Major Project Report
on
To study the impact of various financial factors on profitability of Indian manufacturing firms

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CERTIFICATE

This is to certify that the project titled "To study the impact of various financial factors on profitability of Indian manufacturing firms" is an academic work done by HARSHIT RUSTGI (2K18/MBA/729) & SUMEGHA CHAWLA (2K18/MBA/733) submitted in the partial fulfilment of requirements for the award of Masters in Business Administration degree from our college University School of Management & Entrepreneurship, Delhi Technological University, Delhi under my guidance and direction.

To the best of my knowledge and belief the data and information presented in the project has not been submitted earlier elsewhere.

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DECLARATION

We hereby declare that project submission represents our own ideas in our words and where others' ideas or words have been included, have adequately cited and referenced to the original sources.

We also declare that we have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in our submission.

It is also certified that the project of ours is an original work and the same has not been submitted earlier elsewhere.

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EXECUTIVE SUMMARY

Funds are regarded as business lifeline. Financial management is crucial to business subsistence and its definitive growth. This study aimed to decipher how various financial factors influence the profitability of Indian manufacturing firms. We selected the companies which belonged to the paint manufacturing sector and collected the data from their financial statements as in their annual reports from 2010 to 2019. Various factors were keyed out such as inventory turnover ratio, cash conversion cycle and quick ratio to check the impact on net profit ratio using correlation and panel regression models. Our results displayed cash conversion cycle and inventory turnover ratio to have a deleterious relation with profitability whereas the relationship of quick ratio with profitability was positive. It was also ascertained that the control variables such as debt to equity ratio had an affirmative bearing on profitability and size of the firm had a negative effect. Also, according to our research we found that there was a significant impact of all the factors when taken together on profitability of the firms. This will help the companies to perform better by managing these factors to get better profitability. Moreover, this will also enable the companies to find possible answers to increase their profit margins in the competitive market.

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INTRODUCTION

"Corporate finance manages three fundamental parts of budgetary dynamic which are capital planning, structure and working capital management". While financial planning and structure centers around funding and supervision of investment options, the last arrangements with overseeing momentary capital prerequisites of the firm. Aside from the fixed resources, for example, land, apparatus and infrastructural necessities, a firm additionally requires some current assets for do the everyday exercises for appropriate working of the firm. The firm may likewise need to meet some transient outer commitments.

1.1 Objective of the study

The study was carried on to ascertain how financial factors influence the profitability of Indian manufacturing firms. The firms selected for this purpose were "Pidilite industries", "Asian paints", "Kansai Nerolac", "Berger paints" and "Shalimar paints". In order to find the relationship profitability's determinant known as NPR was used as the dependant variable along with ITR, QR and CCC as independent variables. Apart from these, control variables for the likes of DER and firm size were taken. Pearson's correlation and panel regression were used to analyse the results.

1.2 Working capital management

"Working capital measures a firm's operational efficiency, liquidity and short term financial health. It is determined as the difference between CA and CL".

It is a gauge of an establishment's financial health as it operates as an indicator of the liquidity levels of firms for day-to-day expense management. It is derived from various company operations for instance debt and inventory management, revenue collection and supplier payments. "The constituents of working capital are CA and CL. CA represents all those assets which are projected to be sold or spent in one year. CL are momentary budgetary commitments due within a year"[1]

1.2.1 Types

- Gross Working Capital: "Aggregate of the assets of an organization".
- Net working capital: "Calculated as the difference between an organization's CA and CL".
- Permanent Working Capital: "Regardless of the level of operation the sum of current assets a company retains to carry out the business".
- Temporary Working Capital: "Also known as the extra working capital, it is the difference between net and permanent working capital, needed due to non-seasonal demand or some special event that would otherwise not be predictable".
- Positive Working Capital: "It reflects the CA surplus to CL".
- Negative Working Capital: "It refers to the CL excess over CA".

1.2.2 Components

The three principle parts that it is related with are:

- Cash Management: The most basic segments of working capital is money as it is required at all phases of business activities. Accordingly, it is basic to keep up satisfactory money balance by coordinating money inflows with money surges.
- Accounts Receivable: It becomes effective when a firm gives products and ventures to the clients using a loan. They are the incomes which the clients and indebted individuals owe to an organization for the past deals. The measurement demonstrates the normal number of days taken by an organization to gather deals incomes.
- Accounts Payable: They get created when a firm purchases the crude materials or any products on a credit. It is the sum an organization must compensate out over the short moment.
- Inventory: It is an organization's essential resource. The rate at which an organization sells and recharges its stock is a proportion of its prosperity. Stock turnover rate gives a sign of the quality of deals and effectiveness of an organization in its buying and assembling.

Hence, the concentration is on these four components and an ideal management system holds a balance among them. [2]

1.2.3 Importance

Proper running is necessary for an association's operational achievement and key monetary wellbeing. It is the capability of maintaining a solid balance between profitability, liquidity and growth. Its requirements vary from industry to industry due to several factors. It is a bookkeeping methodology which centers around the backing of a concord. A convincing structure encourages organizations to fulfill their money related obligations and furthermore upgrade their income. A capable framework helps measure gainfulness of a venture. A sound working capital position can help get advances from the market effectively because of its high altruism. It therefore upgrades liquidity, dissolvability, credit value and notoriety of a venture. It

gives essential assets to meet unexpected possibilities and along these lines helps in effectively running the endeavor during the times of emergency.[3]

1.3 Inventory turnover ratio

Efficiency ratios are utilized to assess the administration of a business. One of the efficiency ratios is the ITR.

It is a ratio that shows the total occasions an organization has turned its stock to make deals which implies the amount of the stock that has been sold and superseded during a given period. Stock turnover causes a business to settle on improved choices on estimating, assembling, showcasing and buying fresh stock. This efficiency ratio can be used to govern if there are extreme inventory levels compared to sales. A high proportion suggests solid deals or deficient stock and it decreases stockpiling and other holding costs. The pace at which a business body can sell stock is a fundamental part of its business execution and likewise, a low proportion suggests feeble deals and conceivably overabundance stock known as overloading.
It might demonstrate an issue with the products being offered available to be purchased or if inventory management is poor. Also, unsold inventory can face substantial risks from changing market prices and obsolescence.[4]

1.4 Quick ratio

“Liquidity ratios help an account holder to take care of current commitments without any outside capital”. They decide company's aptitude to cover transitory commitments and incomes. One of the liquidity ratios is a quick ratio. The high ratio indicates better liquidity and financial health whereas if it is low, a company will struggle to pay its debts.[5]

1.5 Cash conversion cycle

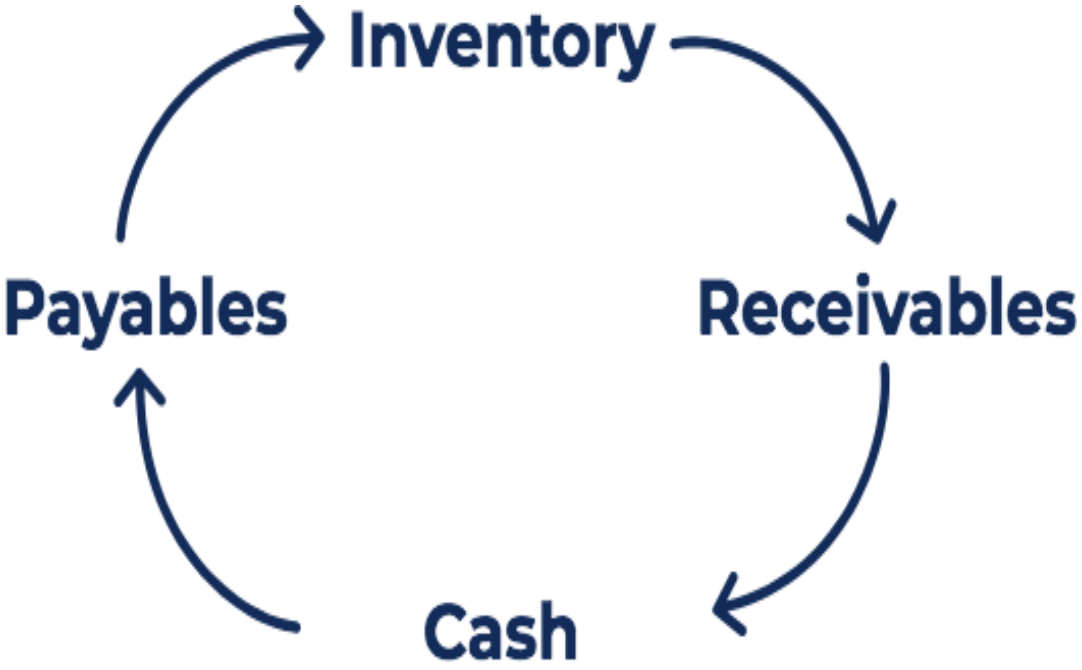


Figure 1.1 Cash conversion cycle

“It shows time taken by a business to change over its speculations into stock into money”. It considers the time required to sell an association's stock, to gather its receivables, and to take care of its bills without acquiring any punishments. It is aimed at surveying an establishment's productivity in dealing with its working capital. The cycle is a blend of several activity ratios. If short it will indicate that a company will be good at selling inventories and will be able to retrieve cash while paying the suppliers. The cycle consists of parts like DIO, DPO and DSO.[6]

1.6 Net profit ratio

Net profit margin is a significant marker of an establishment's monetary wellbeing. It is equivalent to how much overall gain or benefit is produced as a level of income. It evaluates whether enough benefit is being produced from the deals and if expenses are being contained or not. A high edge implies that a firm has the capacity to get its expenses under control and give products at a cost essentially greater than its expenses. A low edge implies that an organization has an insufficient cost arrangement and the valuing techniques used are poor. Hence, a high proportion

means proficient administration, low expenses and strong evaluating procedures and a low proportion means wasteful administration, significant expenses and frail evaluating methodologies.

1.7 Indian Manufacturing firms

1.7.1 Pidilite industries

"It is a consumer centric company which provides products such as adhesives, sealants, waterproofing solutions, construction chemicals, arts & crafts, industrial resins, polymers and more for small to large industries and homes". It is an India based adhesives manufacturing organisation. Pidilite has made their items accessible for various groups and areas. "Pidilite was found in 1959 when Shri Balvantray Kalyanji Parekh who was the founder chairman of Pidilite Industries came up with an idea of manufacturing white synthetic resin adhesive known as fevicol". The product was introduced to make life simple for carpenters and foresters easy who used animal fat as glue until then. [7]

1.7.2 Asian paints

"It is an Indian global company occupied with assembling, selling and dissemination of a wide scope of paints, coatings, results of home stylistic layout, shower fittings for brightening and mechanical use and furthermore offers related types of assistance. It is India's driving paint firm with Rs 193.50 billion as turnover. It has made some amazing progress since its start in 1942". "It is across four districts; Asia, Middle East, South Pacific and Africa through the eight corporate brands and has 26 paint fabricating offices offering various types of assistance to shoppers in more than 60 nations". The corporate social responsibility policy of Asian paints has focused on regions, for example, training, abilities improvement, medicinal services/cleanliness and water management.[8]

1.7.3 Kansai Nerolac paints

It is the biggest India based mechanical paint and third biggest enlivening paint company. It is the second biggest and a market chief in Industrial Coatings in India. It creates and supplies paint frameworks which are utilized on transport and cycle bodies, compartments and furniture enterprises and furthermore for the end goals of electrical parts and material taking care of gear. Network improvement programs are likewise conveyed by the organization, for example, wellbeing camps in country region, development of toilets, transport asylums and bore wells, supporting Educational Institutes with Financial Aid and so on. Apart from this, nerolac believes in moving forward with the use of digitization and has invested in the digital structure of the company. It uses latest technological tools and upgrades them. [9]

1.7.4 Berger paints

"Berger Paints India Ltd is the second biggest paint firm in India. It is headquartered at Kolkata, with assembling units across India and other countries. Berger has sales turnover and income of Rs.25 lakhs and Rs.6000 crores. It is acclaimed to have a huge variety and a countrywide dissemination system of 25,000+ sellers. It is focused on being a mindful corporate resident and carry cultural and ecological advantages".[10]

1.7.5 Shalimar Paints

It is an Indian paints manufacturing firm. It is India's leading paint brand which is involved in manufacturing and marketing of decorative paints and industrial coatings. Iconic structures of India like Howrah Bridge, Rashtrapati Bhavan, Vidyasagar Setu, Salt Lake Stadium, have been using Shalimar Paints since ages. It pioneers in paints of aviation, marine and thermal power plants. In order to protect infrastructure and assets, and enrich consumers' home lives, Shalimar believes in paint innovations. Shalimar Paints has a pan-India sales and distribution network of about 30+ depots, and it provides services to more than 5000 dealers across the country. The company has four redistribution centres in east, west, north and south zones of the country in order to provide superior customer service all over India. Shalimar focuses on Product and process innovations, development and prototyping

of innovative and environment friendly technologies, creation of new business opportunities with the help of bridging technology and product gaps and provides customisation of industrial coatings products as per the customer requirements. It has also been the early adopters of corporate social responsibility in India and since then has been working to create a positive impact on the community and supporting marginalized sectors of the society. It has undertaken various programmes like Education support for primary school children, Conservation at manufacturing plant and Health and Community Development programmes and seeks to continue such activities that have a measurable and long term impact. [11]

CHAPTER 2

REVIEW OF LITERATURE

According to a study done by Stella Mbah et al in 2019 in south-east Nigeria to define the relationship of operational performance and inventory management of manufacturing businesses using a questionnaire established only four relevant responses of quoted manufacturing firms in Nigeria. Excel-based statistics, SPSS and regression were used to calculate data and to test hypotheses of the study. It was concluded that relationship between cost of inventory, operational performance, just in time approach and materials requirement planning of firms was substantially positive.[12]

Dina Korent et al conducted a study in 2018 using Croatian software companies to decide working capital management's effect on profitability. The research used descriptive statistics, panel regression and correlation analysis from 2008 to 2011. The results revealed significant effects. The findings also suggested a nonlinear link between asset returns and net working capital. Thus it was concluded that prime net working capital benefitted the analysed companies through balanced costs and maximized profitability.[13]

In 2018, Slamet Mulyono et al conducted a study to identify impact of capital working management on profitability using a sample of state-owned fertilizer companies for 2005-2014. It used independent variables along with a few control variables to ensure no influence of unexamined factors. Multiple regression analysis technique was addressed to indicate that asset returns increased with inventory sales and payables days. It was also concluded that a firm's productivity declines with rise in assets.[14]

A study was conducted in 2017 by Jason Kasozi in South Africa to inspect the effect of working capital management on profitability using 69 listed manufacturing firms from 2007- 2016. Diverse relapse estimators were utilized to decide the impact and it was uncovered that there was a noteworthy negative connection between normal

installment period, normal assortment period and gainfulness from which it was derived that that organizations which deal with their records receivable effectively and pay their lenders timely, perform better than those that don't. A critical relationship was seen between the times of stock and profitability which recommended that organizations which keep up their stock levels and stock-up endure less and maintain a strategic distance from difficulties of making sure about accounts when out of luck. This ensured profitability and increased operational efficiency in the long run. The examination couldn't discover whether a CCC improves firm benefit or not because of frail discoveries. In any case, it was seen that on an average assembling firms conveyed a great deal of obligation in their capital structures.[15]

Zbigniew Golas et al conducted a study in 2016 in Poland on exact examination of of stock administration's influence on monetary performance of subsectors of the food business over the time of 2005 to 2010. The examination found the impact of the length of stock cycles on monetary execution utilizing return on deals, resources and value. It was discovered that in 2005-2010 the stock cycles were essentially decreased, which highlighted higher adequacy of the executives of those advantages. Based on regression and correlation models utilized in the examination the length of complete stock cycles and discrete cycles were seen as decidedly associated with profitability. [16]

A study by Kwadwo Boateng Prempeh in 2015 on the effect of efficient inventory management on profitability using four recorded on firms from 2004-2014. Yearly reports were utilized to gather the information. The investigation utilized standard least squares expressed as regression models. It was assembled that the administration of raw materials stock had critical positive relationship on the productivity of the organizations.[17]

In investigation directed in 2015 in Kenya by Kioko Collins Wanguu et al to look at the impact of working capital administration on productivity utilized an example of the three concrete firms at the "Nairobi Securities Exchange". Optional information from organizations examined budget summaries for a time of 15 years from 2000 to 2014 was utilized. The information gathered was dissected utilizing the Karl Pearson

relationship and regression models. It was settled that a positive critical connection among influence and benefit while liquidity and size had a positive unimportant relation.[18]

A study was conducted in 2014 by P. Venkateswarlu to examine and evaluate the management of working capital of Panyam cements & mineral industries using ratio analysis. It was concluded that the overall working capital efficiency was reasonable and also that the company suffers from certain weakness and some suggestions were given to overcome them.[19]

In an investigation led in 2014 by Ntui Ponsian to discover the impact of working capital administration on benefit a tester of three recorded assembling organizations was utilized for a long time from 2002 to 2012 with the aggregate of 30 interpretations. Quantitative investigation of the information gathered utilizing pearson's correlation and regression was finished and a positive connection between CCC and benefit of the firm was discovered and because of this the directors expanded the CCC so that they could make a affirmative enticement for the investors. There was additionally an undesirable connection among liquidity and gainfulness and a profoundly noteworthy negative link between productivity and average collection period. In conclusion there was an exceptionally huge adverse affiliation between stock turnover and profitability implying that organizations with fewer stock levels diminished the expense of putting away stock and in this manner got higher productivity.[20]

In a study conducted in 2014 in Sri Lanka by J. Aloy Niresh et al to determine the firm size’s effect on profitability used data of 15 manufacturing companies listed at Colombo Stock Exchange staring from 2008 to 2012. Examination likewise uncovered through regression and correlation models that low resource turnover demonstrated wastefulness of the board in using its advantages which at that point showed a decrease in the gainfulness of the firm.[21]

Dr. Ashok Kumar Panigrahi conducted a study in 2013 to determine a liaison between inventory management and profitability where five top Indian concrete organizations from 2001 to 2010 were taken. To decide the effect of stock

transformation period over gross working benefit, the examination utilized regression. The outcomes demonstrated a critical negative direct connection among productivity and inventory transformation period.[22]

In an exploration by Oladipupo, A. O. et al in 2013 to decide relative commitment of working capital to divident payout proportion and corporate benefit utilized twelve organizations cited on the "Nigeria Stock Exchange" from 2002-2006. The examination utilized least square regression strategy and pearson relationship method. It was seen that shorter CCC and debt ratio brought about high corporate benefit. It was additionally seen that divident payout proportion was affected decidedly by profitability and CCC was impacted adversely by development rate in income.[23]

Richard Kofi Akoto et al directed an investigation in 2013 in Ghana to look at the connection between working capital and profitability. Thirteen recorded manufacturing firms were utilized to gather the auxiliary information for the years beginning from 2005 to 2009. Investigation found an altogether negative connection among gain and receivable days and a fundamentally positive relationship was seen between the CCC, size, CA, CA proportion and productivity. Because of this it was proposed that directors could make an incentive for the investors, for example, decreasing their records receivable to 30 days.[24]

Muneeb Ahmad Attari et al conducted a study in 2012 to determine the link of CCC with firm size and profitability using four manufacturing sectors from the "Karachi Stock Exchange". The secondary information from 2006-2010 was gathered from the 31 tested firms from their yearly reports. The information examination was directed utilizing single direction ANOVA and pearson relationship procedures. There existed huge bad connection among CCC, profitability and the firm size. Moreover, shorter cycles were more beneficial than longer.[25]

In study conducted in 2012 by MN Barine on working capital management efficiency and corporate profitability using twenty two firms on “Nigerian stock exchange” inferred returns on improved position of the firms are less than the cost of working capital which impacted the profitability negatively. This outcome thus indicated low level of returns to the shareholders. Additionally with the improved gross working capital situation of the organizations, the costs expanded because of greater unwavering quality on financing momentary capital through transient liabilities which eventually diminished the gainfulness of the organizations.[26]

Dharmendra S. Mistry did a study in 2012 to ascertain the determinants of profitability in Indian automotive industry from 2004-2009. With the use of regression and correlations models it was found that DER, ITR and firm size affected the study positively. A negative effect was found only on liquidity. LIQ showed a negative association with profitability. DER suggested that there was a positive link between profitability and DER. ITR, firm size additionally influenced the productivity of the organizations during the examination time frame emphatically both having a low relapse coefficient.[27]

An examination was led by Amarjit Gill et al in 2010 utilizing an example of eighty eight recorded American firms on “New York Stock Exchange” for a time of three years beginning from 2005-2007. CCC and gross operating profit had a relation and accounts receivables and company's yield were negatively connected which proposed that less beneficial firms will follow an abatement of records receivables. It was along these lines presumed that by powerful administration of working capital, improved efficiency of the organizations could be accomplished.[28]

According to a study conducted by Huynh Phuong Dong in 2010 to analyze the connection between working capital administration and benefit utilizing auxiliary information from firms in “Vietnam financial exchange” of 2006-2008 found net working benefit which was taken as the marker of productivity and the CCC had a solid negative connection Through this it was set up that as the CCC expands there is a decrease in the benefit of the firm. The investigation along these lines inferred that a positive incentive for the investors could be made by keeping various segments and

dealing with the CCC to an ideal level.[29]

An investigation was led in 2009 by Olufemi I. Falope et al to give experimental proof on working capital administration and corporate gainfulness in fifty Nigerian nonfinancial firms from 1996-2005. Noteworthy negative relationship was seen between ACP, stock turnover days, CCC, APP and profitability. It was reasoned that worth can be made by the administration productively by lessening the inventories and number of days records of sales. It was additionally discovered that in the event that a company appropriately deals with its money, accounts receivables and inventories then that would result an expansion in the productivity of the organization.[30]

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Sample and data

A dataset of five Indian manufacturing firms from 2010-2019 was taken. The choice of the organizations depended on the accompanying standards:

- Firms must be listed on Indian Stock Exchange before April 2010.
- The stocks of the organizations must be recorded for the duration of the timespan of the investigation.
- Firms having a place with account, protection and banking segment were not chosen in light of their particular nature.
- Firms having missing information for previously mentioned timeframe of ten years were rejected from the example.

BALANCE SHEET OF PIDILITE INDUSTRIES (in Rs. Cr.)	Mar-10	Mar-11	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19
EQUITIES AND LIABILITIES	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths
SHAREHOLDER'S FUNDS										
Equity Share Capital	50.61	50.61	50.77	51.26	51.26	51.27	51.27	51.27	50.78	50.8
TOTAL SHARE CAPITAL	**50.61**	**50.61**	**50.77**	**51.26**	**51.26**	**51.27**	**51.27**	**51.27**	**50.78**	**50.8**
Reserves and Surplus	887.05	1,088.91	1,326.45	1,681.17	1,988.25	2,298.18	2,599.32	3,348.08	3,513.15	4,135.92
TOTAL RESERVES AND SURPLUS	**887.05**	**1,088.91**	**1,326.45**	**1,681.17**	**1,988.25**	**2,298.18**	**2,599.32**	**3,348.08**	**3,513.15**	**4,135.92**
TOTAL SHAREHOLDERS FUNDS	**937.67**	**1,139.53**	**1,377.22**	**1,732.44**	**2,039.52**	**2,349.45**	**2,650.59**	**3,399.35**	**3,563.93**	**4,186.72**
NON-CURRENT LIABILITIES										
Long Term Borrowings	399.67	259.89	92.3	0	0	0	0	0	0	0
Deferred Tax Liabilities [Net]	50.07	40.97	45.43	48.36	50.83	54.49	75.36	83.63	102.9	112.97
Other Long Term Liabilities	0	0	0	0	0	0	2.25	1.68	43.01	46.01
Long Term Provisions	0	8.67	12.61	14.29	19.67	18.68	21.86	24.97	29.57	34.55
TOTAL NON-CURRENT LIABILITIES	**449.74**	**309.53**	**150.33**	**62.65**	**70.49**	**73.17**	**99.47**	**110.28**	**175.48**	**193.53**
CURRENT LIABILITIES										
Short Term Borrowings	21.76	2.77	0	0	7.68	5.78	1.12	0	0	0
Trade Payables	116	142.89	170.61	207.14	301.14	294.04	316.33	328.47	428.16	449.15
Other Current Liabilities	214.2	285.36	481.19	372.77	285.96	340.98	390.26	444.67	450.6	506.01
Short Term Provisions	97.68	119.35	126.63	163.43	184.42	203.65	9.24	12.81	9.78	14.6
TOTAL CURRENT LIABILITIES	**449.63**	**550.37**	**778.42**	**743.34**	**779.2**	**844.44**	**716.95**	**785.95**	**888.54**	**969.76**
TOTAL CAPITAL AND LIABILITIES	**1,837.04**	**1,999.43**	**2,305.97**	**2,538.43**	**2,889.21**	**3,267.06**	**3,467.01**	**4,295.58**	**4,627.95**	**5,350.01**
ASSETS										
NON-CURRENT ASSETS										
Tangible Assets	324.23	412.8	471.71	511.99	535.13	549.6	643.04	668.66	656.62	667.62
Intangible Assets	88.02	28.17	24.21	21.71	76.17	278.23	273.52	270.91	283.45	283.04
Capital Work-In-Progress	282.62	326.77	371.34	408.71	431.09	460.31	151.68	126.57	164.13	229.08
Other Assets	0	0	0	0	0	0	0	0	0	0
FIXED ASSETS	**694.87**	**767.74**	**867.26**	**942.42**	**1,042.39**	**1,288.14**	**1,068.24**	**1,066.14**	**1,104.20**	**1,179.74**
Non-Current Investments	510.66	235.59	241.88	262.32	339.66	421.32	533.89	440.23	713.68	1,038.49
Deferred Tax Assets [Net]	8.54	0	0	0	0	0	0	0	0	0
Long Term Loans And Advances	0	17.94	24.95	24.23	64.11	101.54	7.09	4.4	3.32	2.94
Other Non-Current Assets	0	0.88	0.17	0	5.93	6.78	94.81	119.09	143.21	199.49
TOTAL NON-CURRENT ASSETS	**1,214.07**	**1,022.16**	**1,134.26**	**1,228.96**	**1,452.08**	**1,817.78**	**1,704.03**	**1,629.86**	**1,964.41**	**2,420.66**
CURRENT ASSETS										
Current Investments	0	164.15	90.92	284.63	234.13	269.17	568.87	1,353.18	1,072.01	1,151.39
Inventories	250.63	354.44	396.3	451.16	508.2	534.72	494.2	556.25	630.94	734.3
Trade Receivables	238.76	286.59	326.12	366.76	453.6	514.58	550.71	607.65	689.59	774.98
Cash And Cash Equivalents	33.12	92.32	257.61	136.82	145.18	58.1	72.25	50.47	77.76	117.18
Short Term Loans And Advances	100.46	75.68	90.23	59.41	85.15	67.54	15.53	18.48	13.22	15.38
OtherCurrentAssets	0	4.08	10.53	10.68	10.86	5.19	61.42	79.69	180.02	136.12
TOTAL CURRENT ASSETS	**622.96**	**977.27**	**1,171.71**	**1,309.47**	**1,437.13**	**1,449.28**	**1,762.98**	**2,665.72**	**2,663.54**	**2,929.35**
TOTAL ASSETS	**1,837.04**	**1,999.43**	**2,305.97**	**2,538.43**	**2,889.21**	**3,267.06**	**3,467.01**	**4,295.58**	**4,627.95**	**5,350.01**

Figure 3.1 Balance sheet Pidilite industries

PROFIT & LOSS ACCOUNT OF PIDILITE INDUSTRIES (in Rs. Cr.)	Mar-10	Mar-11	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19
	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths
INCOME										
REVENUE FROM OPERATIONS [GROSS]	**2,291.42**	**2,779.48**	**3,268.10**	**3,877.73**	**4,511.92**	**5,109.20**	**5,673.53**	**6,033.43**	**6,172.75**	**7,034.80**
Less: Excise/Sevice Tax/Other Levies	92.66	135.57	158.36	219.79	251.32	288.76	340.43	445.52	140.35	0
REVENUE FROM OPERATIONS [NET]	**2,198.76**	**2,643.91**	**3,109.74**	**3,657.94**	**4,260.59**	**4,820.44**	**5,333.10**	**5,587.91**	**6,032.40**	**7,034.80**
TOTAL OPERATING REVENUES	**2,198.76**	**2,643.91**	**3,109.74**	**3,657.94**	**4,260.59**	**4,820.44**	**5,333.10**	**5,587.91**	**6,032.40**	**7,034.80**
Other Income	18.21	43.24	60.3	90.64	67.48	69.15	105.9	141.13	194.42	190.58
TOTAL REVENUE	**2,216.97**	**2,687.15**	**3,170.04**	**3,748.58**	**4,328.07**	**4,889.59**	**5,439.00**	**5,729.04**	**6,226.82**	**7,225.38**
EXPENSES										
Cost Of Materials Consumed	1,132.85	1,308.56	1,601.66	1,844.02	2,181.43	2,473.81	2,295.42	2,270.43	2,565.02	3,265.51
Operating And Direct Expenses	5.74	0	0	0	0	0	0	0	0	0
Employee Benefit Expenses	252.48	286.98	326.23	374.58	442	497.25	572.15	645.27	712.4	836.66
Finance Costs	32.85	36.31	30.72	21.38	16.33	15.64	13.27	13.93	15.54	26.07
Depreciation And Amortisation Expenses	66.55	59.36	63.73	68.58	81.16	117.76	100.47	115.14	119.88	132.74
Other Expenses	281.07	496.81	576.38	696.44	808.44	894.68	1,030.86	1,072.17	1,137.14	1,287.29
TOTAL EXPENSES	**1,905.89**	**2,284.19**	**2,737.37**	**3,169.09**	**3,709.24**	**4,206.75**	**4,301.43**	**4,486.07**	**4,872.61**	**5,869.34**
PROFIT/LOSS BEFORE EXCEPTIONAL AND TAX	**311.08**	**402.96**	**432.66**	**579.49**	**618.83**	**682.84**	**1,137.57**	**1,242.97**	**1,354.21**	**1,356.04**
Exceptional Items	0	0	0	1.83	-6.5	-4.91	0	0	0	-18.02
PROFIT/LOSS BEFORE TAX	**311.08**	**402.96**	**432.66**	**581.32**	**612.33**	**677.93**	**1,137.57**	**1,242.97**	**1,354.21**	**1,338.02**
TAX EXPENSES-CONTINUED OPERATIONS										
Current Tax	42.47	94.29	105.4	156.48	162.52	159.61	310.23	375.28	374.08	406.58
Less: MAT Credit Entitlement	0	0	0	0	0	0	0	0	0	0
Deferred Tax	-1.65	0.27	4.63	3.04	2.76	9.8	23.31	9.77	18.63	6.65
Other Direct Taxes	0	0	0	0	0	0	0	0	0	0
TOTAL TAX EXPENSES	**40.81**	**94.57**	**110.03**	**159.51**	**165.27**	**169.41**	**333.54**	**385.05**	**392.71**	**413.23**
PROFIT/LOSS AFTER TAX	**270.27**	**308.39**	**322.64**	**421.81**	**447.06**	**508.53**	**804.03**	**857.92**	**961.5**	**924.79**

Figure 3.2 Profit-loss account Pidilite industries

BALANACE SHEET OF ASIAN PAINTS (in Rs. Cr.)	Mar-10	Mar-11	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19
EQUITIES AND LIABILITIES	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths
SHAREHOLDER'S FUNDS										
Equity Share Capital	95.92	95.92	95.92	95.92	95.92	95.92	95.92	95.92	95.92	95.92
TOTAL SHARE CAPITAL	**95.92**	**95.92**	**95.92**	**95.92**	**95.92**	**95.92**	**95.92**	**95.92**	**95.92**	**95.92**
Reserves and Surplus	1,461.30	1,879.40	2,391.86	2,926.34	3,505.01	4,134.34	4,867.24	6,998.83	7,702.24	8,791.64
TOTAL RESERVES AND SURPLUS	**1,461.30**	**1,879.40**	**2,391.86**	**2,926.34**	**3,505.01**	**4,134.34**	**4,867.24**	**6,998.83**	**7,702.24**	**8,791.64**
TOTAL SHAREHOLDERS FUNDS	**1,557.22**	**1,975.32**	**2,487.78**	**3,022.26**	**3,600.93**	**4,230.26**	**4,963.16**	**7,094.75**	**7,798.16**	**8,887.56**
NON-CURRENT LIABILITIES										
Long Term Borrowings	65.96	57.71	52.64	46.76	39.51	32.09	31.55	10.38	9.87	10.89
Deferred Tax Liabilities [Net]	70.47	75.5	80.75	143.33	177.07	167.78	207.69	261.17	270.33	416.35
Other Long Term Liabilities	0	4.96	3.62	0.5	0.12	0	1.68	5.96	3.26	2.9
Long Term Provisions	0	66.43	65.16	76.77	80.24	85.25	94.23	109.84	107.35	118.48
TOTAL NON-CURRENT LIABILITIES	**136.43**	**204.6**	**202.17**	**267.36**	**296.94**	**285.12**	**335.15**	**387.35**	**390.81**	**548.62**
CURRENT LIABILITIES										
Short Term Borrowings	0.33	3.98	110.51	0	0	0	0	26.84	0	4.35
Trade Payables	864.43	931.89	1,069.06	1,214.12	1,498.84	1,313.08	1,333.20	1,671.26	1,851.50	2,062.29
Other Current Liabilities	294.14	464.5	755.44	720.99	747.52	832.71	1,021.25	1,141.63	1,504.61	1,597.28
Short Term Provisions	304.17	274.75	355.07	423.55	537.48	612.03	711.39	36.2	42.85	52.27
TOTAL CURRENT LIABILITIES	**1,463.07**	**1,675.12**	**2,290.08**	**2,358.66**	**2,783.84**	**2,757.82**	**3,065.84**	**2,875.93**	**3,398.96**	**3,716.19**
TOTAL CAPITAL AND LIABILITIES	**3,156.72**	**3,855.04**	**4,980.03**	**5,648.28**	**6,681.71**	**7,273.20**	**8,364.15**	**10,358.03**	**11,587.93**	**13,152.37**
ASSETS										
NON-CURRENT ASSETS										
Tangible Assets	660.76	1,038.65	987.79	2,074.91	1,973.21	1,886.42	2,532.97	2,512.01	2,477.44	4,580.57
Intangible Assets	46.7	18.54	21.25	26.98	38.99	79.07	92.17	92.67	91.09	89.97
Capital Work-In-Progress	380.72	39.67	602.84	52.55	37.95	139.54	92.79	219.76	1,391.84	179.31
Other Assets	0	0	0	0	0	0	0	0	0	0
FIXED ASSETS	**1,088.18**	**1,096.86**	**1,611.88**	**2,154.44**	**2,050.15**	**2,105.03**	**2,717.93**	**2,824.44**	**3,960.37**	**4,849.85**
Non-Current Investments	703.69	206.83	279.22	359.7	548.19	775.72	1,006.89	1,598.20	1,547.33	1,817.37
Deferred Tax Assets [Net]	22.57	0	0	0	0	0	0	0	0	0
Long Term Loans And Advances	0	97.78	311.34	92.88	94.64	209.54	111.23	70.27	79.08	76
Other Non-Current Assets	0	0	0	0	6.32	13.64	30.54	434.92	500.06	355.8
TOTAL NON-CURRENT ASSETS	**1,814.44**	**1,401.47**	**2,202.44**	**2,607.02**	**2,699.30**	**3,103.93**	**3,866.59**	**4,927.83**	**6,086.84**	**7,099.02**
CURRENT ASSETS										
Current Investments	0	341	263	90	482	1,118.06	1,432.79	1,315.40	1,030.01	1,146.63
Inventories	763.14	1,071.76	1,264.42	1,480.79	1,665.05	1,802.18	1,610.12	2,194.09	2,178.43	2,585.10
Trade Receivables	331.43	355.56	500.24	633.88	712.36	728.87	759.06	994.63	1,138.20	1,244.95
Cash And Cash Equivalents	28.6	509.01	500.97	566.86	745.36	61.81	155.02	205.94	120.84	167.52
Short Term Loans And Advances	219.11	84.79	153.69	164.08	201.54	205.43	221.91	13.55	12.17	13.98
OtherCurrentAssets	0	91.45	95.27	105.65	176.1	252.92	318.66	706.59	1,021.44	895.17
TOTAL CURRENT ASSETS	**1,342.28**	**2,453.57**	**2,777.59**	**3,041.26**	**3,982.41**	**4,169.27**	**4,497.56**	**5,430.20**	**5,500.17**	**6,053.35**
TOTAL ASSETS	**3,156.72**	**3,855.04**	**4,980.03**	**5,648.28**	**6,681.71**	**7,273.20**	**8,364.15**	**10,358.03**	**11,587.93**	**13,152.37**

Figure 3.3 Balance sheet Asian paints

PROFIT & LOSS ACCOUNT OF ASIAN PAINTS (in Rs. Cr.)	Mar-10	Mar-11	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19
	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths
INCOME										
REVENUE FROM OPERATIONS [GROSS]	**7,393.30**	**8,346.24**	**10,438.10**	**12,033.94**	**13,889.10**	**15,473.19**	**15,661.76**	**18,355.45**	**17,038.26**	**19,172.00**
Less: Excise/Sevice Tax/Other Levies	449	655.23	839.77	1,127.93	1,307.46	1,467.86	1,570.20	3,482.93	437.68	8.32
REVENUE FROM OPERATIONS [NET]	**6,944.30**	**7,691.01**	**9,598.33**	**10,906.01**	**12,581.64**	**14,005.33**	**14,091.56**	**14,872.52**	**16,600.58**	**19,163.68**
TOTAL OPERATING REVENUES	**6,944.30**	**7,691.01**	**9,598.33**	**10,906.01**	**12,581.64**	**14,005.33**	**14,091.56**	**14,872.52**	**16,600.58**	**19,163.68**
Other Income	135.88	99.27	141.32	179.25	267.39	347.19	393.32	451.9	444.59	404.89
TOTAL REVENUE	**7,080.18**	**7,790.28**	**9,739.65**	**11,085.26**	**12,849.03**	**14,352.52**	**14,484.88**	**15,324.42**	**17,045.17**	**19,568.57**
EXPENSES										
Cost Of Materials Consumed	3,800.93	4,425.22	5,720.53	6,254.94	7,025.28	7,531.17	7,194.80	8,016.14	8,585.41	10,356.70
Operating And Direct Expenses	54.92	0	0	0	0	0	0	0	0	0
Employee Benefit Expenses	438.17	453.99	525.97	623.56	759.71	907.11	989.51	1,033.62	1,115.48	1,270.02
Finance Costs	28.47	23.21	40.97	36.65	42.22	34.76	40.66	29.99	35.07	51
Depreciation And Amortisation Expenses	83.56	113.13	121.13	154.6	245.66	265.92	275.58	334.79	360.47	430.67
Other Expenses	1,407.19	1,465.65	1,820.50	2,176.79	2,616.49	3,068.82	2,463.18	2,713.05	2,820.30	3,204.63
TOTAL EXPENSES	**5,826.36**	**6,530.54**	**8,285.57**	**9,430.05**	**11,004.80**	**12,248.08**	**11,818.58**	**12,440.35**	**14,022.48**	**16,298.66**
PROFIT/LOSS BEFORE EXCEPTIONAL ITEMS AND TAX	**1,253.82**	**1,259.74**	**1,454.08**	**1,655.21**	**1,844.23**	**2,104.44**	**2,666.30**	**2,884.07**	**3,022.69**	**3,269.91**
Exceptional Items	0	0	0	0	-9.96	-27.57	-52.45	0	0	0
PROFIT/LOSS BEFORE TAX	**1,253.82**	**1,259.74**	**1,454.08**	**1,655.21**	**1,834.27**	**2,076.87**	**2,613.85**	**2,884.07**	**3,022.69**	**3,269.91**
TAX EXPENSES-CONTINUED OPERATIONS										
Current Tax	373.18	355	429.34	439.37	536.4	658.7	801.68	889.61	1,041.30	940.35
Less: MAT Credit Entitlement	0	0	0	0	0	0	0	-0.53	-0.76	0
Deferred Tax	5.54	28.15	6.12	59.32	33.75	-8.05	47.27	49.65	-0.47	156.07
Other Direct Taxes	0	0	0	0	0	0	0	0	0	0
TOTAL TAX EXPENSES	**378.72**	**378.39**	**433.5**	**495.69**	**571.51**	**649.54**	**844.49**	**943.29**	**1,040.96**	**1,098.82**
PROFIT/LOSS AFTER TAX	**875.1**	**881.35**	**1,020.58**	**1,159.52**	**1,262.76**	**1,427.33**	**1,769.36**	**1,940.78**	**1,981.73**	**2,171.09**

Figure 3.4 Profit-loss account Asian paints

BALANCE SHEET OF KANSAI NEROLAC PAINTS (in Rs. Cr.)	Mar-10	Mar-08	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19
EQUITIES AND LIABILITIES	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths
SHAREHOLDER'S FUNDS										
Equity Share Capital	26.95	26.95	26.95	53.89	53.89	53.89	53.89	53.89	53.89	53.89
TOTAL SHARE CAPITAL	**26.95**	**26.95**	**26.95**	**53.89**	**53.89**	**53.89**	**53.89**	**53.89**	**53.89**	**53.89**
Reserves and Surplus	490.27	571.81	636.05	1,233.07	1,371.78	1,547.58	2,455.72	2,760.61	3,078.43	3,362.44
TOTAL RESERVES AND SURPLUS	**490.27**	**571.81**	**636.05**	**1,233.07**	**1,371.78**	**1,547.58**	**2,455.72**	**2,760.61**	**3,078.43**	**3,362.44**
TOTAL SHAREHOLDERS FUNDS	**517.21**	**598.75**	**663**	**1,286.96**	**1,425.68**	**1,601.47**	**2,509.61**	**2,814.50**	**3,132.32**	**3,416.33**
NON-CURRENT LIABILITIES										
Long Term Borrowings	119.41	113.36	91.79	66.75	57.09	45.8	29.44	18.2	9.71	4.35
Deferred Tax Liabilities [Net]	0	0.59	0	43.27	66.15	75.43	12.9	79.47	81.38	126.67
Other Long Term Liabilities	0	0	0	0	0	0	0	0	0	0
Long Term Provisions	0	0	0	38.52	28.79	25.49	4.05	0	0.13	0.02
TOTAL NON-CURRENT LIABILITIES	**119.41**	**113.95**	**91.79**	**148.54**	**152.03**	**146.72**	**46.39**	**97.67**	**91.22**	**131.04**
CURRENT LIABILITIES										
Short Term Borrowings	7.17	11.44	1.84	8.08	4.75	4.5	0	0	16.83	96.51
Trade Payables	167.61	193.03	243.8	392.6	442.67	331.24	551.27	560.66	699.87	693.38
Other Current Liabilities	2.72	0.51	0.44	167.18	171.43	187.01	111.9	124.71	152.16	144.29
Short Term Provisions	45.49	83.86	83.85	80.09	79.15	97.09	15.31	23.46	21.14	16.25
TOTAL CURRENT LIABILITIES	**222.99**	**288.84**	**329.92**	**647.96**	**698.01**	**619.84**	**678.48**	**708.83**	**890**	**950.43**
TOTAL CAPITAL AND LIABILITIES	**874.95**	**1,015.45**	**1,086.10**	**2,086.57**	**2,279.53**	**2,372.98**	**3,240.45**	**3,636.25**	**4,129.92**	**4,517.89**
ASSETS										
NON-CURRENT ASSETS										
Tangible Assets	217.7	233.14	237.44	782.09	914.56	911.64	934.76	954.29	1,030.90	1,404.70
Intangible Assets	6.86	6.86	0	1.99	4.77	2.49	0.55	0.9	2.37	40.79
Capital Work-In-Progress	17.63	26.64	35.62	123.49	48.16	43.94	41.95	154.37	345.98	316.35
FIXED ASSETS	**242.19**	**266.63**	**273.06**	**907.57**	**967.49**	**958.07**	**977.26**	**1,109.56**	**1,379.25**	**1,761.84**
Non-Current Investments	141.57	220.2	302.98	40.24	25.24	25.23	3.28	0.69	0.71	0.96
Deferred Tax Assets [Net]	6.51	10.98	11.99	0	0	0	0	0	0	0
Long Term Loans And Advances	0	0	0	37.85	33.76	60.36	0.65	0	12.21	14.16
Other Non-Current Assets	0	0	0	0	0	0	71.86	133.46	150.49	401
TOTAL NON-CURRENT ASSETS	**390.26**	**497.81**	**588.02**	**987.93**	**1,028.76**	**1,045.93**	**1,055.32**	**1,245.98**	**1,544.93**	**2,197.54**
CURRENT ASSETS										
Current Investments	0	0	0	12.5	23.38	182.48	535.56	530.75	519.96	195.56
Inventories	199.96	199.27	170.63	548.32	658.33	555.14	582.72	703.2	829.18	1,111.06
Trade Receivables	209.94	236.37	209.57	430.54	468.26	515.3	545.51	590.44	702.64	755.58
Cash And Cash Equivalents	22.06	34.25	76.16	61.44	55.27	34.45	478.51	261.44	363.61	96.19
Short Term Loans And Advances	52.72	47.75	41.71	19.88	26.12	20.63	0	3.32	3.32	5.22
OtherCurrentAssets	0	0	0	25.97	19.43	19.05	42.83	301.12	166.28	156.74
TOTAL CURRENT ASSETS	**484.68**	**517.64**	**498.08**	**1,098.65**	**1,250.77**	**1,327.05**	**2,185.13**	**2,390.27**	**2,584.99**	**2,320.35**
TOTAL ASSETS	**874.95**	**1,015.45**	**1,086.10**	**2,086.57**	**2,279.53**	**2,372.98**	**3,240.45**	**3,636.25**	**4,129.92**	**4,517.89**

Figure 3.5 Balance sheet Kansai Nerolac paints

PROFIT & LOSS ACCOUNT OF KANSAI NEROLAC PAINTS (in Rs. Cr.)	Mar-10	Mar-08	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19
	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths
INCOME										
REVENUE FROM OPERATIONS [GROSS]	**1,856.13**	**2,365.74**	**2,861.52**	**3,213.83**	**3,569.45**	**4,028.20**	**4,263.27**	**4,574.10**	**4,792.19**	**5,388.47**
Less: Excise/Sevice Tax/Other Levies	149.74	227.01	275.64	363.81	404.33	457.5	506.99	531.98	150.44	0
REVENUE FROM OPERATIONS [NET]	**1,706.38**	**2,138.73**	**2,585.87**	**2,850.02**	**3,165.12**	**3,570.70**	**3,756.28**	**4,042.12**	**4,641.75**	**5,388.47**
TOTAL OPERATING REVENUES	**1,706.38**	**2,138.73**	**2,585.87**	**2,850.02**	**3,165.12**	**3,570.70**	**3,756.28**	**4,042.12**	**4,641.75**	**5,388.47**
Other Income	20.38	23.46	38.96	33.21	27.79	37.81	38.12	108.43	87.24	96.37
TOTAL REVENUE	**1,726.76**	**2,162.19**	**2,624.83**	**2,883.23**	**3,192.91**	**3,608.51**	**3,794.40**	**4,150.55**	**4,728.99**	**5,484.84**
EXPENSES										
Cost Of Materials Consumed	1071.82	1400.24	1696.89	1,907.23	2,099.83	2,166.14	2,205.93	2,216.88	2,717.66	3,404.80
Operating And Direct Expenses	0	0	43.51	0	0	0	0	0	0	0
Employee Benefit Expenses	75.04	91.64	106.94	119.2	138.28	146.24	173.27	202.57	235.08	283.41
Finance Costs	1.19	0.84	0.08	0.68	1.79	0.92	0	0	0	9.97
Depreciation And Amortisation Expenses	44.26	49.36	56.35	47.35	65.52	68.26	68.29	70.09	77.07	106.28
Other Expenses	295.82	356.34	415.9	462.03	528.56	604.97	640.76	743.47	816.32	926.63
TOTAL EXPENSES	**1,488.13**	**1,898.42**	**2,319.67**	**2,577.39**	**2,883.08**	**3,205.01**	**3,250.50**	**3,385.24**	**3,942.03**	**4,788.05**
PROFIT/LOSS BEFORE EXCEPTIONAL ITEMS AND TAX	**238.6**	**263.76**	**305.12**	**305.84**	**309.83**	**403.5**	**543.9**	**765.31**	**786.96**	**696.79**
Exceptional Items	0	25.36	0	0	0	0	535.34	0	0	0
PROFIT/LOSS BEFORE TAX	**238.6**	**289.13**	**305.12**	**305.84**	**309.83**	**403.5**	**1,079.24**	**765.31**	**786.96**	**696.79**
TAX EXPENSES-CONTINUED OPERATIONS										
Current Tax	74.88	85.03	86.05	74.84	78.29	117.83	226.54	248.24	270.72	225.54
Less: MAT Credit Entitlement	0	0	0	0	0	0	0	0	0	0
Deferred Tax	-0.92	-1.89	3.19	53.43	22.88	10.48	-49.31	8.3	2.49	23.59
Other Direct Taxes	-0.85	0	0	0	0	0	0	0	0	0
TOTAL TAX EXPENSES	**73.1**	**83.14**	**89.24**	**128.27**	**101.17**	**128.31**	**177.23**	**255.23**	**273.21**	**249.13**
PROFIT/LOSS AFTER TAX	**165.5**	**205.98**	**215.88**	**177.57**	**208.66**	**275.19**	**902.01**	**510.08**	**513.75**	**447.66**

Figure 3.6 Profit-loss account Kansai Nerolac paints

BALANCE SHEET OF BERGER PAINTS INDIA (in Rs. Cr.)	Mar-10	Mar-11	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19
EQUITIES AND LIABILITIES	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths
SHAREHOLDER'S FUNDS										
Equity Share Capital	69.21	69.2	69.2	69.26	69.3	69.33	69.35	97.1	97.1	97.11
TOTAL SHARE CAPITAL	**69.21**	**69.2**	**69.2**	**69.26**	**69.3**	**69.33**	**69.35**	**97.1**	**97.1**	**97.11**
Reserves and Surplus	526.3	619.4	721.4	883.06	1,050.58	1,190.44	1,492.74	1,804.46	2,097.41	2,375.59
TOTAL RESERVES AND SURPLUS	**527.27**	**620.3**	**722.3**	**883.9**	**1,051.41**	**1,191.27**	**1,492.74**	**1,804.46**	**2,097.41**	**2,375.59**
TOTAL SHAREHOLDERS FUNDS	**596.49**	**689.5**	**791.5**	**953.16**	**1,120.71**	**1,260.60**	**1,562.09**	**1,901.56**	**2,194.51**	**2,476.15**
NON-CURRENT LIABILITIES										
Long Term Borrowings	267.37	183.4	144.4	215.22	147.07	251.21	210.75	262.08	249.47	238.92
Deferred Tax Liabilities [Net]	36.97	26.3	31.2	40.76	53.82	57.86	68.36	81.45	83.2	87.81
Other Long Term Liabilities	0	7.1	9.4	18	20.43	19.18	8.52	11.58	8.99	19.79
Long Term Provisions	0	0.9	0.8	2.96	2.57	5.37	3.84	4.17	4.56	6.96
TOTAL NON-CURRENT LIABILITIES	**304.35**	**217.7**	**185.8**	**276.94**	**223.89**	**333.62**	**291.47**	**359.28**	**346.22**	**353.48**
CURRENT LIABILITIES										
Short Term Borrowings	0	133.9	196.6	334.44	381.12	357.59	98.79	144.13	172.7	245.01
Trade Payables	245.1	273.6	358.3	407.21	544.29	559.68	669.87	761.2	955.25	999
Other Current Liabilities	58.01	107.2	185.3	126.18	219.3	133.2	231.68	244.44	243.83	257.05
Short Term Provisions	53.5	48.2	69.3	89.28	105.55	71.15	23.42	29.72	30.88	31.97
TOTAL CURRENT LIABILITIES	**356.61**	**562.9**	**809.5**	**957.11**	**1,250.26**	**1,121.62**	**1,023.76**	**1,179.49**	**1,402.66**	**1,533.03**
TOTAL CAPITAL AND LIABILITIES	**1,257.44**	**1,470.10**	**1,786.80**	**2,187.21**	**2,594.86**	**2,715.84**	**2,877.32**	**3,440.33**	**3,943.39**	**4,362.66**
ASSETS										
NON-CURRENT ASSETS										
Tangible Assets	234.55	264.2	332.9	397.58	624.8	719.46	766.48	950.2	997.83	1,094.78
Intangible Assets	194.92	169.9	176	201.32	238.97	211.2	9.98	6.86	4.77	8.1
Capital Work-In-Progress	32.6	81.8	73	167.4	133.32	100.44	51.06	62.21	97.16	169.89
FIXED ASSETS	**462.07**	**515.9**	**581.9**	**771.4**	**997.09**	**1,031.10**	**827.52**	**1,019.27**	**1,099.76**	**1,272.77**
Non-Current Investments	128.16	0.5	1	1	0.5	0	47.62	104.86	105.54	144.12
Deferred Tax Assets [Net]	10.55	0	0	0	0	0	0.53	0.76	0.74	0.71
Long Term Loans And Advances	0	13.3	44.7	54.53	45.74	35.12	15.51	13.71	20.43	16.91
Other Non-Current Assets	0	1.2	0.1	0.13	0.11	0.18	60.22	55.03	84.13	64.39
TOTAL NON-CURRENT ASSETS	**600.78**	**530.9**	**627.7**	**827.06**	**1,043.44**	**1,066.40**	**1,137.86**	**1,372.53**	**1,575.17**	**1,768.15**
CURRENT ASSETS										
Current Investments	0	52.1	3	9.82	90.18	134.49	299.92	367.27	227.59	250.8
Inventories	329.86	443.8	554.4	636.39	695.66	719.47	733.23	935.47	1,007.34	1,233.53
Trade Receivables	242.32	272.8	358.6	411.44	485.66	535.21	545.4	578.14	692.4	671.48
Cash And Cash Equivalents	41.26	125.3	182.4	227.01	184.09	169.76	105.33	102.45	204.97	238.48
Short Term Loans And Advances	43.23	42	54	64.87	84.31	71.91	4.74	11.33	1.96	7.98
OtherCurrentAssets	0	3.2	5.9	*10.17*	*10.4*	*11.65*	*41.84*	*63.06*	*225.05*	181.33
TOTAL CURRENT ASSETS	**656.67**	**939.2**	**1,158.30**	**1,359.70**	**1,550.30**	**1,642.49**	**1,730.46**	**2,057.72**	**2,359.31**	**2,583.60**
TOTAL ASSETS	**1,257.44**	**1,470.10**	**1,786.80**	**2,187.21**	**2,594.86**	**2,715.84**	**2,877.32**	**3,440.33**	**3,943.39**	**4,362.66**

Figure 3.7 Balance sheet Berger Paints

PROFIT & LOSS ACCOUNT OF BERGER PAINTS INDIA (in Rs. Cr.)	Mar-10	Mar-11	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19
	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths
INCOME										
REVENUE FROM OPERATIONS [GROSS]	1,979.40	2,525.80	3,182.10	3,651.31	4,235.45	4,741.60	4,668.95	5,033.60	5,232.78	6,004.63
Less: Excise/Sevice Tax/Other Levies	139.7	197.7	246	316.71	380.99	436.61	460.75	498.2	116.39	0
REVENUE FROM OPERATIONS [NET]	1,839.70	2,328.10	2,936.10	3,334.60	3,854.46	4,304.99	4,208.20	4,535.40	5,116.39	6,004.63
TOTAL OPERATING REVENUES	1,839.70	2,328.10	2,936.10	3,334.60	3,854.46	4,304.99	4,208.20	4,535.40	5,116.39	6,004.63
Other Income	25.73	42.80	42.10	43.24	51.21	53.09	49.58	71.39	95.21	117.26
TOTAL REVENUE	1,919.39	2,370.90	2,978.20	3,377.84	3,905.67	4,358.08	4,257.78	4,606.79	5,211.60	6,121.89
EXPENSES										
Cost Of Materials Consumed	1,122.37	1,409.40	1,783.00	1,866.68	2,055.36	2,196.64	2,075.45	2,283.60	2,678.14	3,416.50
Operating And Direct Expenses	4.19	0	0	0	0	0	0	0	0	0
Employee Benefit Expenses	125.25	143.2	163.9	187.12	225.24	253.13	273.5	306.72	356.58	408.51
Finance Costs	17.2	24.3	32.3	37.66	46.63	50.14	27.28	16.22	24.55	32.33
Depreciation And Amortisation Expenses	35.82	40.1	47.2	56.72	70.71	92.5	98.65	108.05	124.21	137.77
Other Expenses	340.18	478.5	604.9	729.47	867.76	1,026.95	834.67	934.67	992.2	1,072.17
TOTAL EXPENSES	1,747.32	2,154.80	2,723.70	3,069.60	3,555.69	3,953.98	3,704.29	3,957.96	4,507.50	5,350.39
PROFIT/LOSS BEFORE EXCEPTIONAL ITEMS AND TAX	172.07	216.1	254.5	308.24	349.98	404.1	553.49	648.83	704.1	771.5
Exceptional Items	0	0	0	0	0	0	0	44.2	0	0
PROFIT/LOSS BEFORE TAX	172.07	216.1	254.5	308.24	349.98	404.1	553.49	693.03	704.1	771.5
TAX EXPENSES-CONTINUED OPERATIONS										
Current Tax	48.61	65.3	69.9	82.94	91.32	130.87	176.17	214.83	245.64	267.62
Less: MAT Credit Entitlement	0	0	0	0	0	0	0	0	0	0
Deferred Tax	3.01	0.7	4.4	6.9	9.22	8.53	12.45	14.59	-1.73	5.53
Other Direct Taxes	0	0	0	0	0	0	0	0	0	0
TOTAL TAX EXPENSES	51.62	66	74.4	89.84	100.59	139.4	188.62	229.42	243.91	273.15
PROFIT/LOSS AFTER TAX	120.45	150.1	180.1	218.4	249.39	264.7	364.87	463.61	460.19	498.35

Figure 3.8 Profit-loss account Berger paints

BALANCE SHEET OF SHALIMAR PAINTS (in Rs. Cr.)	Mar-10	Mar-08	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19
EQUITIES AND LIABILITIES	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths
SHAREHOLDER'S FUNDS										
Equity Share Capital	3.79	3.79	3.79	3.79	3.79	3.79	3.79	3.79	3.79	10.73
TOTAL SHARE CAPITAL	3.79	3.79	3.79	3.79	3.79	3.79	3.79	3.79	3.79	10.73
Reserves and Surplus	38.86	47.01	57.08	68.4	66.71	55.02	59.45	180.04	133.97	294.35
TOTAL RESERVES AND SURPLUS	41.85	49.92	59.94	71.22	69.52	57.82	62.26	180.04	133.97	294.35
TOTAL SHAREHOLDERS FUNDS	45.63	53.71	63.72	75.01	73.3	61.61	66.05	183.83	138.04	305.3
NON-CURRENT LIABILITIES										
Long Term Borrowings	1.76	1.25	0.03	7.35	13.45	18.43	33.57	23.67	24.94	18.09
Deferred Tax Liabilities [Net]	3.33	3.15	2.83	2.58	1.77	0	0	21.51	0	0
Other Long Term Liabilities	0	0.27	0.34	0.54	0.34	0.28	0.3	0.28	0.23	1.1
Long Term Provisions	0	5.12	6.27	6.97	7.78	7.47	7.72	6.75	6.71	6.03
TOTAL NON-CURRENT LIABILITIES	5.09	9.79	9.48	17.15	23.34	26.18	41.59	52.21	31.88	25.22
CURRENT LIABILITIES										
Short Term Borrowings	48.18	58.49	68.81	81.05	96.5	111.36	94.02	137.13	150.03	126.83
Trade Payables	105.2	103.77	131.58	164.34	161.82	157.71	156.88	129.07	139.52	97.64
Other Current Liabilities	0.43	21.37	21.41	27.48	26.15	21.57	32.71	31.02	32.84	33.26
Short Term Provisions	5.1	5.38	8.23	1.69	0.1	0.06	0.05	1.29	1.92	4.53
TOTAL CURRENT LIABILITIES	158.91	189	230.03	274.56	284.58	290.7	283.66	298.51	324.3	262.26
TOTAL CAPITAL AND LIABILITIES	209.63	252.5	303.23	366.71	381.22	378.49	391.3	534.55	494.22	592.78
ASSETS										
NON-CURRENT ASSETS										
Tangible Assets	37.5	36.18	35.83	36.21	35	73.19	72.04	219.87	247.86	242.97
Intangible Assets	0	2.91	1.9	1.2	1.9	2.88	2.57	1.85	1.75	1.33
Capital Work-In-Progress	0.16	0.31	0.91	7.88	17.64	0.77	5.53	13.74	0.67	23.58
FIXED ASSETS	37.65	39.4	38.63	45.29	54.54	76.84	80.14	235.46	250.28	267.88
Non-Current Investments	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0	0	0
Deferred Tax Assets [Net]	0.51	0	0	0	0	2.49	3.46	0	0.36	28.01
Long Term Loans And Advances	0	1.4	1.23	1.28	1.82	2.2	2.04	2.06	2.04	1.9
Other Non-Current Assets	0.04	0.04	0.04	0.35	0.06	0.06	0.01	7.85	0.63	4.69
TOTAL NON-CURRENT ASSETS	38.41	41.04	40.1	46.82	56.62	81.79	85.86	245.37	253.3	302.48
CURRENT ASSETS										
Current Investments	0	0	0	0	0	0	0	2.92	0	0
Inventories	62.85	83.12	105.81	131.97	121.35	105.98	110.92	92.55	74.01	71.36
Trade Receivables	91.81	113.81	138.21	154.48	159.67	150.11	143.24	124.7	105.84	99.01
Cash And Cash Equivalents	10.2	10.65	13.26	15.16	4.47	0.98	9.03	11.8	19.16	91.01
Short Term Loans And Advances	6.36	0.48	0.73	6.96	8.31	9.12	9.62	0	0	0
OtherCurrentAssets	0	3.39	5.12	11.32	30.8	30.51	32.63	57.2	41.92	28.92
TOTAL CURRENT ASSETS	171.22	211.46	263.13	319.89	324.6	296.7	305.44	289.17	240.92	290.3
TOTAL ASSETS	209.63	252.5	303.23	366.71	381.22	378.49	391.3	534.55	494.22	592.78

Figure 3.9 Balance sheet Shalimar paints

PROFIT & LOSS ACCOUNT OF SHALIMAR PAINTS (in Rs. Cr.)	Mar-10	Mar-11	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19
	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths	12 mths
INCOME										
REVENUE FROM OPERATIONS [GROSS]	**395.49**	**440.14**	**525.97**	**588.7**	**535.78**	**481.04**	**451.05**	**392.88**	**275.54**	**286.84**
Less: Excise/Sevice Tax/Other Levies	28.07	35.7	42.19	61.34	56.77	49.98	49.69	44.33	6.55	0
REVENUE FROM OPERATIONS [NET]	**367.43**	**404.45**	**483.78**	**527.36**	**479.01**	**431.06**	**401.36**	**348.55**	**268.99**	**286.84**
TOTAL OPERATING REVENUES	**367.43**	**404.45**	**483.78**	**527.36**	**479.01**	**431.06**	**401.36**	**348.55**	**268.99**	**286.84**
Other Income	1.86	3.17	2.75	2.98	10.52	4.61	1.87	3.21	2.84	2.81
TOTAL REVENUE	**369.29**	**407.62**	**486.53**	**530.34**	**489.53**	**435.67**	**403.23**	**351.76**	**271.83**	**289.65**
EXPENSES										
Cost Of Materials Consumed	225.42	252.59	322.31	342.83	315.91	267.84	235.42	190.57	141.44	193.93
Operating And Direct Expenses	0.36	0	0	0	0	0	0	0	0	0
Employee Benefit Expenses	19.74	22.73	25.3	28.71	38.22	36.7	34.65	35.32	39.41	42.01
Finance Costs	7.6	9.75	12.77	16.58	20.97	20.65	22.15	22.57	26.03	24.94
Depreciation And Amortisation Expenses	3.38	3.4	4.3	3.84	3.68	4.76	5.04	8.14	7.88	8.49
Other Expenses	94.12	100.95	103.58	109.41	78.56	81.28	74.27	57.34	57	87.11
TOTAL EXPENSES	**354.17**	**390.98**	**465.58**	**512.56**	**493.13**	**450.51**	**398.94**	**366.97**	**339.2**	**383.11**
PROFIT/LOSS BEFORE EXCEPTIONAL ITEMS AND TAX	**15.12**	**16.64**	**20.96**	**17.78**	**-3.6**	**-14.85**	**4.28**	**-15.21**	**-67.37**	**-93.46**
Exceptional Items	0	0	0	-2.12	0	0	0	0	0	-15.68
PROFIT/LOSS BEFORE TAX	**15.12**	**16.64**	**20.96**	**15.66**	**-3.6**	**-14.85**	**4.28**	**-15.21**	**-67.37**	**-109.13**
TAX EXPENSES-CONTINUED OPERATIONS										
Current Tax	4.68	4.64	6.82	4.89	0	0	0	0	0	0
Less: MAT Credit Entitlement	0	0	0	0	0	0	0	0	0	0
Deferred Tax	0.44	0.34	-0.32	-0.25	-0.81	-4.26	-0.97	-5.52	-21.81	-27.39
Other Direct Taxes	0	0	0	0	0	0	0	0	0	0
TOTAL TAX EXPENSES	**5.12**	**4.97**	**6.49**	**4.65**	**-0.81**	**-4.26**	**-0.97**	**-5.52**	**-21.81**	**-27.39**
PROFIT/LOSS AFTER TAX	**10**	**11.67**	**14.46**	**11.02**	**-2.8**	**-10.58**	**5.25**	**-9.69**	**-45.55**	**-81.74**

Figure 3.10 Profit-loss account
Shalimar Paints

3.2 Variables

To examine the effect of various qualities from fiscal summaries on gainfulness, NPR was utilized as the determinant of productivity. Other variables taken as independent variables were ITR, QR and CCC. DER and firm size were taken as control variables. These proportions have been determined from the fiscal summaries of the given firms. The variables are as follows:

NPR = PAT/Revenue

ITR = COGS/ Average Inventory

QR = (CA – Inventories)/ CL

CCC = DIO + DSO + (- DPO)

Where,

DIO = 365/ ITR

DPO = 365/ APT

DSO = 365/ ART

APT = COGS/ Average trade Payables

ART = Sales/ Average trade Receivables

DER = TL / TE

Firm Size = Ln (Market Capitalisation)

Where,

Market Capitalisation = (Total Number of shares allocated) * (Market price of each share on 31st march of every year)

Calculated Ratios using excel and then getting normalised values:

		Pidilite						Asian Paints						Nerolac					
Year		Independent			Dependent	Control		Independent			Dependent	Control		Independent			Dependent	Control	
		ITR	QR	CCC	NPR	DER	ln(MC)	ITR	QR	CCC	NPR	DER	ln(MC)	ITR	QR	CCC	NPR	DER	ln(MC)
2011		4.33	1.13	84.44	0.12	0.75	25.048	4.82	0.82	17.99	0.11	0.95	23.952	7.01	1.10	43.19	0.10	0.67	22.270
2012		4.27	1.00	85.73	0.10	0.67	25.225	4.9	0.66	26.95	0.11	1.00	24.186	9.17	0.99	24.29	0.08	0.64	22.319
2013		4.35	1.15	81.07	0.12	0.47	25.628	4.56	0.66	32.42	0.11	0.87	24.604	5.31	0.85	48.81	0.06	0.62	22.114
2014		4.55	1.19	72.81	0.10	0.42	25.777	4.47	0.83	30.72	0.10	0.86	26.984	3.48	0.85	84.17	0.07	0.60	22.569
2015		4.74	1.08	69.73	0.11	0.39	26.454	4.34	0.86	34.78	0.10	0.72	27.368	3.57	1.25	87.34	0.08	0.48	25.511
2016		4.46	1.77	69.76	0.15	0.31	26.438	4.22	0.94	38.67	0.13	0.69	27.473	3.88	2.36	72.63	0.24	0.29	25.726
2017		4.32	2.68	70.47	0.15	0.26	26.605	4.21	1.13	39.87	0.13	0.46	27.672	3.45	2.38	65.58	0.13	0.29	26.092
2018		4.32	2.29	69.90	0.16	0.30	26.868	3.93	0.98	41.37	0.12	0.49	27.686	3.55	1.97	68.97	0.11	0.31	26.282
2019		4.78	2.26	65.28	0.13	0.28	27.171	4.35	0.93	37.61	0.11	0.48	27.974	3.51	1.27	78.74	0.08	0.32	26.271
Mean		4.46	1.62	74.36	0.13	0.43	26.13	4.42	0.87	33.38	0.11	0.72	26.43	4.77	1.45	63.75	0.11	0.47	24.35
S.D.		0.19	0.65	7.40	0.02	0.18	0.74	0.31	0.15	7.41	0.01	0.21	1.67	2.04	0.62	20.95	0.05	0.17	1.95

Normalised Data Values

		Pidilite						Asian Paints						Nerolac					
Year		ITR	QR	CCC	NPR	DER	ln(MC)	ITR	QR	CCC	NPR	DER	ln(MC)	ITR	QR	CCC	NPR	DER	ln(MC)
2011		-0.667	-0.754	1.362	-0.451	1.846	-1.462	1.301	-0.293	-2.075	0.139	1.085	-1.487	1.097	-0.555	-0.981	-0.159	1.233	-1.069
2012		-0.981	-0.964	1.536	-1.022	1.392	-1.224	1.563	-1.398	-0.866	-0.650	1.323	-1.346	2.154	-0.731	-1.884	-0.394	1.013	-1.044
2013		-0.563	-0.718	0.908	-0.510	0.212	-0.682	0.451	-1.392	-0.129	-0.651	0.692	-1.096	0.264	-0.961	-0.713	-0.782	0.910	-1.149
2014		0.482	-0.660	-0.209	-0.970	-0.063	-0.481	0.156	-0.242	-0.358	-1.219	0.629	0.330	-0.631	-0.962	0.975	-0.715	0.774	-0.915
2015		1.474	-0.829	-0.625	-0.945	-0.210	0.429	-0.269	-0.068	0.189	-1.071	-0.018	0.560	-0.587	-0.325	1.126	-0.511	0.067	0.596
2016		0.012	0.235	-0.620	1.062	-0.676	0.408	-0.661	0.494	0.714	1.185	-0.180	0.623	-0.436	1.470	0.424	2.472	-1.074	0.707
2017		-0.720	1.652	-0.525	1.185	-0.926	0.632	-0.694	1.729	0.876	1.656	-1.250	0.742	-0.646	1.500	0.088	0.387	-1.088	0.895
2018		-0.720	1.038	-0.601	1.444	-0.729	0.987	-1.610	0.733	1.078	0.595	-1.126	0.751	-0.597	0.845	0.249	0.104	-0.927	0.992
2019		1.683	1.000	-1.226	0.206	-0.846	1.394	-0.236	0.437	0.571	0.015	-1.155	0.923	-0.617	-0.281	0.716	-0.402	-0.908	0.986

Figure 3.11 Ratios and Normalised data values for Pidilite industries, Asian paints, Kansai Nerolac paints

	Shalimar						Berger					
	Independent			Dependent	Control		Independent			Dependent	Control	
ITR	QR	CCC	NPR	DER	ln(MC)	ITR	QR	CCC	NPR	DER	ln(MC)
3.46	0.68	47.54	0.03	3.70	19.125	3.64	0.88	73.43	0.06	1.13	23.206
3.41	0.68	68.88	0.03	3.76	19.528	3.57	0.75	76.77	0.06	1.26	23.340
2.88	0.68	70.80	0.02	3.89	21.361	3.14	0.76	83.59	0.07	1.29	23.957
2.49	0.71	78.11	-0.01	4.20	21.485	3.09	0.68	76.12	0.06	1.32	24.098
2.36	0.66	68.69	-0.02	5.14	21.576	3.1	0.82	69.33	0.06	1.15	25.314
2.17	0.69	58.08	0.01	4.92	21.328	2.86	0.97	66.49	0.09	0.84	25.795
1.87	0.66	61.14	-0.03	1.91	21.831	2.74	0.95	64.02	0.10	0.81	26.137
1.70	0.51	23.74	-0.17	2.58	21.715	2.76	0.96	60.60	0.09	0.80	26.195
2.67	0.83	44.50	-0.28	0.94	22.258	3.05	0.88	56.82	0.08	0.76	26.500
2.56	0.68	57.94	-0.05	3.45	21.13	3.11	0.85	69.69	0.08	1.04	24.95
0.62	0.08	16.87	0.11	1.39	1.07	0.32	0.11	8.59	0.02	0.23	1.30

	Shalimar						Berger					
ITR	QR	CCC	NPR	DER	ln(MC)	ITR	QR	CCC	NPR	DER	ln(MC)
1.461	0.000	-0.617	0.696	0.181	-1.883	1.670	0.277	0.436	-0.726	0.392	-1.339
1.380	0.059	0.648	0.706	0.223	-1.505	1.451	-0.997	0.825	-0.933	0.927	-1.236
0.523	0.066	0.762	0.623	0.317	0.213	0.108	-0.905	1.620	-0.659	1.086	-0.762
-0.108	0.430	1.196	0.376	0.542	0.329	-0.049	-1.590	0.750	-0.711	1.174	-0.654
-0.318	-0.281	0.637	0.204	1.221	0.414	-0.017	-0.266	-0.041	-0.923	0.487	0.281
-0.625	0.082	0.008	0.551	1.063	0.182	-0.767	1.170	-0.372	0.740	-0.848	0.650
-1.110	-0.249	0.189	0.174	-1.112	0.653	-1.142	0.955	-0.660	1.763	-0.988	0.913
-1.385	-2.009	-2.028	-1.132	-0.627	0.544	-1.080	1.073	-1.058	0.954	-1.040	0.957
0.183	1.904	-0.797	-2.198	-1.809	1.053	-0.174	0.282	-1.499	0.495	-1.190	1.191

Figure 3.12 Ratios and Normalised data values for Shalimar paints, Berger paints

3.3 Correlation Analysis

It is a measurement used to quantify how much two components move corresponding to one another. It's a fact-based method that shows whether & how firmly the sets of different components are identified with one another. A perfect relationship connotes that a coefficient is actually worth '1' value, that suggests that as a particular variable displaces, either in upwards or downwards bearing the other variable likewise moves likewise. While a perfect negative correlation connotes 2 components displaces in opposite directions and '0' relationship represents no relationship exists between the components. Thus correlation measures the association between variables. Pearson's correlation signified by r quantifies immediate relationship quality between the 2 components. The coefficient, r, acquires a value from +1 to - 1 as level of quality. A value little more than '0' represents a positive association which means that as a particular variable, expands, other additionally increments. Value little less than '0' represents a negative association which means that as the value of a particular variable, expands, the value of other reduces. Correlations are practicably used to forecast the future behavior of variables.

3.4 Regression Analysis

It is used for two conceptually distinct purposes, first for prediction and forecasting and second for inferring causal relationships between independent and dependent variables. It determines the degree to which independent variables influence the dependent variables. Multiple regression analysis is applied when prediction of one variable depends upon the value of more. Models with and without control variables have been presented in the study. The regression equation:

$$Y= B_0+B_1X_1+B_2X_2.....+B_nX_n$$

Here,

Y= Dependent variable

X_1, X_2, X_3= Independent and control variables

B_0= Intercept (constant)

B_1, B_2, B_3= Coefficients

n= Number of variables taken

Variables taken:

Criterion (Dependent) - NPR

Predictors (Independent) -

1. ITR
2. QR
3. CCC

Hypothesis:

"To study the effects of different attributes from financial statement on the NPR, null (H_0) and alternative (H_1) hypothesis were framed as:

H_0 = There is no significant impact of attributes on NPR.

H_1 = There is a significant impact of attributes on NPR."

CHAPTER 4

RESULTS

4.1 Correlation Check for Variables of Each Company

4.1.1 Company 1: Pidilite industries

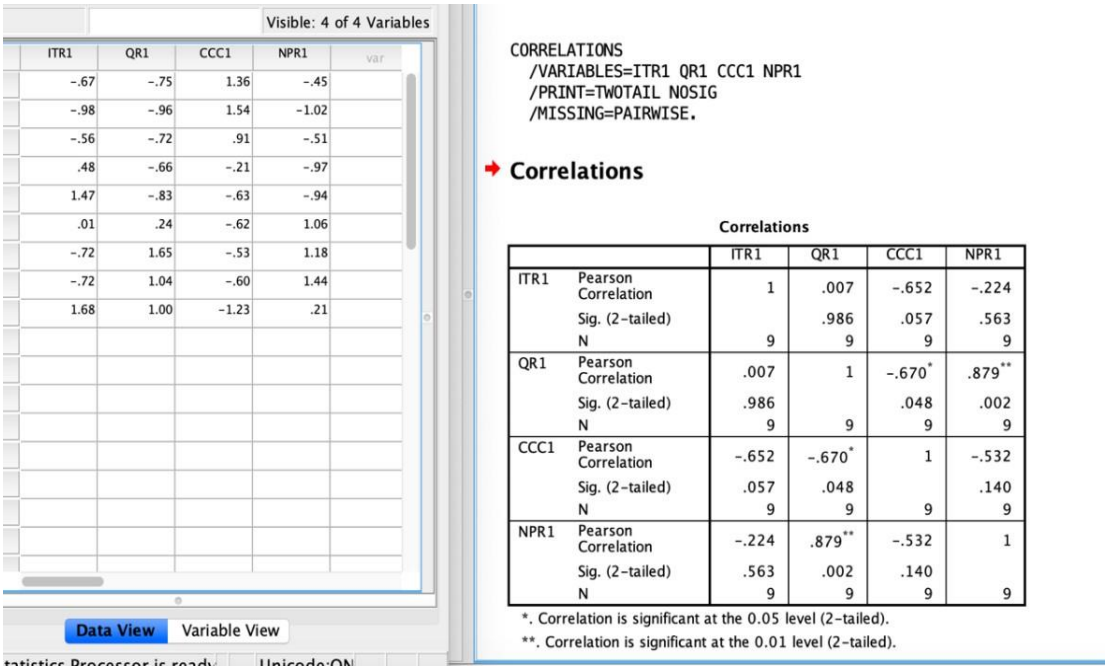
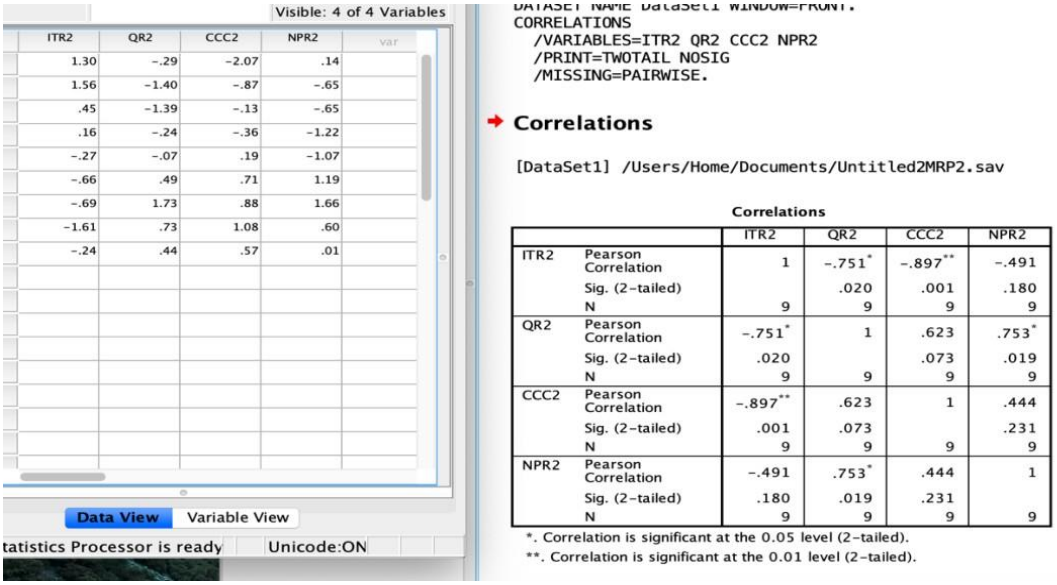


Figure 4.1 Correlation check for Pidilite industries

4.1.2 Company 2: Asian Paints



Visible: 4 of 4 Variables

ITR2	QR2	CCC2	NPR2	var
1.30	-.29	-2.07	.14	
1.56	-1.40	-.87	-.65	
.45	-1.39	-.13	-.65	
.16	-.24	-.36	-1.22	
-.27	-.07	.19	-1.07	
-.66	.49	.71	1.19	
-.69	1.73	.88	1.66	
-1.61	.73	1.08	.60	
-.24	.44	.57	.01	

Data View | Variable View

tatistics Processor is ready | Unicode:ON

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Correlations

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Correlations

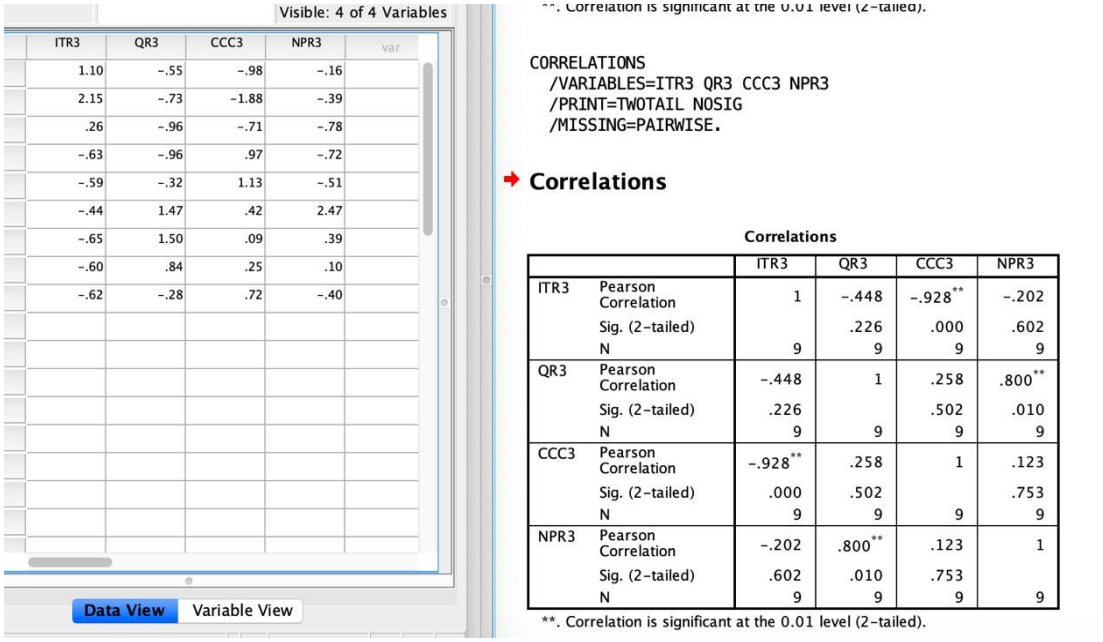
		ITR2	QR2	CCC2	NPR2
ITR2	Pearson Correlation	1	-.751*	-.897**	-.491
	Sig. (2-tailed)		.020	.001	.180
	N	9	9	9	9
QR2	Pearson Correlation	-.751*	1	.623	.753*
	Sig. (2-tailed)	.020		.073	.019
	N	9	9	9	9
CCC2	Pearson Correlation	-.897**	.623	1	.444
	Sig. (2-tailed)	.001	.073		.231
	N	9	9	9	9
NPR2	Pearson Correlation	-.491	.753*	.444	1
	Sig. (2-tailed)	.180	.019	.231	
	N	9	9	9	9

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Figure 4.2 Correlation check for Asian paints

4.1.3 Company 3: Kansai Nerolac Paints



Visible: 4 of 4 Variables

ITR3	QR3	CCC3	NPR3	var
1.10	-.55	-.98	-.16	
2.15	-.73	-1.88	-.39	
.26	-.96	-.71	-.78	
-.63	-.96	.97	-.72	
-.59	-.32	1.13	-.51	
-.44	1.47	.42	2.47	
-.65	1.50	.09	.39	
-.60	.84	.25	.10	
-.62	-.28	.72	-.40	

Data View | Variable View

**. Correlation is significant at the 0.01 level (2-tailed).

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Correlations

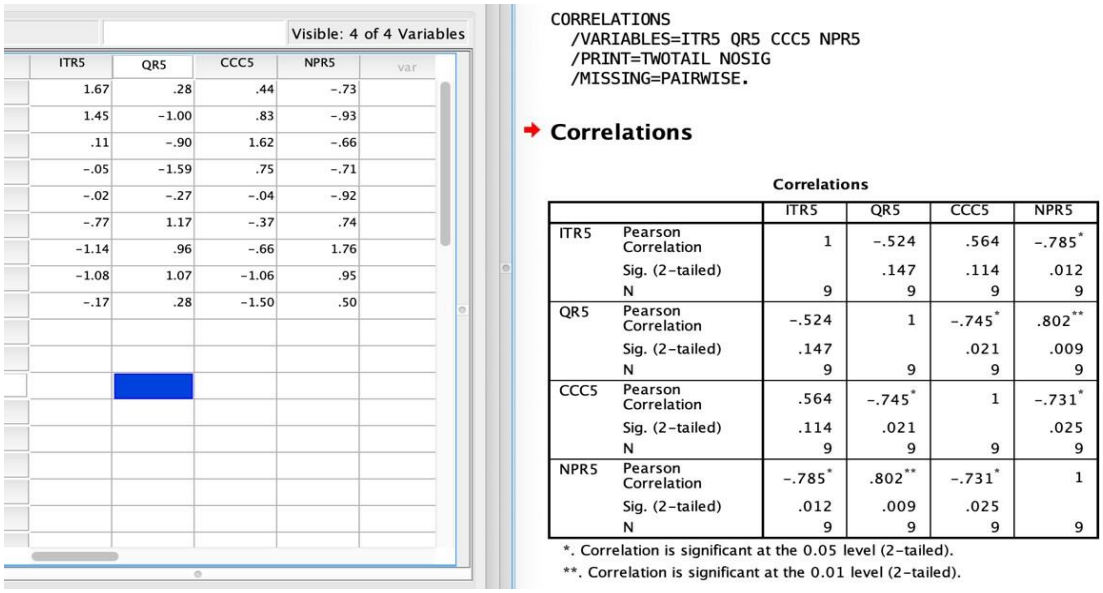
Correlations

		ITR3	QR3	CCC3	NPR3
ITR3	Pearson Correlation	1	-.448	-.928**	-.202
	Sig. (2-tailed)		.226	.000	.602
	N	9	9	9	9
QR3	Pearson Correlation	-.448	1	.258	.800**
	Sig. (2-tailed)	.226		.502	.010
	N	9	9	9	9
CCC3	Pearson Correlation	-.928**	.258	1	.123
	Sig. (2-tailed)	.000	.502		.753
	N	9	9	9	9
NPR3	Pearson Correlation	-.202	.800**	.123	1
	Sig. (2-tailed)	.602	.010	.753	
	N	9	9	9	9

**. Correlation is significant at the 0.01 level (2-tailed).

Figure 4.3 Correlation check for Kansai Nerolac paints

4.1.4 Company 4: Berger paints



Visible: 4 of 4 Variables

ITR5	QR5	CCC5	NPR5	var
1.67	.28	.44	-.73	
1.45	-1.00	.83	-.93	
.11	-.90	1.62	-.66	
-.05	-1.59	.75	-.71	
-.02	-.27	-.04	-.92	
-.77	1.17	-.37	.74	
-1.14	.96	-.66	1.76	
-1.08	1.07	-1.06	.95	
-.17	.28	-1.50	.50	

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Correlations

Correlations

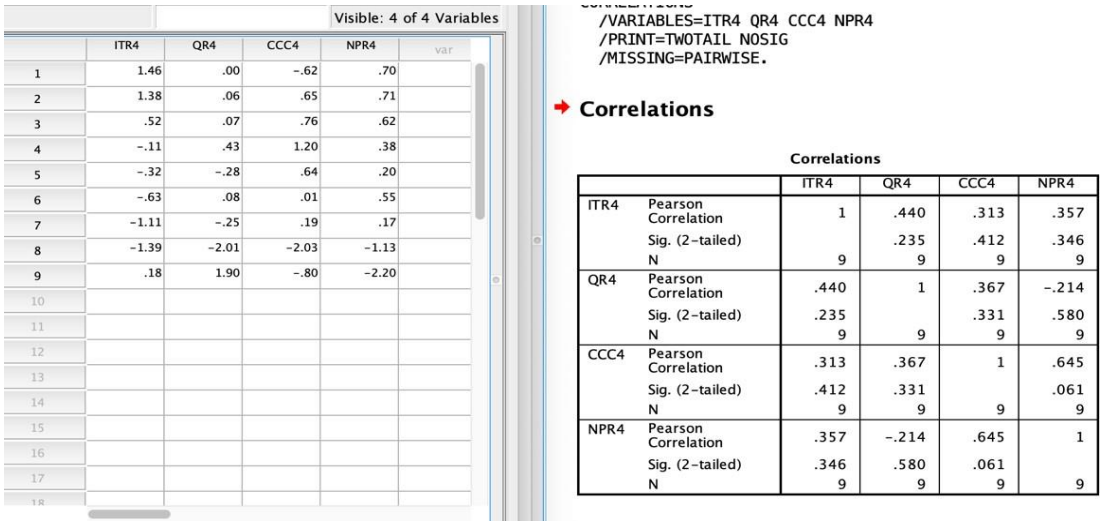
		ITR5	QR5	CCC5	NPR5
ITR5	Pearson Correlation	1	-.524	.564	-.785*
	Sig. (2-tailed)		.147	.114	.012
	N	9	9	9	9
QR5	Pearson Correlation	-.524	1	-.745*	.802**
	Sig. (2-tailed)	.147		.021	.009
	N	9	9	9	9
CCC5	Pearson Correlation	.564	-.745*	1	-.731*
	Sig. (2-tailed)	.114	.021		.025
	N	9	9	9	9
NPR5	Pearson Correlation	-.785*	.802**	-.731*	1
	Sig. (2-tailed)	.012	.009	.025	
	N	9	9	9	9

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Figure 4.4 Correlation check for Berger paints

4.1.5 Company 5: Shalimar paints



Visible: 4 of 4 Variables

	ITR4	QR4	CCC4	NPR4	var
1	1.46	.00	-.62	.70	
2	1.38	.06	.65	.71	
3	.52	.07	.76	.62	
4	-.11	.43	1.20	.38	
5	-.32	-.28	.64	.20	
6	-.63	.08	.01	.55	
7	-1.11	-.25	.19	.17	
8	-1.39	-2.01	-2.03	-1.13	
9	.18	1.90	-.80	-2.20	
10					
11					
12					
13					
14					
15					
16					
17					
18					

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Correlations

Correlations

		ITR4	QR4	CCC4	NPR4
ITR4	Pearson Correlation	1	.440	.313	.357
	Sig. (2-tailed)		.235	.412	.346
	N	9	9	9	9
QR4	Pearson Correlation	.440	1	.367	-.214
	Sig. (2-tailed)	.235		.331	.580
	N	9	9	9	9
CCC4	Pearson Correlation	.313	.367	1	.645
	Sig. (2-tailed)	.412	.331		.061
	N	9	9	9	9
NPR4	Pearson Correlation	.357	-.214	.645	1
	Sig. (2-tailed)	.346	.580	.061	
	N	9	9	9	9

Figure 4.5 Correlation check for Shalimar paints

From the tables where we checked for correlations between different variables, we inferred that there was some significant correlation between two particular variables in one company but the same was not true for other companies. Hence, we couldn't generalize the correlation between two particular variables (either b/w two independent variables or b/w an independent & dependent variable) for all companies.

4.2 Regression Check for Variables of Each Company

Note:

Each Company was encoded to a specific value. Company coded values were:

Pidilite Industries : 1

Asian Paints : 2

Kansai Nerolac Paints : 3

Shalimar Paints : 4

Berger Paints : 5

These 'Company Name' variables were used as predictors for Panel Regression Analysis and had no impact on the variance in dependent variable and they have to be ignored while interpreting the models.

4.2.1 Panel Regression analysis without any Control Variable

Descriptive Statistics

	Mean	Std. Deviation	N
NPR	-.00004	.953451	45
PIDILITE	.2000	.40452	45
ASIANPAINTS	.2000	.40452	45
NEROLAC	.2000	.40452	45
SHALIMAR	.2000	.40452	45
BERGER	.2000	.40452	45
ITR	.00007	.953441	45
QR	.00002	.953508	45
CCC	-.00002	.953469	45

Figure 4.6 Mean and Standard deviation for different variables

Correlations

		NPR	PIDILITE	ASIANPAINTS	NEROLAC	SHALIMAR	BERGER	ITR	QR	CCC
Pearson Correlation	NPR	1.000	.000	.000	.000	.000	.000	-.270	.604	-.010
	PIDILITE	.000	1.000	-.250	-.250	-.250	-.250	.000	.000	.000
	ASIANPAINTS	.000	-.250	1.000	-.250	-.250	-.250	.000	.000	.000
	NEROLAC	.000	-.250	-.250	1.000	-.250	-.250	.000	.000	.000
	SHALIMAR	.000	-.250	-.250	-.250	1.000	-.250	.000	.000	.000
	BERGER	.000	-.250	-.250	-.250	-.250	1.000	.000	.000	.000
	ITR	-.270	.000	.000	.000	.000	.000	1.000	-.256	-.320
	QR	.604	.000	.000	.000	.000	.000	-.256	1.000	-.034
	CCC	-.010	.000	.000	.000	.000	.000	-.320	-.034	1.000
Sig. (1-tailed)	NPR	.	.500	.500	.500	.500	.500	.037	.000	.475
	PIDILITE	.500	.	.049	.049	.049	.049	.500	.500	.500
	ASIANPAINTS	.500	.049	.	.049	.049	.049	.500	.500	.500
	NEROLAC	.500	.049	.049	.	.049	.049	.500	.500	.500
	SHALIMAR	.500	.049	.049	.049	.	.049	.500	.500	.500
	BERGER	.500	.049	.049	.049	.049	.	.500	.500	.500
	ITR	.037	.500	.500	.500	.500	.500	.	.045	.016
	QR	.000	.500	.500	.500	.500	.500	.045	.	.412
	CCC	.475	.500	.500	.500	.500	.500	.016	.412	.
N	NPR	45	45	45	45	45	45	45	45	45
	PIDILITE	45	45	45	45	45	45	45	45	45
	ASIANPAINTS	45	45	45	45	45	45	45	45	45
	NEROLAC	45	45	45	45	45	45	45	45	45
	SHALIMAR	45	45	45	45	45	45	45	45	45
	BERGER	45	45	45	45	45	45	45	45	45
	ITR	45	45	45	45	45	45	45	45	45
	QR	45	45	45	45	45	45	45	45	45
	CCC	45	45	45	45	45	45	45	45	45

Figure 4.7 Correlation between all the variables without control variable used for regression analysis

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.616[a]	.380	.262	.818846

a. Predictors: (Constant), CCC, Nerolac, QR, AsianPaints, Pidilite, ITR, Berger

b. Dependent Variable: NPR

Figure 4.8 Model summary without control variable

For this Model, R^2 was found as 0.380 and Adjusted R^2 was 0.262 implied the predictors accounted for 26% variance of NPR.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.190	7	2.170	3.236	.009[b]
	Residual	24.809	37	.671		
	Total	39.999	44			

a. Dependent Variable: NPR

b. Predictors: (Constant), CCC, NEROLAC, QR, ASIANPAINTS, PIDILITE, ITR, BERGER

Figure 4.9 ANOVA of model without control variable

From this Anova table, we found that F(7,37) =3.236 and "p-value =0.009 <<0.05". This showed regression model was significant.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	.000	.273		.000	1.000					
	PIDILITE	7.519E-6	.386	.000	.000	1.000	.000	.000	.000	.625	1.600
	ASIANPAINTS	2.257E-5	.386	.000	.000	1.000	.000	.000	.000	.625	1.600
	NEROLAC	.000	.386	.000	.000	1.000	.000	.000	.000	.625	1.600
	BERGER	.000	.386	.000	.000	1.000	.000	.000	.000	.625	1.600
	ITR	-.135	.142	-.135	-.951	.348	-.270	-.155	-.123	.827	1.210
	QR	.568	.135	.568	4.207	.000	.604	.569	.545	.920	1.087
	CCC	-.034	.138	-.034	-.244	.808	-.010	-.040	-.032	.883	1.132

a. Dependent Variable: NPR

Figure 4.10 Coefficients and p-values of predictors in regression equation

The regression equation formed was:

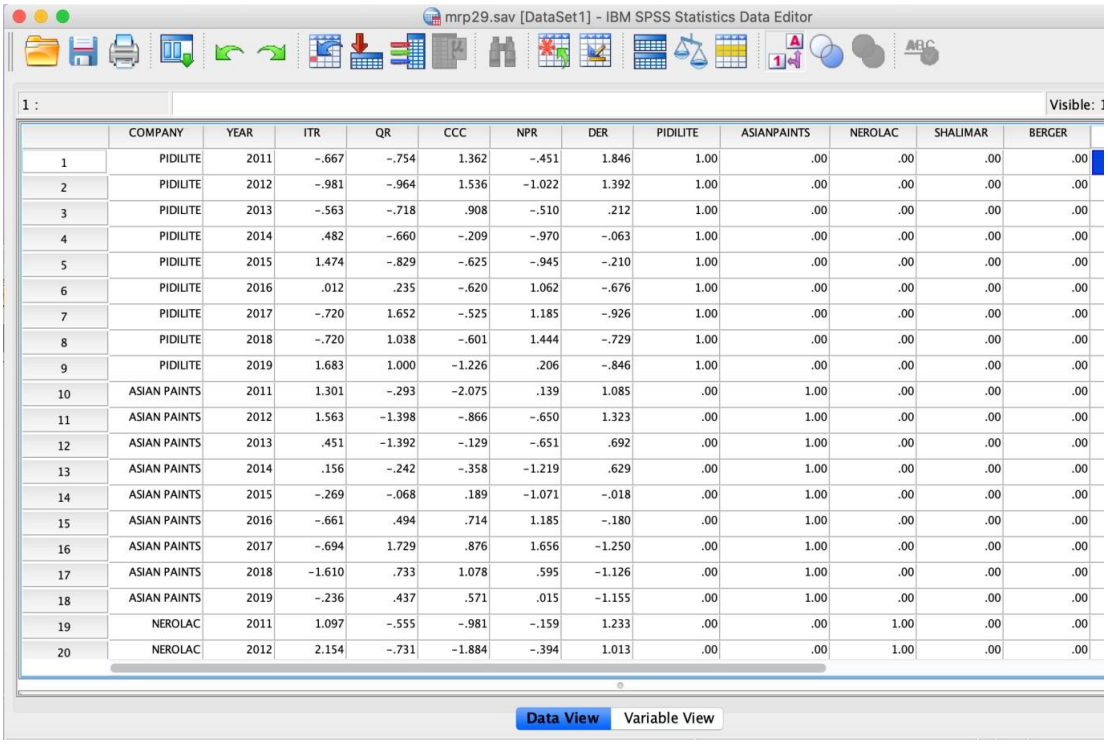
NPR= 0 – 0.135(ITR) + 0.568(QR) - 0.034(CCC)

In this analysis, each predictor was tested at alpha = 0.05.

From the table above, it was evident that predictors ITR and CCC were not significant as their p-values were more than 0.05.

But predictor QR was significant as its p-value (closer to 0) was much smaller than 0.05, which meant that the amount of unique variance, this predictor accounted for was statistically significant.

4.2.2 Panel Regression analysis with Control Variable 1: DER (Debt to Equity Ratio)



	COMPANY	YEAR	ITR	QR	CCC	NPR	DER	PIDILITE	ASIANPAINTS	NEROLAC	SHALIMAR	BERGER
1	PIDILITE	2011	-.667	-.754	1.362	-.451	1.846	1.00	.00	.00	.00	.00
2	PIDILITE	2012	-.981	-.964	1.536	-1.022	1.392	1.00	.00	.00	.00	.00
3	PIDILITE	2013	-.563	-.718	.908	-.510	.212	1.00	.00	.00	.00	.00
4	PIDILITE	2014	.482	-.660	-.209	-.970	-.063	1.00	.00	.00	.00	.00
5	PIDILITE	2015	1.474	-.829	-.625	-.945	-.210	1.00	.00	.00	.00	.00
6	PIDILITE	2016	.012	.235	-.620	1.062	-.676	1.00	.00	.00	.00	.00
7	PIDILITE	2017	-.720	1.652	-.525	1.185	-.926	1.00	.00	.00	.00	.00
8	PIDILITE	2018	-.720	1.038	-.601	1.444	-.729	1.00	.00	.00	.00	.00
9	PIDILITE	2019	1.683	1.000	-1.226	.206	-.846	1.00	.00	.00	.00	.00
10	ASIAN PAINTS	2011	1.301	-.293	-2.075	.139	1.085	.00	1.00	.00	.00	.00
11	ASIAN PAINTS	2012	1.563	-1.398	-.866	-.650	1.323	.00	1.00	.00	.00	.00
12	ASIAN PAINTS	2013	.451	-1.392	-.129	-.651	.692	.00	1.00	.00	.00	.00
13	ASIAN PAINTS	2014	.156	-.242	-.358	-1.219	.629	.00	1.00	.00	.00	.00
14	ASIAN PAINTS	2015	-.269	-.068	.189	-1.071	-.018	.00	1.00	.00	.00	.00
15	ASIAN PAINTS	2016	-.661	.494	.714	1.185	-.180	.00	1.00	.00	.00	.00
16	ASIAN PAINTS	2017	-.694	1.729	.876	1.656	-1.250	.00	1.00	.00	.00	.00
17	ASIAN PAINTS	2018	-1.610	.733	1.078	.595	-1.126	.00	1.00	.00	.00	.00
18	ASIAN PAINTS	2019	-.236	.437	.571	.015	-1.155	.00	1.00	.00	.00	.00
19	NEROLAC	2011	1.097	-.555	-.981	-.159	1.233	.00	.00	1.00	.00	.00
20	NEROLAC	2012	2.154	-.731	-1.884	-.394	1.013	.00	.00	1.00	.00	.00

Figure 4.11 Format for different variables/attributes input data for Panel Regression 2

Descriptive Statistics

	Mean	Std. Deviation	N
NPR	-.00004	.953451	45
DER	-.00002	.953448	45
ITR	.00007	.953441	45
QR	.00002	.953508	45
CCC	-.00002	.953469	45
PIDILITE	.2000	.40452	45
ASIANPAINTS	.2000	.40452	45
NEROLAC	.2000	.40452	45
SHALIMAR	.2000	.40452	45
BERGER	.2000	.40452	45

Figure 4.12 Mean and S.D. for values of different variables with control variable 1

Correlations

		NPR	DER	ITR	QR	CCC	PIDILITE	ASIANPAINTS	NEROLAC	SHALIMAR	BERGER
Pearson Correlation	NPR	1.000	-.395	-.270	.604	-.010	.000	.000	.000	.000	.000
	DER	-.395	1.000	.394	-.718	.195	.000	.000	.000	.000	.000
	ITR	-.270	.394	1.000	-.256	-.320	.000	.000	.000	.000	.000
	QR	.604	-.718	-.256	1.000	-.034	.000	.000	.000	.000	.000
	CCC	-.010	.195	-.320	-.034	1.000	.000	.000	.000	.000	.000
	PIDILITE	.000	.000	.000	.000	.000	1.000	-.250	-.250	-.250	-.250
	ASIANPAINTS	.000	.000	.000	.000	.000	-.250	1.000	-.250	-.250	-.250
	NEROLAC	.000	.000	.000	.000	.000	-.250	-.250	1.000	-.250	-.250
	SHALIMAR	.000	.000	.000	.000	.000	-.250	-.250	-.250	1.000	-.250
	BERGER	.000	.000	.000	.000	.000	-.250	-.250	-.250	-.250	1.000
Sig. (1-tailed)	NPR	.	.004	.037	.000	.475	.500	.500	.500	.500	.500
	DER	.004	.	.004	.000	.099	.500	.500	.500	.500	.500
	ITR	.037	.004	.	.045	.016	.500	.500	.500	.500	.500
	QR	.000	.000	.045	.	.412	.500	.500	.500	.500	.500
	CCC	.475	.099	.016	.412	.	.500	.500	.500	.500	.500
	PIDILITE	.500	.500	.500	.500	.500	.	.049	.049	.049	.049
	ASIANPAINTS	.500	.500	.500	.500	.500	.049	.	.049	.049	.049
	NEROLAC	.500	.500	.500	.500	.500	.049	.049	.	.049	.049
	SHALIMAR	.500	.500	.500	.500	.500	.049	.049	.049	.	.049
	BERGER	.500	.500	.500	.500	.500	.049	.049	.049	.049	.
N	NPR	45	45	45	45	45	45	45	45	45	45
	DER	45	45	45	45	45	45	45	45	45	45
	ITR	45	45	45	45	45	45	45	45	45	45
	QR	45	45	45	45	45	45	45	45	45	45
	CCC	45	45	45	45	45	45	45	45	45	45
	PIDILITE	45	45	45	45	45	45	45	45	45	45
	ASIANPAINTS	45	45	45	45	45	45	45	45	45	45
	NEROLAC	45	45	45	45	45	45	45	45	45	45
	SHALIMAR	45	45	45	45	45	45	45	45	45	45
	BERGER	45	45	45	45	45	45	45	45	45	45

Figure 4.13 Correlation between variables and control variable 1 used for regression analysis

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.395[a]	.156	.137	.885901
2	.628[b]	.394	.259	.820653

a. Predictors: (Constant), DER

b. Predictors: (Constant), DER, Berger, CCC, Nerolac, AsianPaints, ITR, Shalimar, QR

c. Dependent Variable: NPR

Figure 4.14 Model summary with control variable 1

Model1 with control variable (DER) as a predictor gave R^2 as 0.156 and Adjusted R^2 as 0.137 which meant that the predictor accounted for only 15.6% of the variance in dependent variable which was net profit ratio (NPR).

Model 2 with all predictors ITR, QR, CCC & DER taken as a set gave R^2 as 0.394 and adjusted R^2 as 0.259. This meant the predictors accounted for about 26% of the variance in dependent variable i.e. net profit ratio (NPR).

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.252	1	6.252	7.966	.007[b]
	Residual	33.747	43	.785		
	Total	39.999	44			
2	Regression	15.754	8	1.969	2.924	.013[c]
	Residual	24.245	36	.673		
	Total	39.999	44			

a. Dependent Variable: NPR

b. Predictors: (Constant), DER

c. Predictors: (Constant), DER, BERGER, CCC, NEROLAC, ASIANPAINTS, ITR, SHALIMAR, QR

Figure 4.15 ANOVA for models using control variable 1

From this Anova table:

For Model 1, we found that F (1,43) as 7.966 and "p-value as 0.007<0.05".

For Model 2, we found that F (8,36) as 2.924 and "p-value as 0.013<0.05".

Above values showed regression model was significant.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-5.323E-5	.132		.000	1.000					
	DER	-.395	.140	-.395	-2.822	.007	-.395	-.395	-.395	1.000	1.000
2	(Constant)	.000	.274		.000	1.000					
	DER	.195	.213	.195	.915	.366	-.395	.151	.119	.370	2.705
	ITR	-.198	.158	-.198	-1.253	.218	-.270	-.204	-.163	.670	1.492
	QR	.690	.190	.690	3.630	.001	.604	.518	.471	.466	2.146
	CCC	-.088	.150	-.088	-.584	.563	-.010	-.097	-.076	.746	1.340
	ASIANPAINTS	2.205E-5	.387	.000	.000	1.000	.000	.000	.000	.625	1.600
	NEROLAC	.000	.387	.000	.000	1.000	.000	.000	.000	.625	1.600
	SHALIMAR	-1.800E-5	.387	.000	.000	1.000	.000	.000	.000	.625	1.600
	BERGER	.000	.387	.000	.001	1.000	.000	.000	.000	.625	1.600

a. Dependent Variable: NPR

Figure 4.16 Coefficients and p-value of predictors in regression equation with control variable 1

The regression equation formed was:

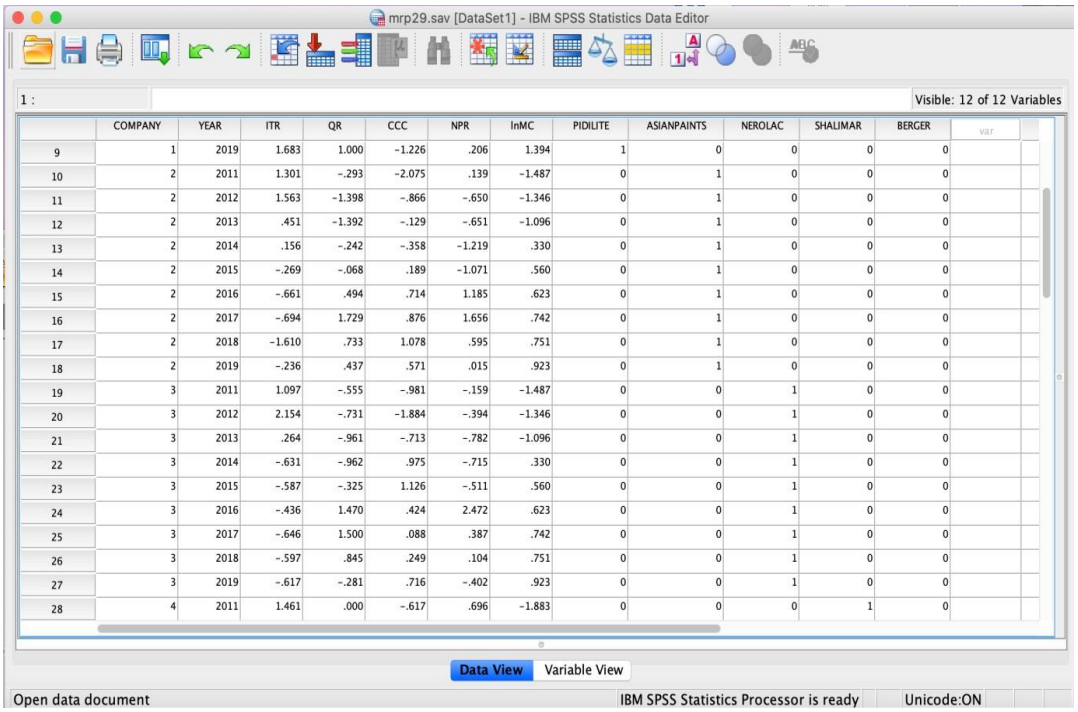
NPR= 0 -0.198(ITR) + 0.690(QR) - 0.088(CCC) + 0.195(DER)

In this analysis, each predictor was tested at alpha = 0.05.

For Model 2, when all predictors were taken, it was seen that predictors ITR, CCC and DER were not significant as their p-values was more than 0.05.

But predictor QR was significant as its p-value (0.001) was much smaller than 0.05, which meant that the amount of unique variance, this predictor accounted for, was statistically significant.

4.2.3 Panel Regression analysis with Control Variable 2: LnMC (Firm Size= Ln[Market Capitalization])



	COMPANY	YEAR	ITR	QR	CCC	NPR	lnMC	PIDILITE	ASIANPAINTS	NEROLAC	SHALIMAR	BERGER
9	1	2019	1.683	1.000	-1.226	.206	1.394	1	0	0	0	0
10	2	2011	1.301	-.293	-2.075	.139	-1.487	0	1	0	0	0
11	2	2012	1.563	-1.398	-.866	-.650	-1.346	0	1	0	0	0
12	2	2013	.451	-1.392	-.129	-.651	-1.096	0	1	0	0	0
13	2	2014	.156	-.242	-.358	-1.219	.330	0	1	0	0	0
14	2	2015	-.269	-.068	.189	-1.071	.560	0	1	0	0	0
15	2	2016	-.661	.494	.714	1.185	.623	0	1	0	0	0
16	2	2017	-.694	1.729	.876	1.656	.742	0	1	0	0	0
17	2	2018	-1.610	.733	1.078	.595	.751	0	1	0	0	0
18	2	2019	-.236	.437	.571	.015	.923	0	1	0	0	0
19	3	2011	1.097	-.555	-.981	-.159	-1.487	0	0	1	0	0
20	3	2012	2.154	-.731	-1.884	-.394	-1.346	0	0	1	0	0
21	3	2013	.264	-.961	-.713	-.782	-1.096	0	0	1	0	0
22	3	2014	-.631	-.962	.975	-.715	.330	0	0	1	0	0
23	3	2015	-.587	-.325	1.126	-.511	.560	0	0	1	0	0
24	3	2016	-.436	1.470	.424	2.472	.623	0	0	1	0	0
25	3	2017	-.646	1.500	.088	.387	.742	0	0	1	0	0
26	3	2018	-.597	.845	.249	.104	.751	0	0	1	0	0
27	3	2019	-.617	-.281	.716	-.402	.923	0	0	1	0	0
28	4	2011	1.461	.000	-.617	.696	-1.883	0	0	0	1	0

Figure 4.17 Format for different variables/attributes input data for Panel Regression 3

Descriptive Statistics

	Mean	Std. Deviation	N
NPR	-.00004	.953451	45
lnMC	.00004	.953465	45
ITR	.00007	.953441	45
QR	.00002	.953508	45
CCC	-.00002	.953469	45
PIDILITE	.20	.405	45
ASIANPAINTS	.20	.405	45
NEROLAC	.20	.405	45
SHALIMAR	.20	.405	45
BERGER	.20	.405	45

Figure 4.18 Mean and S.D for values of different variables with control variable 2

Correlations

		NPR	lnMC	ITR	QR	CCC	PIDILITE	ASIANPAINTS	NEROLAC	SHALIMAR	BERGER
Pearson Correlation	NPR	1.000	.308	-.270	.604	-.010	.000	.000	.000	.000	.000
	lnMC	.308	1.000	-.578	.589	-.041	.000	.000	.000	.000	.000
	ITR	-.270	-.578	1.000	-.256	-.320	.000	.000	.000	.000	.000
	QR	.604	.589	-.256	1.000	-.034	.000	.000	.000	.000	.000
	CCC	-.010	-.041	-.320	-.034	1.000	.000	.000	.000	.000	.000
	PIDILITE	.000	.000	.000	.000	.000	1.000	-.250	-.250	-.250	-.250
	ASIANPAINTS	.000	.000	.000	.000	.000	-.250	1.000	-.250	-.250	-.250
	NEROLAC	.000	.000	.000	.000	.000	-.250	-.250	1.000	-.250	-.250
	SHALIMAR	.000	.000	.000	.000	.000	-.250	-.250	-.250	1.000	-.250
	BERGER	.000	.000	.000	.000	.000	-.250	-.250	-.250	-.250	1.000
Sig. (1-tailed)	NPR	.	.020	.037	.000	.475	.500	.500	.500	.500	.500
	lnMC	.020	.	.000	.000	.396	.500	.500	.500	.500	.500
	ITR	.037	.000	.	.045	.016	.500	.500	.500	.500	.500
	QR	.000	.000	.045	.	.412	.500	.500	.500	.500	.500
	CCC	.475	.396	.016	.412	.	.500	.500	.500	.500	.500
	PIDILITE	.500	.500	.500	.500	.500	.	.049	.049	.049	.049
	ASIANPAINTS	.500	.500	.500	.500	.500	.049	.	.049	.049	.049
	NEROLAC	.500	.500	.500	.500	.500	.049	.049	.	.049	.049
	SHALIMAR	.500	.500	.500	.500	.500	.049	.049	.049	.	.049
	BERGER	.500	.500	.500	.500	.500	.049	.049	.049	.049	.
N	NPR	45	45	45	45	45	45	45	45	45	45
	lnMC	45	45	45	45	45	45	45	45	45	45
	ITR	45	45	45	45	45	45	45	45	45	45
	QR	45	45	45	45	45	45	45	45	45	45
	CCC	45	45	45	45	45	45	45	45	45	45
	PIDILITE	45	45	45	45	45	45	45	45	45	45
	ASIANPAINTS	45	45	45	45	45	45	45	45	45	45
	NEROLAC	45	45	45	45	45	45	45	45	45	45
	SHALIMAR	45	45	45	45	45	45	45	45	45	45
	BERGER	45	45	45	45	45	45	45	45	45	45

Figure 4.19 Correlation between variables and control variable 2 used for regression analysis

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.308[a]	.095	.074	.917471
2	.637[b]	.406	.274	.812348

a. Predictors: (Constant), lnMC

b. Predictors: (Constant), lnMC, Shalimar, CCC, Pidilite, Nerolac, QR, Berger, ITR

c. Dependent Variable: NPR

Figure 4.20 Model summary for control variable 2

Model1 with control variable (lnMC) as a predictor, gave R^2 as 0.095 and Adjusted R^2 as 0.74 which meant that the predictor accounted for only 7.4% of the variance in dependent variable i.e. net profit ratio (NPR).

Model2 with all predictors ITR, QR, CCC & lnMC taken as a set, gave R^2 as 0.406 and adjusted R^2 as 0.274. This meant that the predictors accounted for about 27.4% of the variance in dependent variable i.e. net profit ratio (NPR).

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.804	1	3.804	4.519	.039[b]
	Residual	36.195	43	.842		
	Total	39.999	44			
2	Regression	16.242	8	2.030	3.077	.010[c]
	Residual	23.757	36	.660		
	Total	39.999	44			

a. Dependent Variable: NPR

b. Predictors: (Constant), lnMC

c. Predictors: (Constant), lnMC, SHALIMAR, CCC, PIDILITE, NEROLAC, QR, BERGER, ITR

Figure 4.21 ANOVA for models using control variable 2

From this Anova table:

For Model 1, we found that F(1,43) as 4.519 and "p-value as 0.039<0.05". This meant overall model was significant.

For Model 2, we found that F(8,36) as 3.077 and "p-value as 0.010<0.05". This meant the overall regression model was significant.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-5.815E-5	.137		.000	1.000					
	lnMC	.308	.145	.308	2.126	.039	.308	.308	.308	1.000	1.000
2	(Constant)	-8.154E-5	.271		.000	1.000					
	lnMC	-.249	.197	-.249	-1.263	.215	.308	-.206	-.162	.425	2.354
	ITR	-.266	.175	-.266	-1.520	.137	-.270	-.246	-.195	.538	1.859
	QR	.679	.160	.679	4.236	.000	.604	.577	.544	.641	1.560
	CCC	-.082	.142	-.082	-.576	.568	-.010	-.096	-.074	.820	1.220
	PIDILITE	-1.924E-6	.383	.000	.000	1.000	.000	.000	.000	.625	1.600
	NEROLAC	.000	.383	.000	.000	1.000	.000	.000	.000	.625	1.600
	SHALIMAR	-5.803E-5	.383	.000	.000	1.000	.000	.000	.000	.625	1.600
	BERGER	.000	.383	.000	.001	1.000	.000	.000	.000	.625	1.600

a. Dependent Variable: NPR

Figure 4.22 Coefficients and p-value of predictors with control variable 2 in regression equation

The regression equation formed is

NPR= 0 - 0.266 (ITR) + 0.679(QR) - 0.082(CCC) - 0.249 (lnMC)

In this analysis, each predictor was tested at alpha = 0.05.

For Model 2, when all predictors were taken, it was seen that predictors ITR, CCC and lnMC were not significant as their p-values was more than 0.05.

But predictor QR was significant as its p-value (closer to 0) was much smaller than 0.05, which meant that the amount of unique variance, this predictor accounted for, was statistically significant.

In all the above models, we have found a significant impact of predictors, taken together, on our dependent variable. Therefore, null hypothesis was rejected as data results favour the alternative hypothesis.

CHAPTER 5

Findings and Recommendations

After a careful study of the effect of financial factors on profitability for each attribute for each company for each year from 2011 to 2019, first we found the correlations between the attributes and rejected those which showed high correlation. To achieve better results, we then normalised the data by converting each value into a *z*-value.

After applying regression analysis on the panel data, we rejected the null hypothesis as a significant impact of all the predictors taken as a set on the criterion variable was observed. Also, as an individual impact of a predictor, the predictor QR accounted for unique variance in dependent variable.

In future, the researchers can verify the factors of this study among other sectors so that the firms can alter their behavior and can do better in various stages of growth cycle. Thus, this will help companies to perform better by managing these factors and increase their profit margins in the competitive market.

CHAPTER 6

Limitations

1. The data on which we have applied our analysis is very limited and not very large enough.
2. The companies belong to same sector but the profits may vary a lot because of different level of customer awareness and customer buying nature towards brand to brand.
3. Results could be more reliable if it was possible to perform analysis on different analysis softwares.
4. Results may vary sector to sector for different manufacturing companies.
5. The study is limited to Indian manufacturing firms.

CHAPTER 7

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ABBREVIATIONS

i.	CL	=	CURRENT LIABILITIES
ii.	CA	=	CURRENT ASSETS
iii.	NPR	=	NET PROFIT RATIO
iv.	ITR	=	INVENTORY TURNOVER RATIO
v.	QR	=	QUICK RATIO
vi.	CCC	=	CASH CONVERSION CYCLE
vii.	DIO	=	DAYS INVENTORY OUTSTANDING
viii.	DPO	=	DAYS PAYABLES OUTSTANDING
ix.	DSO	=	DAYS SALES OUTSTANDING
x.	CR	=	CURRENT RATIO
xi.	DER	=	DEBT-TO-EQUITY RATIO
xii.	LIQ	=	LIQUIDITY
xiii.	ACP	=	ACCOUNTS CASH PAYABLES
xiv.	APP	=	AVERAGE PAYMENT PERIOD
xv.	MC	=	MARKET CAPITALISAZATION

To study the impact of various financial factors on profitability of Indian manufacturing firms

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