, which has become a very common growth strategy by a company. In the USA, the M&A expenditures have averaged around 5% of the annual GDP in the last few decades [31], and M&A transactions and deal value have gone beyond previous heights in 2021. Accordingly, the M&A activity is not only important at the firm level, but also significant at the aggregate level.

This study is primarily interested in the relationship between M&A activities and their financial outcomes from the dual perspectives of developed and emerging markets. The main research question is “Do M&A activities affect aggregate market value? If so, does it depend on the level of economic development?”. Based on the above theory, it is expected that M&A activities have a significant effect on the aggregate market value through two channels: market capitalization and total enterprise value. Therefore, this study proposes the following hypotheses and explores the impact of M&A activities on the aggregate market value differing by the level of economic development.

H1: *M&A activities are positively related to aggregate market values.*

In addition to the M&A activities, this study considers three innovation-driven internalization indicators: gross domestic expenditure on R&D, the number of patents, and the global innovation index. The related hypotheses are as follows.

H2: *The gross domestic expenditure on R&D is positively related to aggregate market values.*

H3: *The number of patents is positively related to aggregate market values.*

H4: *The global innovation index is positively related to aggregate market values.*

3.1.2. Correlation Analysis between M&A Transactions and Aggregate Market Value

This study focuses on M&A activity among innovation-driven internalization efforts by companies. First, a two-sided *t*-test is conducted to examine the significance of the relationship between M&A activities and two financial values by the level of economic development. The economic development level is classified with developed and emerging markets. The links between M&A activities and two financial values of all publicly traded companies in 10 countries associated with two economies are examined to identify how the effects of M&A differ by country. In particular, the M&A values employed include the total number and transaction value of M&As in the last 10 years (2009–2018) in each country. For the aggregate market value for each country, the market capitalization (MC) and total enterprise value (TEV) of all publicly traded companies in each country are evaluated. To test the significance of the relationships (Hypothesis H1), the following null hypothesis is investigated:

$$H_0 : \rho = 0 \text{ vs. } H_1 : \rho \neq 0 \quad (1)$$

This study then re-examines the hypothesis by taking the time differences into consideration (from lag 0 to lag 3). The values of M&A and the aggregate market and its overall impacts can appear with time differences. Thus, the additional analysis is recommended to address the timeliness of M&A activities coming into effect before the market observes the actual convergence [32]. Through additional investigations, this study aims to analyze the impact of M&As on the economic performance of each country, and to propose a time-sensitive strategic investment decision.

3.1.3. Selection of Primary Variables

This study is primarily interested in understanding the pattern in the relationship between M&A transactions and their financial outcomes from the dual perspectives of developed and emerging markets. In addition to M&A activities (the number and value of each transaction), various internalization indicators of innovation activities are included:

gross domestic expenditure on R&D (GERD) as a percentage of the gross domestic product (GDP) for the degree of the market's expenditure on R&D; the number of patents for the market's performance of innovation outcomes; and the global innovation index (GII), representing an annual ranking of countries by their capacity and success in innovation, published by the World Intellectual Property Organization.

Another economic variable related to the aggregate market value can be considered. It is well known that M&A is closely related to employment, and a number of previous studies explored the potential benefits of M&A activities on employment [33–35]. On the contrary, M&A activities produce the potential drawbacks in terms of employment and employee morale, which can in turn affect the company's financial performance and overall market value [36]. Given the objective of this study on exploring the innovation-driven internalization strategies and their outcome variables, this study focuses on the five innovation-related variables in model (2).

Given the correlation analysis results, a regression analysis is conducted to identify key variables in the stock market value for two groups of markets: developed and emerging markets. This paper examines whether M&A and innovation activities have significant linear effects on the stock market value (MC or TEV) in developed and emerging markets (Hypothesis H1, H2, H3, and H4). MC and TEV are investigated as the aggregate stock market value indicators to consider for firms' assets and debts simultaneously. Other market value indicators, such as the price-to-earnings ratio (PER), are excluded to remain within the study's scope in understanding the innovation pattern and its outcome in terms of the aggregate market value among developed and emerging markets.

For this, the following OLS regression model is used:

$$Y_t = \alpha + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \beta_4 X_{4t} + \beta_5 X_{5t} + \text{Country FE} + \text{Year FE} + \varepsilon_t \quad (2)$$

where dependent variable (Y_t) is the market capitalization (MC) or total enterprise value (TEV) of developed markets and emerging markets. The five regressors are the number of M&A (X_{1t}), the M&A transaction value (X_{2t}), the proportion of GERD to GDP (X_{3t}), the number of patents (X_{4t}), and the GII (X_{5t}) of developed markets and emerging markets. Country FE and Year FE are included to control the fixed country effect and fixed year effect, and to ensure the reliability of the results after excluding the fixed country effect and fixed time effect.

Once significant variables of M&A and innovation activities are selected by the regression analysis, the Granger (1969) causality test is conducted to evaluate the existence of causality from M&A or innovation activities to MC or TEV in developed and emerging markets (Hypothesis H1, H2, H3, and H4). To test simple causality from x to y , it is examined whether the lagged values of x in the regression of y on lagged values of x and y significantly reduce the error variance. For each cross-section variable i and time period t , the following model is used:

$$y_{i,t} = \sum_{k=1}^p \beta_k y_{i,t-k} + \sum_{k=0}^p \theta_k x_{i,t-k} + u_{i,t} \quad (3)$$

where u is normally distributed with $u_{i,t} = \alpha_i + \varepsilon_{i,t}$, p is the number of lags, and $\varepsilon_{i,t}$ are *i.i.d.* ($0, \sigma^2$). A Wald test is applied to test the null hypothesis, $H_0 : \theta_0 = \theta_1 = \dots = \theta_p = 0$.

3.2. Data and Summary Statistics

Using data from the S&P Capital IQ platform database, this study obtains the quarterly number and transaction value of M&As in 10 countries from 2009 to 2018. This study selects five developed markets in Canada, France, Germany, UK, and the USA, as well as the five emerging markets in BRICS, i.e., Brazil, Russia, India, China, and South Africa. This study collects the quarterly data of two financial values including the market capitalization (MC) and total enterprise value (TEV) of all publicly traded companies in each country. Using the S&P database, the frequency and the values of M&A are extracted for each country. Then two financial figures are summarized on country levels with the removal

of the outlier effect from the analysis. The total M&A transaction values are estimated based on the multiplication of the M&A numbers and the averaged M&A transaction values. Similar approaches are applied to the MC and TEV of the firms in each country (i.e., multiplication of average value and the number of firms). Table 1 summarizes the sample distribution of the number and transaction value of M&As by country ζ_i ($i = 1$: Canada; 2: France; 3: Germany; 4: UK; 5: USA; 6: Brazil; 7: China; 8: India; 9: Russia; 10: South Africa).

Table 1. Sample distribution.

Panel A: Number of M&As by Country ζ_i *.										
Year	ζ_1	ζ_2	ζ_3	ζ_4	ζ_5	ζ_6	ζ_7	ζ_8	ζ_9	ζ_{10}
2009	739	213	202	339	1604	72	495	231	171	98
2010	958	268	173	425	2226	97	727	375	188	100
2011	999	290	222	475	2362	132	763	311	190	76
2012	813	263	198	422	2202	105	695	247	156	78
2013	721	237	168	469	2235	71	832	213	123	108
2014	864	242	233	491	2558	39	1155	253	98	89
2015	779	267	237	586	2408	59	1527	267	77	102
2016	1002	306	238	515	2167	53	1261	313	81	97
2017	1391	353	232	523	2346	69	1101	310	72	101
2018	1463	327	253	515	2585	84	960	329	74	60
Average	973	277	216	476	2269	78	952	285	123	91
Standard Deviation	260	43	29	68	274	27	310	51	49	15
Panel B: Transaction value of M&A by country ζ_i *(USD Million).										
Year	ζ_1	ζ_2	ζ_3	ζ_4	ζ_5	ζ_6	ζ_7	ζ_8	ζ_9	ζ_{10}
2009	5958	6300	6120	4517	27,475	5076	10,728	1893	5404	405
2010	10,855	8861	6554	9429	40,864	7525	17,235	2634	1160	1469
2011	15,372	7436	7052	8015	51,663	5123	10,966	1747	1041	703
2012	12,256	6164	9328	7987	50,761	5337	13,337	2173	1049	667
2013	6214	6009	5538	9244	54,763	2098	21,311	1456	4763	1135
2014	14,086	7127	8192	9895	72,150	1258	26,800	2598	1969	897
2015	8438	1814	10,749	13,008	55,231	4044	34,956	2356	1430	774
2016	7809	15,175	10,017	12,574	57,313	3392	36,791	2748	3755	784
2017	11,058	12,693	12,660	20,936	62,086	3779	31,277	3825	1304	1597
2018	9717	16,748	14,822	19,122	71,786	3299	20,710	2825	1660	829
Average	10,176	8833	9103	11,473	54,409	4093	22,411	2426	2354	926
Standard Deviation	3166	4636	3020	5118	13,394	1783	9677	670	1650	370

* $i = 1$: Canada; 2: France; 3: Germany; 4: UK; 5: USA; 6: Brazil; 7: China; 8: India; 9: Russia; 10: South Africa.

The sample distribution of the number of M&As by country and year is reported in Panel A. The average number of M&As across the 10 countries ranges from 78 in Brazil to 2269 in the USA per year. Panel B reports the sample distribution of the transaction values of M&As by country and year. The average transaction values across the 10 countries range from USD 926 million in South Africa to USD 54,409 million in the USA per year. Overall, two main initial observations can be made: the frequency of M&A activities differs between developed and emerging markets; and the degree of impact between M&A activities and financial performance may differ on a country level considering the variability of M&A activities.

3.3. Empirical Results

3.3.1. Results of Correlation Analysis

Tables 2 and 3 present the results analyses by country from two different panels: (A) M&A numbers, and (B) M&A transaction values. By considering three instances of time lags (totaling four time periods, lag 0, 1, 2, and 3), a total of 16 correlations are observed for

each country. The general correlational pattern with the data shows that: (i) most of the countries except for Russia denote a significant correlation between M&A activities and financial outcomes; and (ii) there exists a potential pattern among emerging and developed markets. For example, while developed markets such as Canada, France, Germany, UK, and the USA show an average of 13 ± 3 correlated relationships, emerging markets such as Brazil, China, India, Russia, and South Africa show an average of 8 ± 5 correlated relationships with a p -value less than 0.05. Notably, Germany, UK, the USA, and China show a total of 16 positive relationships between M&A activities and financial performance across all time-lag periods; Canada, Brazil, India, and Russia show fewer than 10 positive correlated relationships ranging from 0 to 8 among the observed relationships.

By understanding the M&A experience and its effect on developed markets, other emerging markets that share a similar expectation of market growth can benefit, especially with regard to the internalization strategy. Therefore, this study observes the M&A activities and their trends from the dual perspectives of developed markets and emerging markets. This aligns with previous studies' recommendations on benchmarking from the experience of reforming countries as a significant research avenue [37,38].

3.3.2. Results of Regression Analysis and the Granger Causality Test

The results of the regression analysis for developed and emerging markets are reported in Table 4, where it can be seen that the number of M&A and M&A transaction values are significantly related to the stock market and enterprise value (MC and TEV) in developed markets. Interestingly, however, the M&A frequency is found to decrease MC and TEV, whereas the transaction value of M&A increases them. This result implies that the M&A frequency and transaction value adversely affect MC and TEV in developed markets. In contrast, only the M&A transaction value is found to be positively significantly correlated to MC and TEV in emerging markets. The M&A frequency is not found to be significant for MC and TEV in emerging markets. It is interesting to note that the proportion of R&D expenditures to GDP (GERD/GDP) is found to be negatively significantly correlated to MC and TEV in developed markets, whereas those in emerging markets are not found to be significant. The number of patents is found to play a positive role in MC and TEV in both developed and emerging markets, whereas GII is not significantly related to MC and TEV in developed and emerging markets.

Table 4 reports the estimated coefficients with corresponding p -values of the OLS regression model $Y_t = \alpha + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \beta_4 X_{4t} + \beta_5 X_{5t} + \text{Country FE} + \text{Year FE} + \varepsilon_t$ where the dependent variable (Y_t) is the market capitalization (MC) or total enterprise value (TEV) of developed markets and emerging markets. The five regressors are the number of M&A (X_{1t}), the M&A transaction value (X_{2t}), the proportion of GERD to GDP (X_{3t}), the number of patents (X_{4t}), and the GII (X_{5t}) of developed markets and emerging markets. The levels of significance are indicated by * and ** for 5% and 1%, respectively.

For the identification of directional causality from M&A or innovation activities to MC and TEV in developed and emerging markets, the Granger (1969) causality test is used. Since GII is not found to be significantly related to MC and TEV in developed and emerging markets, it is excluded from the Granger causality test. Table 5 shows the Wald test statistics and corresponding p -values for testing the unidirectional causal relation at lags 1, 2, and 3 between M&A or innovation variables and MC or TEV in developed and emerging markets.

The results of the causality test in developed markets in Panel A show that causality between the selected variables is more significant with two or three lags than one lag in model (3). The causation is determined from the number of M&A to MC and TEV at a 5% significance level at two lags. This study also determines the causation from the M&A transaction value (number of patents) to MC and TEV at a 1% significance level at two and three lags. The proportion of R&D expenditures to GDP (GERD/GDP) is not found to cause MC or TEV. In particular, causality from the number of patents to TEV is found to be significant at a 1% level at one, two, and three lags.

Table 2. Results of correlation analysis for developed markets.

		Lag 0			Lag 1			Lag2			Lag3		
		Correlation	t-Statistics	p-Value	Correlation	t-Statistics	p-Value	Correlation	t-Statistics	p-Value	Correlation	t-Statistics	p-Value
Panel A: Number of M&A and two financial values													
Canada	MC	0.7358	6.6977	0.0000	0.5588	4.0989	0.0002	0.4536	3.0541	0.0042	0.4079	2.6432	0.0122
	TEV	0.6495	5.2652	0.0000	0.3731	2.4458	0.0193	0.2862	1.7923	0.0815	0.2445	1.4914	0.1448
France	MC	0.3911	2.6199	0.0126	0.5541	4.0492	0.0003	0.4786	3.2703	0.0024	0.4467	2.9540	0.0056
	TEV	0.4033	2.7172	0.0099	0.5369	3.8712	0.0004	0.4202	2.7787	0.0086	0.4146	2.6955	0.0107
Germany	MC	0.6249	4.9338	0.0000	0.6426	5.1014	0.0000	0.6776	5.5278	0.0000	0.6973	5.7559	0.0000
	TEV	0.5857	4.4549	0.0001	0.5886	4.4290	0.0001	0.6268	4.8268	0.0000	0.6505	5.0663	0.0000
United Kingdom	MC	0.4928	3.4913	0.0012	0.4920	3.4373	0.0015	0.5021	3.4839	0.0013	0.5228	3.6279	0.0009
	TEV	0.4877	3.4435	0.0014	0.4893	3.4132	0.0016	0.4996	3.4608	0.0014	0.5261	3.6598	0.0008
USA	MC	0.6358	5.0785	0.0000	0.6783	5.6145	0.0000	0.7028	5.9283	0.0000	0.6911	5.6567	0.0000
	TEV	0.5246	3.7981	0.0005	0.5445	3.9490	0.0003	0.5693	4.1544	0.0002	0.5922	4.3482	0.0001
Panel B: Transaction value of M&A and two financial values													
Canada	MC	0.2387	1.5154	0.1379	0.0483	0.2941	0.7703	-0.1348	-0.8160	0.4198	-0.2476	-1.5121	0.1395
	TEV	0.1659	1.0370	0.3063	-0.0557	-0.3396	0.7361	-0.2206	-1.3569	0.1833	-0.3264	-2.0429	0.0487
France	MC	0.4948	3.5095	0.0012	0.3787	2.4887	0.0174	0.2713	1.6914	0.0994	0.3800	2.4303	0.0204
	TEV	0.3839	2.5626	0.0145	0.2714	1.7155	0.0946	0.1878	1.1475	0.2588	0.3395	2.1354	0.0398
Germany	MC	0.4731	3.3103	0.0020	0.4130	2.7582	0.0090	0.3598	2.3141	0.0265	0.3790	2.4226	0.0207
	TEV	0.4837	3.4069	0.0016	0.4032	2.6799	0.0109	0.3373	2.1498	0.0384	0.3761	2.4016	0.0218
United Kingdom	MC	0.7598	7.2051	0.0000	0.7377	6.6463	0.0000	0.7090	6.0328	0.0000	0.6616	5.2201	0.0000
	TEV	0.7607	7.2253	0.0000	0.7383	6.6577	0.0000	0.7063	5.9863	0.0000	0.6600	5.1971	0.0000
USA	MC	0.7025	6.0851	0.0000	0.7100	6.1329	0.0000	0.6827	5.6057	0.0000	0.6675	5.3041	0.0000
	TEV	0.8551	10.1674	0.0000	0.8504	9.8311	0.0000	0.8306	8.9486	0.0000	0.8076	8.1016	0.0000

Bold figures in *p*-value column indicate a significant correlation at the 5% significance level.

Table 3. Results of correlation analysis for emerging markets.

		Lag 0			Lag 1			Lag2			Lag3		
		Correlation	t–Statistics	p–Value	Correlation	t–Statistics	p–Value	Correlation	t–Statistics	p–Value	Correlation	t–Statistics	p–Value
Panel A: Number of M&A and two financial values													
Brazil	MC	0.0992	0.6142	0.5427	−0.0872	−0.5327	0.5974	−0.2719	−1.6950	0.0987	−0.3334	−2.0922	0.0437
	TEV	0.3180	2.0680	0.0455	0.1648	1.0160	0.3162	0.0087	0.0522	0.9586	−0.0287	−0.1696	0.8663
China	MC	0.8215	8.8825	0.0000	0.7983	8.0614	0.0000	0.8215	8.6443	0.0000	0.7176	6.0961	0.0000
	TEV	0.8310	9.2091	0.0000	0.7963	8.0070	0.0000	0.8170	8.4995	0.0000	0.7099	5.9634	0.0000
India	MC	0.6545	5.3365	0.0000	0.6426	5.1021	0.0000	0.5936	4.4252	0.0001	0.6109	4.5644	0.0001
	TEV	0.7270	6.5263	0.0000	0.7062	6.0666	0.0000	0.6701	5.4159	0.0000	0.6677	5.3065	0.0000
Russia	MC	0.1229	0.7633	0.4500	0.0215	0.1306	0.8968	−0.0427	−0.2563	0.7992	−0.0590	−0.3496	0.7287
	TEV	0.0609	0.3764	0.7087	−0.0207	−0.1261	0.9003	−0.0685	−0.4118	0.6829	−0.0858	−0.5098	0.6134
South Africa	MC	0.5703	4.2795	0.0001	0.5715	4.2360	0.0001	0.5539	3.9919	0.0003	0.5304	3.7015	0.0007
	TEV	0.5701	4.2779	0.0001	0.5755	4.2801	0.0001	0.5942	4.4325	0.0001	0.6371	4.8898	0.0000
Panel B: Transaction value of M&A and two financial values													
Brazil	MC	0.2345	1.4869	0.1453	0.3474	2.2535	0.0302	0.4330	2.8821	0.0066	0.4479	2.9639	0.0054
	TEV	0.0468	0.2887	0.7744	0.1697	1.0475	0.3016	0.2763	1.7248	0.0931	0.3011	1.8681	0.0701
China	MC	0.5506	4.0654	0.0002	0.5729	4.2519	0.0001	0.4829	3.3086	0.0021	0.5326	3.7233	0.0007
	TEV	0.5704	4.2814	0.0001	0.5807	4.3393	0.0001	0.5004	3.4682	0.0014	0.5461	3.8569	0.0005
India	MC	−0.0348	−0.2146	0.8312	−0.1854	−1.1479	0.2584	−0.1736	−1.0578	0.2972	−0.1275	−0.7602	0.4522
	TEV	−0.0125	−0.0772	0.9389	−0.1412	−0.8678	0.3911	−0.1574	−0.9565	0.3452	−0.0968	−0.5755	0.5686
Russia	MC	0.1359	0.8453	0.4032	−0.0177	−0.1076	0.9149	0.1753	1.0686	0.2924	−0.0911	−0.5415	0.5916
	TEV	0.1557	0.9717	0.3373	−0.0332	−0.2023	0.8408	0.1845	1.1265	0.2674	−0.0880	−0.5224	0.6047
South Africa	MC	0.5438	3.9950	0.0003	0.5278	3.7798	0.0006	0.3557	2.2835	0.0284	0.3000	1.8607	0.0712
	TEV	0.5366	3.9198	0.0004	0.5007	3.5186	0.0012	0.3853	2.5051	0.0169	0.3233	2.0215	0.0509

Bold figures in *p*-value column indicate significant correlation at the 5% significance level.

Table 4. Results of regression analysis for developed and emerging markets.

Panel A: Results of Developed Markets.				
Coefficient estimates (<i>p</i> -value)	Dependent variable			
	Market capitalization (MC)	Total enterprise value (TEV)	Market capitalization (MC)	Total enterprise value (TEV)
$\hat{\alpha}$	331858 (0.1365)	134875 (0.1112)	370585 (0.1540)	154817 (0.1441)
$\hat{\beta}_1$	−457 (<0.0001) **	−1089 (<0.0001) **	−393.84 (<0.0001) **	−1461.13 (<0.0001) **
$\hat{\beta}_2$	10.58 (<0.0001) **	24.08 (0.0173) *	20.41 (<0.0001) **	21.51 (<0.0001) **
$\hat{\beta}_3$	−230,856 (<0.0001) **	−521,342 (0.0080) **	−170,175 (<0.0001) **	−207,253 (<0.0001) **
$\hat{\beta}_4$	9.26 (<0.0001) **	32.02 (<0.0001) **	9.77 (<0.0001) **	36.27 (<0.0001) **
$\hat{\beta}_5$	5709.74 (0.1703)	23,874.62 (0.1579)	5986.68 (0.2096)	36,316.08 (0.1401)
Country FE	YES	YES	YES	YES
Year FE			YES	YES
Adj R^2	0.9869	0.9725	0.9872	0.9748
Panel B: Results of emerging markets.				
Coefficient estimates (<i>p</i> -value)	Dependent variable			
	Market capitalization (MC)	Total enterprise value (TEV)	Market capitalization (MC)	Total enterprise value (TEV)
$\hat{\alpha}$	−140,715 (0.7540)	−630,587 (0.2649)	−223,816 (0.1299)	−289,867 (0.2965)
$\hat{\beta}_1$	980.03 (0.2110)	1045.80 (0.1183)	1132.73 (0.1102)	1279.55 (0.1083)
$\hat{\beta}_2$	63.07 (<0.0001) **	69.83 (<0.0001) **	49.71 (<0.0001) **	52.66 (<0.0001) **
$\hat{\beta}_3$	−181,407 (0.5902)	309,501 (0.4631)	−642,246 (0.1712)	−273,387 (0.4998)
$\hat{\beta}_4$	2.55 (0.0013) **	2.27 (0.0083) **	5.05 (<0.0001) **	5.85 (<0.0001) **
$\hat{\beta}_5$	5240.68 (0.3449)	5168.32 (0.4553)	−30,882.6 (0.1249)	−31,264.9 (0.1553)
Country FE	YES	YES	YES	YES
Year FE			YES	YES
Adj R^2	0.9811	0.9748	0.9832	0.9801

On the contrary, this study cannot find causality from the number of patents to MC and TEV in emerging markets. Causation is established from the M&A transaction value to MC and TEV at a 1% significance level at one, two, and three lags. Causality, as with the results in developed markets, is determined from the number of M&A to MC at a 5% significance level at two lags, whereas causality from the number of M&A to TEV is found at one, two, and three lags. In emerging markets, causality is not found from the GERD/GDP to MC or TEV.

Table 5. Results of the pairwise Granger causality test.

Panel A: Results of Developed Markets.						
Direction of causality	Lag 1		Lag 2		Lag 3	
	Wald Test Statistics	<i>p</i> -Value	Wald Test Statistics	<i>p</i> -Value	Wald Test Statistics	<i>p</i> -Value
Number of M&A → MC	0.04	0.8393	7.00	0.0303 *	7.01	0.0715
M&A transaction value → MC	0.46	0.4991	15.76	0.0004 **	17.44	0.0006 **
GERD/GDP → MC	0.69	0.4052	3.01	0.2217	2.91	0.4063
Number of patents → MC	2.06	0.1515	12.10	0.0024 **	14.07	0.0028 **
Number of M&A → TEV	1.27	0.2589	6.63	0.0364 *	6.29	0.0982
M&A transaction value → TEV	1.22	0.2697	23.56	<0.0001 **	30.07	<0.0001 **
GERD/GDP → TEV	0.87	0.3506	2.79	0.2476	2.73	0.4350
Number of patents → TEV	13.76	0.0002 **	22.47	<0.0001 **	21.86	<0.0001 **

Table 5. Cont.

Panel B: Results of emerging markets.						
Direction of causality	Lag 1		Lag 2		Lag 3	
	Wald Test Statistics	p-Value	Wald Test Statistics	p-Value	Wald Test Statistics	p-Value
Number of M&A → MC	5.24	0.0221	6.29	0.0430 *	7.39	0.0604
M&A transaction value → MC	12.72	0.0004 **	13.05	0.0015 **	15.25	0.0016 **
GERD/GDP → MC	0.15	0.7024	0.32	0.8508	0.27	0.9653
Number of patents → MC	5.00	0.0553	4.73	0.0940	6.66	0.0835
Number of M&A → TEV	6.55	0.0105 *	7.77	0.0205 *	8.76	0.0327 *
M&A transaction value → TEV	17.46	<0.0001 **	18.45	<0.0001 **	19.57	0.0002 **
GERD/GDP → TEV	0.52	0.4727	1.81	0.4048	1.50	0.6812
Number of patents → TEV	2.36	0.1245	1.26	0.5318	2.81	0.4226

Table 5 shows the Wald test statistics and corresponding *p*-values for testing the unidirectional causal relation at lag 1, 2, and 3 between M&A or innovation variables and MC or TEV in developed and emerging markets. The estimated model is $y_{i,t} = \sum_{k=1}^p \beta_k y_{i,t-k} + \sum_{k=0}^p \theta_k x_{i,t-k} + u_{i,t}$ and the null hypothesis is $H_0 : \theta_0 = \theta_1 = \dots = \theta_p = 0$. The levels of significance are indicated by * and ** for 5% and 1%, respectively.

4. Discussion

With the increasing importance of M&A in foreign direct investments (FDI), this study focuses on the contingent effects of M&A activities according to major countries' economic levels divided into developed and emerging markets. This study presents the following three theoretical and managerial insights: (i) the practicality of including M&A activities as a key variable in predicting the economic performance at a country level; (ii) the strategic guideline for investment planning with the time nature of convergence as a consideration; and (iii) the overall understanding of the relationship between M&A activities and two financial values at a country level from varying economic and time-lag perspectives.

4.1. Managerial Benefit of Including M&A Activities as Variables Affecting the Country's Economic Performance

While there are many relatively well-established and verified methodologies for measuring M&A performance at the firm level, there exist relatively few empirical studies employing a comparative approach to analyzing M&A outcomes and effects on the economy or the market level [25,39].

As a contribution to the existing literature on the significance of M&A activities in improving financial performance at the firm level, this study reveals that M&A activities have primarily made a positive contribution to country-level financial performance. This paper presents analysis results that run contrary to previous studies [21,40,41] that show little evidence that M&A activities lead to economic growth.

However, the findings do not provide clear and consistent results or a rationale for distinguishing the two markets clearly. It is inferred that the reasons for this rather unclear analysis result are due to the dynamics of M&A transactions, the imperfection of the current M&A databases, and the lack of reflection of influential exogenous variables. To derive more accurate results, securing data without loss is a prerequisite. A methodology that can control the exogenous variables that may confuse the correlation analysis results between M&A activities and economic performance should be developed.

4.2. Strategic Investment Planning Based on Market-Specific Insights

In terms of the research setting, the economic effects of M&A transactions by companies from 10 major countries classified as developed and emerging markets from 2009 to 2018 were scrutinized. For the analysis, five developed markets—Canada, France, Germany,

UK, and the USA—and five emerging markets—Brazil, China, India, Russia, and South Africa—were selected, and the two markets' characteristics were compared. Comparative studies have been suggested as a useful approach to test or generalize findings and develop theories that can be generalized to different market types [26].

The analysis results suggest that M&A activities usually significantly impact the financial performance for both developed and emerging markets. Indeed, the extent to which each variable describing the M&A transactions and innovation activity affects each market segment's financial performance is slightly different. The somewhat mixed research results may be due to the dynamic nature of the M&A transaction itself. As mentioned above, it is believed to be due to data source limitations and methodological challenges. In the following section, the most important findings of this paper's regression analysis are highlighted.

In developed markets, both the number of M&A transactions and the value of M&A transactions are found to have a significant effect on the stock market (MC) and enterprise value (TEV). On the other hand, in emerging markets, only the M&A transaction value has a significant effect on MC and TEV. It is interesting to note that the proportion of R&D expenditures to GDP (GERD/GDP) and the number of patents is significantly correlated to MC and TEV in developed markets. In contrast, only the number of patents is found to play a positive role in MC and TEV in emerging markets. These results imply that the M&A logic is generally supported in the settings of developed markets and, to a large extent, in the setting of emerging markets. In addition, the findings show that the adopted analytical model is mostly supported in developed markets and is partially supported in emerging markets.

Therefore, strategic investors need to understand the current status of research activities and technological innovation, as well as the economic level of the country in determining M&A activities.

4.3. Strategic Investment Planning Based on Time-Lag-Specific Insights

Previous research on the role of M&A activities and their strategic management process for desirable financial performance is still at an initial stage [42]. Our study goes beyond simply examining the relationship between M&A activities and financial performance at the country level and analyzes M&A activities' impact on financial performance over the time lag by conducting the Granger causality test. This is based on the logic that M&A transactions affect not only the affiliated companies but also related industries and the surrounding economy after a certain period of time. By comparing the causality from lagged variables of M&A or innovation activities to financial value, the overall trend of those variables' impact on the financial outcome at the country level can be delineated.

As shown in Table 5, the results of the causality test for M&A activities are similar for both developed and emerging markets, with some time-lag differences depending on variables. The causation is found from M&A activities to aggregate market value after a certain time lag in both the developed and emerging markets. On the other hand, the findings on the causality from technology innovation activities to each country's financial performance show contradictory results between the two markets. In developed markets, a significant causality from the number of patents to market values is found. In contrast, there is no causal relationship between the number of patents and market values in emerging markets.

These results offer practical implications to strategic investors who need to understand the time-lag perspective of the relationship between M&A activities and two financial values according to the economic level of the corresponding countries. They also support forward-looking investment processes by delineating strategic investment planning based on time-lag-specific insights.

5. Conclusions

We generally recognize that M&A transactions have contributed positively to the economic growth of the company and its country. Given the lack of research on the

relationship between M&A transactions and aggregate market values, this study examines whether M&A activities contribute to economic performance at the country level. It explores the statistical relationship of M&A with financial performance at the country level over the last ten years (2009–2018) by categorizing 10 countries according to their level of economic development. This study provides insights into the comprehensive review of the consequences of M&A and suggests strategic investment planning that takes into account both country and time-lag perspectives.

In sum, this study finds that M&A activities have a significant impact on financial performance in both developed and emerging markets. Furthermore, it shows that the effect of innovation factors on economic performance differs between developed and emerging markets. Hence, the emerging markets can learn from the evidence of the varying impact of innovation activities on the financial performance of the developed markets.

This study contributes to the literature of innovation and internalization strategies by conducting systematic research on the effect of various internalization indicators of M&A and innovation activities on economic growth through a comparative analysis between developed and emerging countries. It provides location and time-selection strategies for multinational firms seeking cross-border M&A opportunities as part of an internalization strategy for sustainable growth. Empirical results in this study can offer important implications for strategic investors, which can lead to strategic investment planning based on market-specific and time-lag-specific insights. In addition, by comparing the relationship between M&A activities and country-level financial performances, the overall trends in promising countries can be delineated. Such information can enable innovation policy makers as well as strategic investors in selecting appropriate countries to cultivate and invest in for a positive financial outcome.

However, this study has potential limitations that can be regarded as future research issues. First, this study evaluates whether it is a developed market or an emerging market being examined based only on the financial impact of M&A activities. More meaningful results can be obtained by further segmenting the two markets or further analyzing the correlation for each country. Second, this study does not include the necessary control variables due to a lack of related data. Future researchers are recommended to include the necessary control variables and utilize aggregate values of instrumental variables to alleviate potential endogeneity concerns. While this study conducts a Granger causality test with innovation activity variables and market values, further inclusion of aggregate values would address the presence of potential endogeneity. Lastly, only M&A and innovation activities and financial performance figures are used as analysis data in this study. If an analysis were to reflect the country's political and economic situation and even the global economic crisis in the target period as exogenous variables, more meaningful analysis results could be derived.

Author Contributions: Conceptualization, J.C., H.S.L. and N.S.; resources and data curation, J.C.; methodology, software, analysis, validation, and investigation, J.C. and H.S.L.; writing—original draft preparation, review and editing, J.C., H.S.L. and N.S.; visualization, H.S.L. and N.S.; supervision, project administration, and funding acquisition, J.C. All authors have read and agreed to the published version of the manuscript.

Funding: This research was supported by the Ministry of Education of the Republic of Korea and the National Research Foundation of Korea (NRF-2019S1A5A2A03049194).

Data Availability Statement: Restrictions apply to the availability of these data. Data was obtained from S&P Capital IQ Platform and are available with the permission of the platform.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Meglio, O.; Risberg, A. The (mis)measurement of M&A performance—A systematic narrative literature review. *Scand. J. Manag.* **2011**, *27*, 418–433. [\[CrossRef\]](#)
2. Yaghoubi, R.; Yaghoubi, M.; Locke, S.; Gibb, J. Mergers and acquisitions: A review. Part 1. *Stud. Econ. Financ.* **2016**, *33*, 147–188. [\[CrossRef\]](#)
3. Szücs, F. M&A and R&D: Asymmetric Effects on acquirers and targets? *Res. Policy* **2014**, *43*, 1264–1273. [\[CrossRef\]](#)
4. Brahma, S.; Boateng, A.; Ahmad, S. Motives of mergers and acquisitions in the European public utilities: An Empirical Investigation of the Wealth-Anomaly. *Int. J. Public Sect. Manag.* **2018**, *31*, 599–616. [\[CrossRef\]](#)
5. Bonardo, D.; Paleari, S.; Vismara, S. *The M&A Dynamics of European Science-Based Entrepreneurial Firms*; University of Bergamo: Bergamo, Italy, 2010; Volume 35, ISBN 1096100991.
6. Kleineick, J.; Ascani, A.; Smit, M. Multinational investments across Europe: A multilevel analysis. *Rev. Reg. Res.* **2020**, *40*, 67–105. [\[CrossRef\]](#)
7. Brueller, N.N.; Carmeli, A.; Markman, G.D. Linking Merger and Acquisition Strategies to Postmerger Integration: A Configurational Perspective of Human Resource Management. *J. Manag.* **2018**, *44*, 1793–1818. [\[CrossRef\]](#)
8. Guadalupe, M.; Kuzmina, O.; Thomas, C. Innovation and Foreign Ownership. *Am. Econ. Rev.* **2012**, *102*, 3594–3627. [\[CrossRef\]](#)
9. Head, K.; Mayer, T. Market Potential and the Location of Japanese Investment in the European Union. *Rev. Econ. Stat.* **2004**, *86*, 959–972. [\[CrossRef\]](#)
10. Ascani, A.; Iammarino, S. Multinational enterprises, service outsourcing and regional structural change. *Camb. J. Econ.* **2018**, *42*, 1585–1611. [\[CrossRef\]](#)
11. Vanhaverbeke, W.; Duysters, G.; Noorderhaven, N. External Technology Sourcing Through Alliances or Acquisitions: An Analysis of the Application-Specific Integrated Circuits Industry. *Organ. Sci.* **2002**, *13*, 714–733. [\[CrossRef\]](#)
12. Cassiman, B.; Veugelers, R. In Search of Complementarity in Innovation Strategy: Internal R&D and External Knowledge Acquisition. *Manag. Sci.* **2006**, *52*, 68–82. [\[CrossRef\]](#)
13. Miozzo, M.; DiVito, L.; Desyllas, P. When do Acquirers Invest in the R&D Assets of Acquired Science-based Firms in Cross-border Acquisitions? The Role of Technology and Capabilities Similarity and Complementarity. *Long Range Plan.* **2016**, *49*, 221–240. [\[CrossRef\]](#)
14. Park, B.I.; Roh, T. Chinese multinationals' FDI motivations: Suggestion for a new theory. *Int. J. Emerg. Mark.* **2019**, *14*, 70–90. [\[CrossRef\]](#)
15. Rahman, M.; Lambkin, M. Creating or destroying value through mergers and acquisitions: A marketing perspective. *Ind. Mark. Manag.* **2015**, *46*, 24–35. [\[CrossRef\]](#)
16. Laabs, J.-P.; Schiereck, D. The long-term success of M&A in the automotive supply industry: Determinants of capital market performance. *J. Econ. Financ.* **2008**, *34*, 61–88. [\[CrossRef\]](#)
17. Zhang, W.; Wang, K.; Li, L.; Chen, Y.; Wang, X. The impact of firms' mergers and acquisitions on their performance in emerging economies. *Technol. Forecast. Soc. Chang.* **2018**, *135*, 208–216. [\[CrossRef\]](#)
18. Hagedoorn, J.; Duysters, G. The Effect of Mergers and Acquisitions on the Technological Performance of Companies in a High-tech Environment. *Technol. Anal. Strat. Manag.* **2002**, *14*, 67–85. [\[CrossRef\]](#)
19. Bhagat, S.; Malhotra, S.; Zhu, P. Emerging country cross-border acquisitions: Characteristics, acquirer returns and cross-sectional determinants. *Emerg. Mark. Rev.* **2011**, *12*, 250–271. [\[CrossRef\]](#)
20. Bauer, F.; Matzler, K.; Wolf, S. M&A and innovation: The role of integration and cultural differences—A central European targets perspective. *Int. Bus. Rev.* **2016**, *25*, 76–86. [\[CrossRef\]](#)
21. Doytch, N.; Cakan, E. Growth Effects of Mergers and Acquisitions: A Sector-Level Study of OECD Countries. *J. Appl. Econ. Bus. Res.* **2011**, *1*, 120–129.
22. Christou, C.; Gupta, R. Forecasting equity premium in a panel of OECD countries: The role of economic policy uncertainty. *Q. Rev. Econ. Financ.* **2020**, *76*, 243–248. [\[CrossRef\]](#)
23. Nielsen, B.B.; Asmussen, C.G.; Weatherall, C.D. The location choice of foreign direct investments: Empirical evidence and methodological challenges. *J. World Bus.* **2017**, *52*, 62–82. [\[CrossRef\]](#)
24. Wilson, K.M.; Vencatachellum, D. Stock market performance and cross-border mergers and acquisitions in South Africa: 1991 to 2014. *Stud. Econ. Financ.* **2019**, *37*, 28–49. [\[CrossRef\]](#)
25. Kinatader, H.; Fabich, M.; Wagner, N. Domestic mergers and acquisitions in BRICS countries: Acquirers and targets. *Emerg. Mark. Rev.* **2017**, *32*, 190–199. [\[CrossRef\]](#)
26. Deng, P.; Yang, M. Cross-border mergers and acquisitions by emerging market firms: A comparative investigation. *Int. Bus. Rev.* **2015**, *24*, 157–172. [\[CrossRef\]](#)
27. Yılmaz, I.S.; Tanyeri, B. Global Merger and Acquisition (M&A) activity: 1992–2011. *Financ. Res. Lett.* **2016**, *17*, 110–117. [\[CrossRef\]](#)
28. Bertrand, O.; Zuniga, P. R&D and M&A: Are cross-border M&A different? An investigation on OECD countries. *Int. J. Ind. Organ.* **2006**, *24*, 401–423. [\[CrossRef\]](#)
29. Guillén, M.F.; García-Canal, E. The American Model of the Multinational Firm and the “New” Multinationals From Emerging Economies. *Acad. Manag. Perspect.* **2009**, *23*, 23–35. [\[CrossRef\]](#)
30. Entezarkheir, M.; Moshiri, S. Mergers and innovation: Evidence from a panel of US firms. *Econ. Innov. New Technol.* **2018**, *27*, 132–153. [\[CrossRef\]](#)

31. Xu, J. Growing through the merger and acquisition. *J. Econ. Dyn. Control* **2017**, *80*, 54–74. [[CrossRef](#)]
32. Choi, J.; Chung, S.; Chang, Y.S. Is M&A Information Useful for Exploring Promising Industries and Technologies? *Sustainability* **2020**, *12*, 10–13. [[CrossRef](#)]
33. Priyadarshi, A.; Pandey, A.; Singh, R.; Wadhawan, S. Impact of mergers & acquisitions on job satisfaction and employee productivity in Indian banking. *J. Inf. Organ. Sci.* **2022**, *43*, 1443–1452.
34. Kuvandikov, A.; Pendleton, A.; Higgins, D. The Effect of Mergers and Acquisitions on Employees: Wealth Transfer, Gain-Sharing or Pain-Sharing? *Br. J. Manag.* **2020**, *31*, 547–567. [[CrossRef](#)]
35. Siegel, D.; Simons, K. Assessing the Effects of Mergers and Acquisitions on Firm Performance, Plant Productivity, and Workers: New Evidence from Matched Employer-Employee Data. *Strateg. Manag. J.* **2010**, *31*, 903–916. [[CrossRef](#)]
36. Vidyakala, K. A Study on Effects of Merger and Acquisition on Employee Morale. *J. Chengdu Univ. Technol.* 2021. Available online: <https://ssrn.com/abstract=3949308> (accessed on 27 November 2022).
37. Lin, C.-Y.; Lee, H.-T. The Bigger the Better? Merger and Acquisition Performance of Financial Holding Corporations: Empirical Evidence from Taiwan. *Emerg. Mark. Financ. Trade* **2010**, *46*, 96–107. [[CrossRef](#)]
38. Zhu, J.; Tse, C.H.; Li, X. Unfolding China’s state-owned corporate empires and mitigating agency hazards: Effects of foreign investments and innovativeness. *J. World Bus.* **2019**, *54*, 191–212. [[CrossRef](#)]
39. Andriuskevicius, K. M&A performance and economic impact: Integration and critical assessment of methodological approach. *Trends Econ. Manag.* **2017**, *11*, 9. [[CrossRef](#)]
40. Nickell, S.J. Competition and Corporate Performance. *J. Political Econ.* **1996**, *104*, 724–746. [[CrossRef](#)]
41. Blundell, R.; Griffith, R.; Van Reenen, J. Dynamic Count Data Models of Technological Innovation. *Econ. J.* **1995**, *105*, 333–344. [[CrossRef](#)]
42. Choi, J.; Shin, N.; Lee, H.S. Exploring the Dynamics between M&A Activities and Industry-Level Performance. *Sustainability* **2020**, *12*, 4399. [[CrossRef](#)]

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