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Firm specific factors of Merger and Acquisition in Indian Pharmaceutical industry

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Abstract

Merger and Acquisition (M&A) turned out to be a significant strategy for Pharmaceutical companies to sustain in the industry due to the rapid technological changes and competitive pressures. But not always mergers give positive result for both target companies and acquiring companies. Since each merger is having different motives to merge, both the parties should take utmost care while choosing a target company or acquiring company. This study aims to identify the various pre –merger firm specific factors which can affect the M&A decision of a firm in the pharmaceutical industry. And the result of the Panel logit analysis showed that Market capitalization and leverage ratio is the significant factor which affect M&A deals. A firm with high R&D and Labour intensity and Capital intensity will have more chance to participate in merger. While a firm with high profitability margin and tobins q ratio has less chance to participate in M&A deals. And a firm with more debt has high chance to participate in M&A deals.

Key Words: M&A, Determinants, pharmaceutical sector, logit regression

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1.Introduction

In order to compete to the global market scenario, a firm hast to grow their business either organically or inorganically. Organic expansion can take place internally in an organization, by acquiring new assets, technologies and establish new line of products. Inorganic expansion take place externally. The major inorganic growth of a firm is through Merger and Acquisition(M&A) . A Merger is a combination of two or more companies in which assets and liabilities of the selling firms are absorbed by the buying firm(Hart,2006). After the globalization of 1991, the firms across the globe has came under one roof and restrictions related to trade has also abolished. Due to this M&A wave has started to appear in India also.

The shift in the industrial policy in 1991 has opened a great way for the first wave of M&A in India(Vyas,2002). The companies Act 2013 which replaces the companies act of 1956, is the law Governing body for companies in India and which provides the complete laws and regulations related with corporate restructuring. Apart from this, laws relating to M&A in India is different according to the entities that are participating to M&A. Only transactions related with Indian companies are regulated by Companies Act 2013. And companies with listed securities are regulated by Securities and Exchange Board of India(SEBI) under the Act of securities and Exchange Board of Act 1992, Securities Contracts (regulations)Act 1956 and subordinate regulations. Foreign Exchange management Act 1999 and subordinate regulations are dealing with the M&A related with foreign companies. The Ministry of Corporate Affairs with effect from 15th December 2016 transferred all the proceedings related with restructuring of companies to the Jurisdictional of NCLTs, National company Law Tribunal. National Company Law Tribunal(NCLT) and National Company Law Appellate Tribunal (NCLAT) have been constituted in the year 2013 to provide a mechanism for corporate restructuring insolvency and bankruptcy and other corporate actions which require actions from tribunal. These legal changes are constituted by the Government of India to make an attractive place of investment for the companies.

Indian pharmaceutical industry has been growing at the rate of 23.9 percent per year and estimated to be worth 55 billion dollars by 2020(Santhosh Kumar,2017)..Indian pharmaceutical industry has gone through a drastic change for the past five decades. They shifted to become

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strategic partners of MNEs from a follower of MNEs' research and development efforts of drug discovery. Significant policy changes from the Government of India to make the Intellectual Property Rights secured constituted the spill over for research and development and innovation in Indian Pharmaceutical Industry. These high R&D intensity and innovation makes the firm to succeed in competition too.

Indian drugs firms led the next round of M&A wave to strengthen their position in the regulated foreign markets like the US, Germany and the UK (Pradhan, 2008). Domestically also pharmaceutical sector became a major player in M&A activity. According to EY transactions report 2017, The pharmaceuticals sector witnessed 51 deals announced in the year 2016, which have aggregate deal value of US$4.6 billion. Cross border and domestic transactions constituted to the most of the deal activity. Cross border M&A stood disclosed value of US$2.1 billion each for outbound and inbound activity each . Domestic deal has aggregate deal value of US$342 million.

From the above discussions we could see that government also taking active part to create a positive atmosphere for M&A deals for companies. Because, the industrial and economic development can take place through M&A in a country. The .present paper deals with the objective that to find out the various firm specific factors which constitute the M&A decision of the companies. Since M&A deals are motivated by different factors, factors affecting M&A deals may vary to each deals.

2. Review of literature

Inter firm differences in M&A and thereby prediction of M&A participation of companies has been started in the M&A study literature at the mid of 20th century when Monroe and Simkowitz (1971) has studied inter firm differences in M&A by comparing acquired and non acquired companies financial characteristics through a discriminant analysis and found that acquired firms were lower in size, Price Earning ratio and Dividend Payout ratio. From the light of Monroe and Simkowitz study, Stevens(1973) has studied firms financial characteristics which can be differenciated among acquired and non acquired companies. And found that regardless of motives of merger financial characteristics of the company are explicit decision variable and they

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can directly reflect the non financial reasons for acquisition. Castagna and Matolcsy (1975) has studied financial ratios as predictors of acquisition by taking thirty five companies, acquired company has matched with a non acquired company randomly selected and found that acquired companies were characterized with lower profits, higher dividends and unstable earnigs. Stewart et al(1982) used probit model regression to find out the financial and product market characteristics that can be differentiated among acquired and non acquired. the selection of sample as acquired to non acquired was proportionate to the whole population rather than equal numbers in each group. And its result showed that financial variables play more role in acquisition than product market variables. Agarwal & Sensarma(2007)studied industry level determinants of merger in India using logistic and count data regression and their results suggested that industry concentration, growth opportunity and cash flows are the major factor influencing merger activity in India. Arpita(2013) has studied the firm level determinants of merger and acquisition by taking 360 samples from the Indian automobile, FMCG, and pharmaceutical industry during the year 2004 to 2010. And study found that earnings volatility and business group affiliation is the major determinants of firms merger and acquisition decision.

Study of inter firm differences in M&A exclusively for Pharmaceutical industry has studied by Danzon et al (2007), Vyas et al 2012, Nayak (2015), Santhosh kumar et al (2017) etc.

Ali et al (2004) studied the effects of patent count on the cross border and domestic merger and found that firms which have more patenting ability tends to be acquired by domestic firms than international firms. Danzon et al (2007) used multinomial logit regression to study the determinants of merger and acquisition in pharmaceutical industry and found that determining factors of merger and acquisition is varies according to the firm size. Large firms go for merger in response to the excess capacity due to the anticipated patent expiration.Vyas et al(2012) studied determinants of merger in Indian pharmaceutical industry, and the result of panel logit analysis suggested that firm size and foreign affiliation has positive influence to merger and acquisition decisions.Nayak (2015) studied determinants of cross border merger and domestic merger in the pharmaceutical industry and found that companies that have high R&D to sales and which have inadequate number of drugs approval is more likely to go for international merger. Domestic mergers are attracted to firms with less R&D intensity and smaller drug portfolios. Santhosh kumar et al (2017) has studied firm level determinants of merger and

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acquisition of pharmaceutical industry in India. Author studied the determinants for merger and acquisition separately for acquisition by shares and acquisition by assets. And finds that export intensity, R&D intensity , firm size and import intensity are the major determinants of merger in Indian pharmaceutical industry.

In previous studies does not give a stable view of the acquired firm characteristics that directs to the M&A. the studies shows that whatever factors that influence may change over time. The present study is based on Indian Pharmaceutical industry will give a clear view of the role of firm characteristics that can directs to the M&A in Pharmaceutical industry.

3. The Data and Methodology

Sample

Sample for the study is twenty firms from Indian Pharmaceutical industry. Ten firms were completed the M&A activity in 2017. Ten matching firms which are not engaged in the M&A activity also included. The selection of the matching sample was based on the Age of the firm. Some studies (stevens,1973) size as the matching technique, but the role of size of firm in variation between acquired and non acquired can not be addressed this case. Age is calculated by subtracting their year of incorporation from the present year. The companies which engaged in M&A activity is matched with the company which are not engaged in M&A activity. Most suitable pair has selected for the analysis.

The study is purely based on secondary sources of data. The variables related with firms and merger and acquisition data are collected from Bloomberg database. Firm level variables are collected for the five years immediately prior to the merger deals ie, 2012 to 2016. So total observations included in the study is hundred.

Data and Variable

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Dependent variable used for the study is M&A which is represented as binary variable. Independent variables are various financial variables related with firms profitability, marketability and technicality. The variable used for the study are described in table 3.1

Table.3.1: Variables used in the study

Variables	Description	Symbols used
Merger and Acquisition (Dependent variable)	Dummy variable . MA=1 for firms undertaking M&A activity , otherwise 0.	MA
R&D Intensity	R&D expenditures divided by Net Sales	RDI
Labour Intensity	Wages and salaries divided by Net sales	LI
Capital Intensity	Total Capital divided by Net Sales	CI
Tobins Q	Market value of company divided by the replacement value of capital	TQ
Profit Margin	Net Profit divided by Net sales	PM
Market Capitalization	Natural Log of Market Capitalization	MCAP
Leverage ratio	Total debt divided by Total assets	LEV
Capacity utilization	Total Sales divided by Total assets.	CU

4.Results and discussion

The empirical analysis

The panel logit analysis is carried out to determine the factors affects the probability of undertaking M&A activity in pharmaceutical industry. Panel logit analysis is used in M&A literature by Palepu in 1986. The advantage of this technique is that use of non- normal data. Still this technique is predominant in the literature of this kind (vyas eta al 2012, Arpita 2013). This technique can be used when dependent variable for the study is expressed as binary variables. Logit model is the model in which the dependent variable is the Odds ratio, that have linear function of regressors (Gujarathi N,2003).

Results from logit model regression

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The result of panel logit analysis to find the determinants of M&A in Pharmaceutical industry is depicted in table 2. Pseudo R squared has high value ie, 0.83. And LR statistic has high value and which is statistically significant also. So overall model is good and results can be interpreted meaningfully. Coefficients of a panel logit regression only shows the direction of influences to the dependent variable not the magnitude of influence .

Table.2: Result from Panel logit model regression

Variables	Co efficient	Z statistic
C	-62.09	-3.07357
RDI	6.38	0.39
LI	3.82	0.27
CI	0.59	0.58
TQ	-0.27	-1.17
PM	-5.8	-1.24
MCAP	5.08	3.21***
LEV	25.48	2.83***
CU	0.02	0.006
LR statistic	**115.6*** **	
Log likelihood	**-11.48112**	
Pseudo R-squared	**0.834**	
Total Observation	**100**	

****** denotes variables significant at 1% level of significance.*

It reveals that among the selected independent variables RDI, LI, CI,MCAP,LEV and CU has a positive coefficients. Among this only LEV and MCAP is significant. It means that these variables are positively influencing M&A activity of the firms.

A company which has more R&D intensity will have more chance to go for merger. In Pharmaceutical industry R&D and Innovation plays a key role in the success of company. So if a firm has high R&D might have more innovative products and these firms will be looking for market to sell their products. So the chances of being merger is high in the case of firm with high R&D.

Acquiring labour from outside will be costly and time consuming for a company. Going for M&A activity with a company which has high Labour intensity will be better for the company.

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By that firm can acquire more expertise personnel and their technical capabilities also. The firm with high Capital intensity will also have high probability of merger or acquisition with other companies. Market capitalization denotes the size of a firm. A firm with more market capitalization has more chance of doing M&A activity with other firms. A firm which has more leverage also has the chances of making M&A deals.

Tobin's Q shows a negative and insignificant coefficient. This is indicated that pharmaceutical firms are lacking growth prospects (Vyas 2012). Profitability Margin also shows a negative coefficient. Less profitable firms more likely to participate in M&A activity than High profitable firms. Since result insignificant, we can not conclude the results. Similar result has found in the study of Vyas,2012.

5.Conclusion

The present study analyzes the firm level factors which affect the M&A activities in the Indian Pharmaceutical industry. The study reveals that market capitalization is a significant factor which makes a firm to participate in M&A activity. The company which has more market capitalization has more chances to being participate in M&A activity. Leverage ratio also has significant influence on M&A decision of firms. A firm which has high debt have more chances to participate in M&A activity than least debt firms. Since pharmaceutical industry is a knowledge intensive industry, and where have more intangible capital than tangible capital. A firm with high R&D and labour intensity can be treated as a high performing firm. These kinds of firms has more chances to participate in M&A deals. Through the process of Merger or acquisition a firm can increase their R&D and Innovation and they can make a stable position in the industry too.

The present study only taken into consideration of domestic M&A deals in Pharmaceutical industry in the year 2017. Indian pharmaceutical industry is actively participating in Cross border Merger and Acquisition also. The determinants for cross border deal may vary from this results. This is one of the limitation of this study.

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