International Research Journal of Management and Commerce
ISSN: (2348-9766)
Impact Factor- 5.564, Volume 4, Issue 7, July 2017
Website- www.aarf.asia, **Email** : editor@aarf.asia , editoraarf@gmail.com

A STUDY ON THE PERFORMANCE OF QUALITY CERTIFIED AND NON-CERTIFIED COMPANIES

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ABSTRACT

The study aims at comparing the financial performance of 14 ISO 9001 certified companies and 14 non-ISO 9001 certified companies by using some of the financial performance indicators such as Return on Assets (ROA), Return on Equity (ROE), Return on Sales (ROS), Operating Profit Ratio (OPR), Sales to Total Assets Ratio and Current Ratio.

The study finds that ISO 9001 certified pharmaceutical companies have not shown a significant difference in the ROA, ROE, ROS, Current Ratio and Sales to Total Assets Ratio as compared to their non-certified counterparts. The topic has a greater relevance if the scope of the study is spread to other industries. The implication would therefore help the investors and the company as a whole for their further growth and decision making.

1.1 Introduction

As globalization has paved way for stiffening of competition in the industrial and commercial sector, companies, both in the production and service sector have taken quality as one of the criteria for sustaining in the market. The post liberalization era has also opened up new avenues for companies in India with wider possibilities for export and import. When on one hand, quality has become the need of the hour for the organizations to survive world competition, on the other;

the customers have attained the highest authority to demand quality. The only way, therefore, to cater to the needs of the suppliers and customers is to see that Quality Standards are set and to evaluate continuously if they meet the set standards. Compliance to quality standards are authenticated by issue of Quality Certifications by Standards Organization and their Conformance Assessment Bodies. There are National and International Quality Certifications. Among them, the widely accepted one is the Certification from the International Organization for Standardization (ISO).

It is widely believed that compliance to the set standards and transparency makes the certified companies distinct from non-certified companies. The major motivation of companies for acquiring quality certification is improvement in quality, marketing benefits and cost reduction (Santos & Leal Millan, 2013), better control and increased order in production (Nordenskjold, 2012). The reason for implementing a standard is either an expectation from the customers or from the owners themselves (Nordenskjold, 2012). ISO 9001 effectiveness is accomplished by continuous improvement, customer satisfaction focus and prevention of non conformities (Psomas, Pantouvakis, & Kafetzopoulos, 2013), increases foresight and business opportunities (Nordenskjold, 2012). Therefore, it is considered that quality certified companies perform better in different aspects than the non-certified counterparts. Nevertheless, a few studies have reported on the contrary that the effect of ISO 9001 effectiveness and product / service quality on financial performance is understood to be indirect (Psomas, Pantouvakis, & Kafetzopoulos, 2013). Average consumes rely less on the accreditation status (Xiao, 2010). The level of performance between certified ISO 9001 and 9002 certified companies and uncertified companies were found to be no different (Lima, Resende, & Clever, 2000).

The study therefore tries to analyses whether certification has an influence on financial performance or not. In order to compare the performance of quality certified companies and non-certified companies, the Pharmaceutical Industry, one of the fastest growing industries was chosen for the study. Companies with ISO 9001 (Quality Management System) Certification was considered under certified category.

To study the performance of the companies, a few selected financial indicators ROA, ROE, ROS, Current Ratio, Operating Profit Ratio and Sales to Total Assets Ratio of ISO 9001 certified and non – ISO 9001 certified Pharmaceutical companies in India were considered (Lima, Resende, & Clever, 2000) (Muda & Mokhtar, 2012).

2.1 Literature Review

Researches state that certification enhances productivity, operational and technical improvement (Goedhuys & Sleuwaegen, 2011). there is a positive correlation between Quality Management System, TQM and innovation (Krivokapic, Vujovic, Jovanovic, Petrovic, & Pekovic, 2013), companies implement ISO 9000 as it facilitates in enlarging customer base, remain competitive, increase sales and market, boost customer loyalty and confidence (Kawthar & Raja Vinesh, 2011). ISO 9001 Certification enhances customer satisfaction and business performance (Abbas Al-Refaie, 2012), ISO 9000 certification leads to a rise in sales even in the short run (Kawthar & Raja Vinesh, 2011), certified companies were found to exhibit a greater average economic profitability as compared to their non-certified counterparts (Heras, Casdesus, & Ochoa, 2001). When a number of studies identified better performance by ISO certified companies than non ISO certified companies, the significance of ISO certification could be understood.

The current study therefore tries to find out if there is a significant difference between ISO 9001 certified among randomly selected Pharmaceutical companies in India. The study also focused on Indian Pharmaceutical market as it is the third largest in terms of volume and thirteenth largest with respect of value, according to the pharmaceutical sector analysis report by Equity Master. The domestic pharmaceutical growth rate was 11.9 per cent in October 2014 (IBEF, 2015).

3.1 Objective

The objective of the study is to examine whether the financial performance of certified companies is substantially better than non-certified companies or not.

4.1 Hypothesis

The general understanding is that Financial Performance is positively related to Quality Certification. For the purpose of the study, the statistical hypothesis laid down is

H_0: There is no difference in the financial performance of certified and non-certified companies.

5.1 Methodology

The data collected for study were taken from www.moneycontrol.com. Being a reliable source for more than 15 years, the list of top Pharmaceutical companies in India was taken and alphabetically arranged. The entire list was categorized as ISO 9001 certified, non ISO 9001 certified and others; that did not fall in these categories. The entire list was then restricted to 111 companies – 55 ISO 9001 certified and 56 non ISO 9001 certified companies. As each group had equal number, 25% i.e. 14 companies of each group were taken randomly for comparison. The samples selected had therefore gone through random sampling. The period of study is 5 years ranging from 2010 – 2014.

To determine if there is a significant difference in the financial performance of the ISO 9001 certified and non ISO 9001 certified Pharmaceutical companies, Independent sample t-test for each financial indicator for each year (2010 – 2014) was conducted.

6.1 Limitations of the study

1. The study is centered around only Pharmaceutical companies in India
2. The period of study is limited to 5 years 2010 – 2014
3. The sample taken from the two groups is limited to 14 companies each
4. Financial performance indicators were restricted to ROA, ROE, ROS, Operating Profit Ratio, Current Ratio and Sales to Total Assets Ratio.

7.1 Analysis and Interpretation

Analysis with Independent t-test on each financial indicator for each year from 2010 -2014 was conducted.

7.1.1 Return on Assets (ROA)

Return on Assets is a measure of profitability where the relationship between net profits after tax and assets are measured; showing how well the assets are utilized.

Table-1 T – Test Results on Return on Assets of ISO 9001 Certified and non ISO 9001 Certified Pharmaceutical Companies in India

t-Test: Two-Sample Assuming Unequal Variances

Year	2014		2013		2012		2011		2010	
	Var 1[3]	*Var 2*[4]	*Var 1*	*Var 2*	*Var 1*	*Var 2*	*Var 1*	*Var 2*	*Var 1*	*Var 2*
Mean	0.123	0.156	0.116	0.142	0.110	0.083	0.199	0.220	0.129	0.045
Variance	0.011	0.231	0.007	0.171	0.005	0.064	0.059	0.267	0.002	0.041
Observations	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000
Hypothesized Mean Difference	0.000		0.000		0.000		0.000		0.000	
Df	14.000		14.000		15.000		18.000		15.000	
t Stat	-0.244		-0.236		0.383		-0.140		1.524	
t Critical one-tail	1.761		1.761		1.753		1.734		1.753	
P(T<=t) one-tail	0.405		0.408		0.354		0.445		0.074	

The analysis shows that there is no significant difference between certified and non-certified companies with respect to Return on Assets in any of the years under study at 5 percent level. This implies that certified companies have performed no better than non-certified companies in utilizing the assets.

7.1.2 Return on Equity (ROE)

Return on Equity is indicated as a percentage of net profits after tax on shareholders' equity. ROE that indicates the percentage of profit that has been generated from the shareholders' fund is a measure of company's earnings performance.

[3] Certified Companies
[4] Non-Certified Companies

Table-2 T – Test Results on Return on Equity of ISO 9001 Certified and non ISO 9001 Certified Pharmaceutical Companies in India

t-Test: Two-Sample Assuming Unequal Variances

Year	2014		2013		2012		2011		2010	
	Var 1	*Var 2*	*Var 1*	*Var 2*	*Var 1*	*Var 2*	*Var 1*	*Var 2*	*Var 1*	*Var 2*
Mean	0.160	0.700	0.153	0.525	0.163	0.187	1.403	0.180	0.208	-0.118
Variance	0.023	6.284	0.015	3.399	0.007	0.070	20.213	0.149	0.006	0.445
Observations	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000
Hypothesized Mean Difference	0.000		0.000		0.000		0.000		0.000	
Df	13.000		13.000		16.000		13.000		13.000	
t Stat	-0.804		-0.752		-0.328		1.014		1.817	
t Critical one-tail	1.771		1.771		1.746		1.771		1.771	
P(T<=t) one-tail	0.218		0.233		0.374		0.164		0.046	

With regards to Return on Equity, the figures of 2010 show that certified companies have outperformed the non-certified companies. In the rest of the years, the result does not show any significant difference in the ROE of certified and non-certified companies. It could be understood that investors' investment in certified companies could be no more beneficial than in non-certified companies.

7.1.3 Return on Sales (ROS)

Return on Sales is one of the most popular profitability ratios that show the relationship between net profit after tax and net sales for a period.

Table-3 T – Test Results on Return on Sales of ISO 9001 Certified and non ISO 9001 Certified Pharmaceutical Companies in India

t-Test: Two-Sample Assuming Unequal Variances

Year	2014		2013		2012		2011		2010	
	Var 1	*Var 2*	*Var 1*	*Var 2*	*Var 1*	*Var 2*	*Var 1*	*Var 2*	*Var 1*	*Var 2*
Mean	0.087	0.041	0.089	0.010	0.106	0.127	0.486	0.015	0.123	0.025
Variance	0.012	0.012	0.010	0.039	0.008	0.055	1.787	0.021	0.005	0.026
Observations	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000
Hypothesized Mean Difference	0.000		0.000		0.000		0.000		0.000	
Df	26.000		19.000		17.000		13.000		18.000	
t Stat	1.108		1.327		-0.301		1.311		2.084	
t Critical one-tail	1.706		1.729		1.740		1.771		1.734	
P(T<=t) one-tail	0.139		0.100		0.383		0.106		0.026	

Year 2010 shows a significant difference in the Return on Sales of certified and non-certified companies, though this has not been maintained in the rest of the years. This could imply that the profitability of certified companies are not better than non-certified companies.

7.1.4 Sales to Total Assets

Sales to Total Assets Ratio; otherwise called the Asset Turnover Ratio is an efficiency ratio measuring the ability of a company to generate sales from the total assets.

Table-4 T – Test Results on Sales/ TA Ratio of ISO 9001 Certified and non ISO 9001 Certified Pharmaceutical Companies in India

t-Test: Two-Sample Assuming Unequal Variances

Year	2014		2013		2012		2011		2010	
	Var 1	*Var 2*	*Var 1*	*Var 2*	*Var 1*	*Var 2*	*Var 1*	*Var 2*	*Var 1*	*Var 2*
Mean	1.243	2.228	1.254	4.073	1.170	1.069	1.166	0.783	135.155	1.924
Variance	0.499	7.715	0.521	95.195	0.548	2.297	0.696	7.626	269009.029	4.469

Observations	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	15.000	14.000
Hypothesized Mean Difference	0.000		0.000		0.000		0.000		0.000	
Df	15.000		13.000		19.000		15.000		14.000	
t Stat	-1.285		-1.078		0.222		0.497		0.995	
t Critical one-tail	1.753		1.771		1.729		1.753		1.761	
P(T<=t) one-tail	0.109		0.150		0.413		0.313		0.168	

Sales to Total Assets Ratio do not show any significant difference in any of the years under study between the certified and non-certified companies. This could imply that the non-certified companies utilize their total assets as effectively as the certified companies.

7.1.5 Operating Profit Ratio

Operating Profit Ratio is one of the widely used profitability ratios which is calculated by dividing the operating profit (net sales minus operating cost) by net sales. It shows what percentage of net sales is made up by operating profit.

Table-5 T – Test Results on Operating Profit Ratio of ISO 9001 Certified and non ISO 9001 Certified Pharmaceutical Companies in India

t-Test: Two-Sample Assuming Unequal Variances

Year	2014		2013		2012		2011		2010	
	Var 1	*Var 2*	*Var 1*	*Var 2*	*Var 1*	*Var 2*	*Var 1*	*Var 2*	*Var 1*	*Var 2*
Mean	0.195	0.111	0.187	0.123	0.174	0.110	0.181	0.123	0.199	0.081
Variance	0.010	0.010	0.008	0.011	0.009	0.028	0.005	0.023	0.003	0.047
Observations	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000
Hypothesized Mean Difference	0.000		0.000		0.000		0.000		0.000	
Df	26.000		26.000		21.000		19.000		14.000	
t Stat	2.242		1.754		1.232		1.276		1.974	

t Critical one-tail	1.706		1.706		1.721		1.729		1.761	
P(T<=t) one-tail	0.017		0.046		0.116		0.109		0.034	

It is clear from the test statistics that in the year 2010, 2013 and 2014 the operating profit of certified and non-certified companies show a significant difference at 5 percent level. Nevertheless, in 2011 and 2012 there is no significant difference between the two categories.

7.1.6 Current Ratio

Current Ratio is the ratio between Current Ratio and Current Liabilities. This financial ratio indicates if a firm has sufficient resources to pay off its short term debts.

Table-6 T – Test Results on Current Ratio of ISO 9001 Certified and non ISO 9001 Certified

Pharmaceutical Companies in India

t-Test: Two-Sample Assuming Unequal Variances

Year	2014		2013		2012		2011		2010	
	Var 1	*Var 2*	*Var 1*	*Var 2*	*Var 1*	*Var 2*	*Var 1*	*Var 2*	*Var 1*	*Var 2*
Mean	2.144	1.626	2.010	1.473	1.937	1.473	2.109	1.529	2.158	1.795
Variance	2.208	1.090	1.153	0.619	0.987	0.619	1.164	0.861	1.147	2.931
Observations	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000	14.000
Hypothesized Mean Difference	0.000		0.000		0.000		0.000		0.000	
df	23.000		24.000		25.000		25.000		22.000	
t Stat	1.067		1.508		1.369		1.524		0.673	
t Critical one-tail	1.714		1.711		1.708		1.708		1.717	
P(T<=t) one-tail	0.148		0.072		0.092		0.070		0.254	

The t-test on Current Ratio at 5 percent level indicates that in all the years there is no significant difference between the certified and non-certified companies.

Conclusion

The study revolves around 28 Pharmaceutical Companies and statistics were compiled for the years from 2010 – 14 from www.moneycontrol.com. The objective was to study if certified companies performed financially better than the non-certified companies. The indicators taken to measure the financial performance of certified and non-certified companies were ROA, ROE, ROS, Operating Profit Ratio, Current Ratio and Sales to Total Assets Ratio. The study revealed that for the period under study with an exception of year 2010, the indicators of all other years under t-test at 5 percent level did not show a significant difference between the certified and non-certified companies. However, Operating Profit Ratio has shown a significant difference in two of the five years under study.

Quality Certification has always been a benchmark for quality and the expectation of a certified company with certification is better sales and financial performance. In spite of this fact, the findings show that financial performances of certified Pharmaceutical Companies are not substantially different from the non-certified Pharmaceutical Companies during the period of study. This could imply that Certification has not contributed favourably towards a better financial performance by the certified companies. The topic is therefore worth further study with more indicators, related to other industries.

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