

# COMPARISON OF ENTERPRISE VALUE AND MARKET CAPITALISATION AND ITS IMPACT IN POST-ACQUISITION PERIOD - A CASE STUDY OF NOVELIS COMPANY ACQUIRED BY HINDALCO INDUSTRY LIMITED

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**Abstract:** Indian aluminium giant Hindalco acquired Atlanta-based company Novelis, a world leader in aluminium rolling and flat-rolled aluminium products, on 15 May 2007. This acquisition was done to gain immediate scale and a global footprint. Acquiring Novelis would also give Hindalco access to sheet mills that supplied can manufacturers and auto companies. Correlation test is done to analyse the relationship between enterprise value and market capitalisation. Statistical test and financial tool are used to prove there is no relationship between enterprise value and market capitalisation.

**Keywords:** Ratios, profitability, Merger and Acquisition and T-test.

## 1. INTRODUCTION:

(M&A) and corporate restructuring are a big part of the corporate finance world. Wall Street investment bankers routinely arrange M&A transactions, bringing separate companies together to form larger ones. A merger is a combination of two companies, an acquisition is where one company buys another. These actions often make the news. Deals can be worth billions of dollars. They can dictate the fortunes of the companies involved for years to come. For a CEO, leading an M&A can represent the highlight of a Mergers and acquisitions are increasingly becoming strategic choice for organizational growth and achievement of business goals including profit, empire building, market dominance and long-term survival. The ultimate goal of this strategic choice of inorganic growth is, however, maximization of shareholder value. The phenomenon of rising M&A activity is observed world over across various continents, although, it has commenced much earlier in developed countries (as early as 1895 in US and 1920s in Europe), and is relatively recent in developing countries. In India, the real impetus for growth in M&A activity had been the ushering of economic reforms introduced in the year 1991, following the financial crisis and subsequent implementation of structural adjustment programme under the aegis of International Monetary Fund (IMF). In recent times, though the pace of M&A has increased significantly in India too and varied forms of this inorganic growth strategy are visible across various economic sectors.

## 2. BACKGROUND OF THE CASE:

Hindalco Industries Ltd., an aluminium manufacturing company, is a subsidiary of the Aditya Birla Group. Its headquarters are at Mumbai, Maharashtra, India. It is the Flagship company of the company in the metals business. The company has annual sales of US\$ 15 billion and employs around 20,000 people. It is listed in the Forbes Global 2000 at 895th rank. Its market capitalisation by the end of May 2013 was US\$ 3.4 billion. Hindalco is one of the world's largest aluminium rolling companies and one of the biggest producers of primary aluminium in Asia.

The Hindustan Aluminium Corporation Limited was established in 1958 by the Aditya Birla Group. In 1962 the company began production in Renukoot in Uttar Pradesh making 20 thousand metric tons per year of aluminium metal and 40 thousand metric tons per year of alumina. In 1989 the company was restructured and renamed Hindalco.

Hindalco Industries Ltd. engages in the production and marketing of aluminium and copper products. The company operates its business through the following business segments: Aluminium, Copper and Others. The Aluminium segment provides hydrate and alumina, aluminium and aluminium products. The Copper segment produces continuous cast copper rods, copper cathode, sulfuric acid, dystrophin-associated protein and complexes, and gold and silver. The Others segment comprises of caustic and others. The company was founded by Ghanshyam Das Birla on December 15, 1958 and is headquartered in Mumbai, India. And it was through the vision and guidance of Mr Kumar Mangalam Birla, the Group Chairman that the business segments of aluminium and copper were consolidated to make Hindalco the non-ferrous metals powerhouse it is today. This was achieved in part by expansion through mergers and acquisitions with companies such as Indal and Birla Copper. Hindalco also secured copper reserves and amplified its operating base by acquiring Australian copper mines.

Over the years, Hindalco has grown into a major vertically integrated aluminium company in the country and among the largest primary producers of aluminium in Asia. Its copper smelter is today one of the world's largest custom smelter at a single location.

In 2007, the acquisition of Novelis Inc. a world leader in aluminium rolling and can recycling marked a significant milestone in the history of the aluminium industry in India. With Novelis under its fold Hindalco ranks among the global top five aluminium majors, as an integrated producer with low-cost alumina and aluminium facilities combined with high-end rolling capabilities and a global footprint in 12 countries outside India. Its combined turnover of US\$ 15 billion, places it in the Fortune 500 league.

- It was born in early 2005 as a result of a forced spin-off from its parent, the \$ 23.6-billion aluminium giant and Canada-based Alcan.
- The US and European anti-trust proceedings ruled that the rolled products business of either Alcan or Pechiney had to be divested from the merged entity.
- The company is No. 1 rolled products producer in Europe, South America and Asia, and the No. 2 producer in North America.
- This involved extensive operations in over 35 plants in 11 countries and four continents.
- Novelis is the world leader in aluminium rolling, producing an estimated 19 percent of the world's flat-rolled aluminium products.
- The company recycles more than 35 billion used beverage cans annually.
- Alcan cast out its rolled products business to form Novelis.

#### **Troubled Novelis:**

- It had a simple business model. It buys primary aluminium, processes it into rolled products like stock for soft drink cans, automotive parts, etc., and sells it to customers such as Coke and Ford.
- In a bid to win more business from soft drink manufacturers, it promised four customers not to increase product prices even if raw material aluminium prices went up beyond a point
- But the management's wrong judgement led to losses of \$350 million (in 2006).
- Inefficiency of the management and finance team.

#### **Strategic Perspective:**

- The merger of Novelis into Hindalco will establish a global integrated aluminium producer with low-cost alumina and aluminium production facilities combined with high -end aluminium rolled product capabilities.
- After merger Hindalco will emerge as the biggest rolled aluminium products maker and fifth -largest integrated aluminium manufacturer in the world.
- Immediate global reach and scale along with technological expertise.
- Access to customers such as General Motors Corp. and Coca-Cola.
- Downstream business derives its margin through conversion mark-up, should act as a natural hedge for LME-driven, volatile, upstream commodity business.
- Industry leading technology, assets and expertise can be leveraged to grow high-value-added, flat rolled products in fast-growing markets such as India and China

#### **Financial fit:**

- Rounds of negotiation went for 18 months before the deal was finalized
- Acquisition needs the approval of at least two thirds of Novelis' shareholders
- A day after the deal was announced, the Hindalco share plunged 13.74 percent

#### **Novelis Financials: Pre-acquisition**

- After spinoff (Alcan and Pechiney) Novelis inherited a debt mountain of almost \$2.9 billion on a capital base of less than \$500 million.
- On a net worth of \$322 million, Novelis has a debt of \$2.33 billion (most of it high cost).
- Debt/Equity =7.23:1
- Novelis made a loss of \$170 million for the first nine months of 2006 and it could take a while to turn the company around
- Novelis for the first nine months of 2006, had a loss of \$170 million (Rs 765 crore) on revenues of \$7.4 billion (Rs 33,300 crore).

#### **Hindalco Health: Pre-Acquisition**

Debt to Equity Ratio almost Zero.

#### **Deal structure**

Divided into 2 parts

1)100% of Novelis equity @44.93\$ per share which add up to \$3.6b

2) \$2.4b debt on Novelis balance sheet

No Option of Leverage buyout unlike TATA Corus

## FUNDING A MEGA-DEAL: 2007

\$2.4 billion will be raised on the balance sheet of Novelis

- AV Minerals (Netherlands) a indirect subsidiary of Hindalco raised bridge loans of \$2.13 billion [CR @ 7.2%] & 900 million

Hindalco raised a debt of \$2.8 billion.

- \$450 million from its cash reserves
- Essel Mining, another A V Birla group company, chipped in with \$300 million from its reserves.

## Deal Financing : 2008

- Hindalco issued equity shares of Re. 1 each on rights basis @ Rs. 96 per share
- Ratio of 3:7 in September
- Total Amount receivable of Rs. 5,047.70 Cr
- Company has received Rs. 4,545 Cr
- Rs. 124.90 Cr spent on related expenses of the rights issue
- Balance amount utilized to repay the bridge loan taken for acquisition of Novelis.

## Banks involved:

- 2007: Hindalco-Novelis deal, UBS (along with ABN AMRO & Bank of America) threw the Birla company a \$2.8 billion debt lifeline.
- 2008: waiver due to default in Debt/EBITA ratio for novelis2008: \$1-billion loan was taken on Hindalco's books, and the banks that participated in the exercise included ABN Amro, Barclays Capital, Bank of Tokyo-Mitsubishi UFJ, Calyon, Citigroup, Deutsche Bank, HSBC, Mizuho Financial and Sumitomo Mitsui Financial.
- 2009: Hindalco took a syndicated loan of \$982 million (Rs 4,910 crore at current rate) from 11 foreign banks to repay the bridge loan taken two years ago for the Novelis acquisition.

## Valuation @ Premium

“The valuation depends on the intrinsic capability of an asset. He points out that it would have taken Hindalco at least 10 years to create that kind of capacity on the downstream front. The acquisition is a good strategic fit and the way we see it, there is a lot of upside potential in aluminium as a commodity. He speaks of areas like transportation, architecture, packaging and pharmaceuticals which will be big markets in the future for aluminium.”

-Sunirmal Talukdar, CFO, Hindalco

## CULTURAL FIT

### Objective:

- Hindalco was an upstream player before it acquired Novelis, so its profits varied every year. It decided to add downstream operations for a few good reasons:
- First, the company wanted to steady the profit stream.
- Second, it realized that it had to be globally competitive at home since India was not a protected market anymore. And
- Third, to move away from the commodity business, Hindalco had to manufacture value added products.
- Making aluminium at competitive prices requires economies of scale, process skills, and cheap raw materials. Selling value added aluminium products demands attention to quality, service and brands; product development skills and a knack for forging customer relationships- capabilities that Hindalco did not possess. To learn them it decided to acquire the downstream companies: Indal in India and Novelis overseas. The objective was to gain new competencies –not to get big fast or reduce costs.

### Integration Process

- Hindalco's management allowed the post-merger process to take place naturally and rarely intervenes
- Four step Process:
  - (1) Financial
  - (2) Organizational
  - (3) Business Process
  - (4) Markets.

### Financial Integration

- Same Financial Language.
- Standardization: Prior to June 2007, Hindalco's financial year ended on March, 31st, whereas Novelis' period ended on December, 31st
- Guidelines of SEBI & SEC were met.
- Plan to optimize tax bills of both countries.
- Sharing best practices.

**Market Integration:**

India’s demand for aluminium products is projected to double from 1 million tonnes in 2007 to almost 1.9 million tonnes in 2012, and half of that increase will be for the kind of flat-rolled products Novelis produces.

**3. LITERATURE REVIEW:**

**Shehla Sayeed and Dr. Kapil (2015):** In a dynamic economy, A firm acquires a running business and grows overnight through corporate combinations **Randal Morck (2008):** In a sample of 326 US acquisitions between 1975 and 1987, three types of acquisitions have systematically lower and predominantly negative announcement period returns to bidding firms. **Jarrad Harford (2005):** Cash-rich firms are more likely than other firms to attempt acquisitions. Stock return evidence shows that acquisitions by cash-rich firms are value decreasing. **Lois Herzeca and Eduardo Gallardo (2012):** In connection with an M&A transaction, public companies sometimes find it desirable to delay a previously scheduled stockholders meeting. **Lesko.D (2007):** Although there are already many articles on mergers and acquisitions (M&A) in circulation but is rather aimed at aligning the observation of existence of M&A clearly not directed at enhancing the shareholders' value with the knowledge gathered by organisational theory; this in turn is performed in order to arrive at sometimes scorned, especially by business practitioners, but quite tempting explanation of the ongoing M&A phenomenon.

**Enrique R Arzac(2005):** Valuation for Mergers, Buyouts and Restructuring presents a comprehensive approach to corporate valuation. It contains valuation procedures and examples for the different types of transactions and contractual arrangements commonly encountered in practice. **R.T Lenz (1981):** The paper contains a review and evaluation of empirical and case studies on the performance of whole enterprises. **Glensor (2010-11):** Change in today’s business environment may be seen as inevitable however in the absence of a generic and endemic Change Framework for Managing and Leading Change; South African businesses face a difficult task of surviving into the future. **Aysha Haider, Muhammad Shoaib, Sara Kanwal (2015):** The study empirically examines the impact of mergers on performance of the banks in Pakistan. The link between liquidity risk, leverage, capital adequacy, size and performance of merging banks, listed on Karachi Stock Exchange (KSE). **Robert Fabac, Markus Schatten, Tomislav Duricin (2011):** In the contemporary world of global business and continuously growing competition, organizations tend to use mergers and acquisitions to enforce their position on the market.

**Suresh Kumar (2013):** After the implementation of reform measures, there has been large changes in the philosophy, perceptions, and functioning of commercial banks and banks are expected to manage the large inflows and outflows of financial resources. **Dr. Neena Sinha (2010)** For the instance of the organization that buys a related organization that acquire an unrelated one. Organization that buys a related organization will likely to have prospects in common with acquiring organization in order to integration relative to an unrelated acquisition where there are few synergies and opportunities. **Stefano Caselli, Stefano Gatti & Marco Visconti(2006)** M&A transactions expose both the bidder and target shareholders to a number of major risks both prior to the close of the deal and during the post-close integration phase.

**4. OBJECTIVE OF THE STUDY:**

To compare Enterprise Value and Market Capitalisation in Post.

**5. RESEARCH METHODOLOGY:**

Research methodology is a systematic way to solve a problem. It is a science of studying how research is to be carried out. Essentially, the procedures by which researchers go about their work of describing, explaining and predicting phenomena are called research methodology. It is also defined as the study of methods by which knowledge is gained. Its aim is to give the work plan of research

**5.1 TYPE OF RESEARCH: Descriptive research -** Descriptive research is used to describe characteristics of a population or phenomenon being studied. Descriptive research is used for the study about the case.

**5.2 SOURCE OF DATA: secondary data -** Secondary data is used to increase the sampling size of research studies and secondary data include data collected by Government Public Services Departments, Libraries, Internet searches, Articles, Journals, Books are used for the study about the case.

**5.3 SAMPLING DESIGN:**

**SAMPLE:**

Acquiring company	Acquired company	Date of acquisition	Deal value	Strategic motives
Hindulco Industry Limited	Novelis	15 May 2007	\$ 6 billion	<ul style="list-style-type: none"> <li>Management’s wrong judgement</li> <li>Inefficiency of the management and finance team.</li> </ul>



**5.4 HYPOTHESIS:**

H0: There is no relationship between enterprise value and market capitalization.

**5.5 TOOLS FOR THE STUDY:**

(1) **STATISTICAL TOOL:** Descriptive Statistics-Descriptive statistics are used to describe the basic features of the data in a study. They provide simple summaries about the sample and the measures. Together with simple graphics analysis, they form the basis of virtually every quantitative analysis of data.

**Mean:** A mean is the simple mathematical average of a set of two or more numbers. The mean for a given set of numbers can be computed in more than one way, including the arithmetic mean method, which uses the sum of the numbers in the series, and the geometric mean method.

**Standard deviation:** Standard deviation is a measure of the dispersion of a set of data from its mean. It is calculated as the square root of variance by determining the variation between each data point relative to the mean.

**Kurtosis:** kurtosis is a statistical measure that is used to describe the distribution. Whereas skewness differentiates extreme values in one versus the other tail, kurtosis measures extreme values in either tail.

**Skewness:** Skewness is asymmetry in a statistical distribution, in which the curve appears distorted or skewed either to the left or to the right.

**FINANCIAL TOOL:**

The Ratios which are taken into consideration for the calculations are enterprise value, market capitalisation, Net Operating Revenue, EBIDTA.

**Enterprise value:** EV is calculated as the market capitalization plus debt, minority interest and preferred shares, minus total cash and cash equivalents.

EV = market value of common stock + market value of preferred equity + market value of debt + minority interest - cash and investments.

**Market capitalisation:** the value of a company that is traded on the stock market, calculated by multiplying the total number of shares by the present share price.

**Net operating revenue:** it is a calculation used to analyse real estate investments that generate income.net operating income equals all revenue from the property minus all reasonably necessary operating expenses.

**EBIDTA:** Earnings Before Interest, Tax, Depreciation And Amortization is a measure of a company’s operating performance. Essentially, it’s a way to evaluate a company’s performance without having to factor in financing decisions, accounting decisions or tax environments.

**6. DATA ANALYSIS AND INTERPRETATION:**

Data analysis is a process of inspecting, cleansing, transforming, and modelling data with the goal of discovering useful information, informing conclusions, and supporting decision-making. Data analysis has multiple facets and approaches, encompassing diverse techniques under a variety of names, while being used in different business, science, and social science domains.

Data interpretation is part of daily life for most people. Interpretation is the process of making sense of numerical data that has been collected, analysed, and presented.

**6.1 FINANCIAL RATIOS**

Source: Authors Calculation: Annual Report Database

YEAR	2013	2014	2015	2016	2017
<b>Enterprise Value</b>	61,739.42	46,128.14	54,337.26	54,462.00	40,167.37
<b>EV/Net Operating Revenue</b>	1.67	1.35	1.57	1.96	1.54
<b>EV/EBITDA</b>	10.61	10.67	12.64	15.06	12.67
<b>Market Cap/Net Operating Revenue</b>	1.18	0.53	0.77	1.05	0.67

**Interpretation:** In the above table of financial ratios from 2013 to 2017, EV in 2013 resulted with 61739.42 and in 2017 it is 40167.37. hence, the enterprise value is decreased from 2013 to 2017. EV/NOR in 2013 resulted with 1.67

and in 2017 it is 1.54. hence, the value is decreased from 2013 to 2017. EV/EBITDA in 2013 resulted with 10.61 and in 2017 it is 12.67. hence, it is increased from 2013 to 2017. MC/NOR in 2013 resulted with 1.18 and in 2017 it is 0.67. hence, the value is decreased from 2013 to 2017.

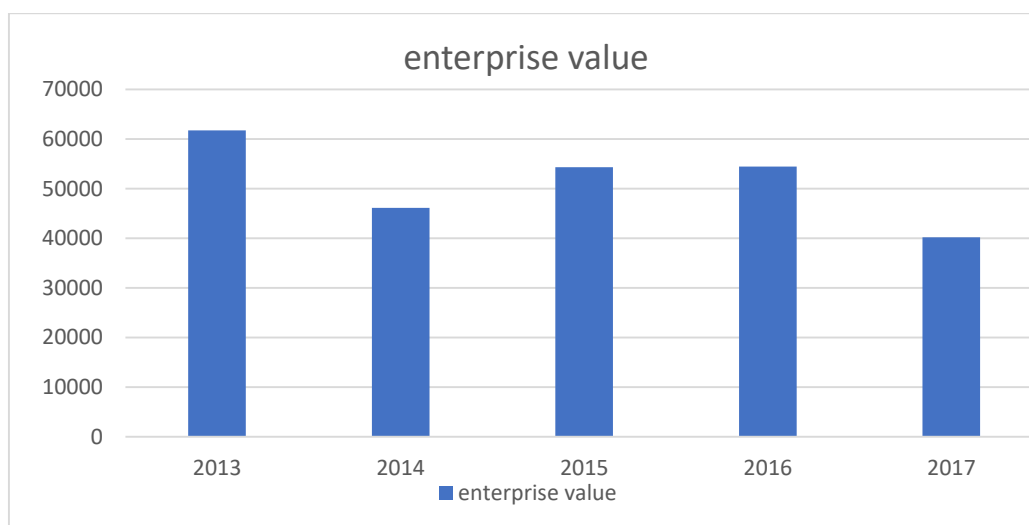
### 6.2 DESCRIPTIVE STATISTICS

DESCRIPTIVE	EV	EV/NOR	EV/EBITDA	MC/NOR
Mean	51366.8	1.618	12.33	0.84
Standard Deviation	8349.64	0.22354	1.82884	0.269072
Kurtosis	-0.7396	1.45579	0.03565	-1.94225
Skewness	-0.2696	0.75753	0.73246	0.28913
Minimum	40167.4	1.35	10.61	0.53
Maximum	61739.4	1.96	15.06	1.18

Source: Authors Calculation: SPSS Database

**Interpretation:** in the above descriptive statistic table showing, Enterprise value resulted with the mean value of 51366.8, standard deviation value of 8349.64, kurtosis value of -0.7396, skewness value of -0.2696. minimum value of 40167.4 and maximum value of 61739.4. EV/NOR value resulted with the mean value of 1.618, standard deviation value of 0.22354, kurtosis value of 1.45579, skewness value of 0.75753, minimum value of 1.35 and maximum value of 1.96. EV/EBITDA value resulted with the mean value of 12.33, standard deviation value of 1.82884, kurtosis value of 0.03565, skewness value of 0.73246, minimum value of 10.61 and maximum value of 15.06. MC/NOR value resulted with the mean value of 0.84, standard deviation value of 0.269072, kurtosis value of -1.94225, skewness value of 0.28913, minimum value of 0.53, maximum value of 1.18.

#### 6.1. Chart showing results of enterprise value.



### 6.3 CO-RRELATION TEST

Variables	Statistics	EVNOR	EVEBDIT	MKCAPNOR
EVNOR	Pearson Correlation	1	0.763	0.786
	Sig. (2-tailed)		0.133	0.115
	N	5	5	5
EVEBDIT	Pearson Correlation	0.763	1	0.215
	Sig. (2-tailed)	0.133		0.728
	N	5	5	5
MKCAPNOR	Pearson Correlation	0.786	0.215	1
	Sig. (2-tailed)	0.115	0.728	
	N	5	5	5

Source: Authors Calculation: SPSS Database

### Interpretation:

In the above correlation test shows that, the EBDIT and market capitalisation does not meet the standard value of 0.8, and it is resulted with 0.763 & 0.786 respectively and it is weak correlation hence, there is no relationship between enterprise value and market capitalisation.

### 7. FINDINGS AND RECOMMENDATIONS:

- In the table no. 6.1, there is decrease in the value of enterprise from 2013 to 2017.
- EBITDA is increased by 2% from 2013 to 2017.
- Market capitalization is decreased by 0.51 % from 2013 to 2017.
- In the above table 6.2, Enterprise value is resulted with the mean value of 51,366.8 and market capitalisation is resulted with kurtosis negative value of -1.94225.
- The enterprise value is resulted with the skewness value of -0.2696.
- From the correlation test, resulted with the EBDIT & market capitalisation is 0.763 & 0.786. it is week correlation. Hence there is no relationship between enterprise value and market capitalisation
- After the acquisition of Novelis company by Hindalco Industry Limited, there is a financial loss in the acquirer
- Before the acquisition takes place, the firm should analyse the targeted company of financial position and market value.
- The firm should need to be focus on increase in the enterprise value.
- The firm should need to increase in the value of EBITDA.

### 8. CONCLUSION:

The acquisition will help Hindalco to shorten the learning curve for technology, which was a need for Hindalco. Hindalco has strong presence in upstream and metal businesses, while Novelis is a world leader in downstream businesses. The combination will make us immune to the high volatility in commodities markets.

### REFERENCES:

1. Jing Yang, Woo Gon Kim, Hailin Qu, "Post-Merger Stock Performance of Acquiring Hospitality Firms", *Tourism Economics*, vol. 16, 1: pp. 185-195. , Published March 1, 2010.
2. Raymond da Silva Rosa, Philip Lee, Michael Skott, Terry Walter, "Competition in the Market for Takeover Advisers", *Australian Journal of Management*, vol. 29, 1\_suppl: pp. 61-92. , Published Jun 1, 2004.
3. Martin Bugeja, "Foreign takeovers of Australian listed entities", *Australian Journal of Management*, vol. 36, 1: pp. 89-107, Published April 8, 2011.
4. Spyros Arvanitis, Tobias Stucki, "Do mergers and acquisitions among small and medium-sized enterprises affect the performance of acquiring firms", *International Small Business Journal*, vol. 33, 7: pp. 752-773 , Published February 27, 2014.
5. David R. King, Svante Schriber, "Addressing Competitive Responses to Acquisitions", *California Management Review*, vol. 58, 3: pp. 109-124. , Published May 1, 2016.
6. Katty Marmenout,, "Employee Sensemaking in Mergers: How Deal Characteristics Shape Employee Attitudes", *The Journal of Applied Behavioral Science*, vol. 46, 3: pp. 329-359. , Published July 27, 2010.
7. Yaakov Weber, "Corporate Cultural Fit and Performance in Mergers and Acquisitions", *Human Relations*, vol. 49, 9: pp. 1181-1202. , Published Sep 1, 1996.
8. Warren.D.Kissin, Julio Herrera,(1990) "International Mergers and Acquisitions", *Journal of Business Strategy*, Vol. 11 Issue: 4, pp.51-54.
9. Jerayr Haleblian, Cynthia E. Devers, Gerry McNamara, Mason A. Carpenter, Robert B. Davison, "Taking Stock of What We Know About Mergers and Acquisitions: A Review and Research Agenda", *Journal of Management*, vol. 35, 3: pp. 469-502. , Published February 23, 2009.
10. Nir N. Brueller, Abraham Carmeli, Israel Drori, "How Do Different Types of Mergers and Acquisitions Facilitate Strategic Agility", *California Management Review*, vol. 56, 3: pp. 39-57. , Published May 1, 2014.
11. Krishnan Maheswaran, Soon Chin Yeoh, "The Profitability of Mergers and Arbitrage: Some Australian Evidence",*Australian Journal of Management*, vol. 30, 1: pp. 111-126. , Published Jun 1, 2005.
12. Jing Zhou, Shung J. Shin, Albert A. Cannella, Jr, "Employee Self-Perceived Creativity after Mergers and Acquisitions, Interactive Effects of Threat—Opportunity Perception, Access to Resources, and Support for Creativity",*the Journal of Applied Behavioral Science*, vol. 44, 4: pp. 397-421. , Published December 1, 2008
13. Kevin C. Farmer, PhD1, Ashok K. Gumbhir, "A Historical Perspective of Mergers in the US Pharmaceutical Industry", *Drug Information Journal*, vol. 26, 3: pp. 411-419. , Published Jul 1, 1992.
14. Rikard Larsson, Michael Lubatkin, "Achieving Acculturation in Mergers and Acquisitions: An International Case Survey", *Human Relations*, vol. 54, 12: pp. 1573-1607. , Published Dec 1, 2001.
15. Derek K. Oler, Jeffrey S. Harrison, Mathew R. Allen, "The danger of misinterpreting short-window event study findings in strategic management research: an empirical illustration using horizontal acquisitions", *Strategic Organization*, vol. 6, 2: pp. 151-184. , Published May 1, 2008.