
A Comparative Study Of CSR Spending Pattern Of Selected Pharmaceutical And IT Companies.

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Abstract

Corporate Social Responsibility (CSR) refers to a company's commitment to operating in an ethical and socially responsible manner. It involves initiatives and practices that go beyond legal obligations to positively impact society, including environmental sustainability, fair labour practices, and community engagement. CSR aims to balance economic, environmental, and social interests, enhancing the company's reputation and fostering trust among stakeholders. A comparative study of CSR (Corporate Social Responsibility) spending patterns between pharmaceutical and IT companies is important for understanding how different industries prioritize social, environmental, and economic responsibilities. This analysis helps highlight the sectors' varying contributions toward critical areas like education, healthcare, social causes, and environmental sustainability. By comparing these patterns, stakeholders can assess the alignment of corporate values with societal needs, identify gaps, and encourage better-targeted initiatives. Such studies also provide insights into how different industries manage their CSR obligations, which can inform policy decisions, promote industry benchmarking, and drive more strategic and impactful CSR investments.

Keywords: CSR, Spending pattern, Pharmaceutical company, IT company.

Introduction

Corporate Social Responsibility (CSR) refers to a company's commitment to operate in an ethical and socially responsible manner, extending beyond profit-making to address the broader impacts of its activities on society and the environment. CSR encompasses a range of practices including environmental sustainability, ethical labor practices, community engagement, and philanthropy. It reflects a company's dedication to

contributing positively to society, fostering transparency, and creating value for stakeholders. By integrating CSR into their business strategies, companies aim to build trust, enhance their reputation, and contribute to the overall well-being of the communities they serve.

Pharmaceutical companies are vital players in the global healthcare system, specializing in the research, development, manufacturing, and marketing of medications and vaccines. These companies focus on improving health outcomes by addressing a wide range of medical conditions through innovative drug therapies and treatments. They operate in a highly regulated environment to ensure the safety, efficacy, and quality of their products. In addition to their core activities, pharmaceutical companies often engage in extensive research and development to discover new drugs, collaborate with healthcare providers, and contribute to public health initiatives. Their work is crucial for advancing medical science and improving the quality of life for people worldwide.

IT companies, or Information Technology firms, specialize in the development, implementation, and management of computer-based information systems. These companies are pivotal in the digital age, providing essential services ranging from software development and system integration to data management and cyber security. They drive innovation and efficiency across various sectors by offering solutions that streamline operations, enhance productivity, and support digital transformation. With a focus on technology advancement and digital infrastructure, IT companies play a crucial role in shaping modern business practices and consumer experiences globally.

CSR Spending in Pharmaceutical and IT Companies

Corporate Social Responsibility (CSR) spending in pharmaceutical and IT companies reflects their commitment to social and environmental causes beyond profit-making. For pharmaceutical companies, CSR initiatives often focus on healthcare-related programs, such as improving access to medicines, supporting public health campaigns, and investing in medical research. Their spending patterns can significantly impact public health outcomes and community well-being, aligning with their core business of advancing medical science and patient care.

In contrast, IT companies, driven by their technology-centric operations, typically channel their CSR efforts into areas like education, environmental sustainability, and digital inclusion. Their initiatives might include funding educational programs in technology, promoting green computing practices, and supporting communities with limited access to digital resources. This focus underscores their role in advancing technological equity and addressing environmental challenges associated with the tech industry.

Comparing CSR spending between these sectors reveals how different industries prioritize and address societal needs based on their operational impact and business objectives. While pharmaceutical companies may concentrate on health-related outcomes, IT companies often emphasize technological advancement and sustainability. Understanding these patterns helps gauge the broader impact of corporate activities on societal and environmental issues, highlighting areas for potential improvement and collaboration.

Literature review

1. **Porter, M.E., & Kramer, M.R. (2006), In the research titled "Strategy and Society: The Link Between Competitive,** Porter and Kramer argue that CSR initiatives can be strategically integrated to enhance competitive advantage. For pharmaceutical companies, focusing on health-related CSR activities not only improves public health but also strengthens their reputation and regulatory relationships, ultimately creating a competitive edge. IT companies can similarly leverage CSR investments to drive innovation and address digital inequalities, aligning social benefits with business objectives. This strategic alignment helps both sectors create shared value and sustain long-term growth.
2. **Epstein, M.J., & Buhovac, A.R. (2014), In the research titled "Making Sustainability Work: Best Practices in Managing and Measuring Corporate Social, Environmental, and Economic Impacts"** Epstein and Buhovac highlight that best practices in CSR management lead to significant benefits. Pharmaceutical companies often channel their CSR efforts into health and safety programs, enhancing their market position and stakeholder trust. IT companies, by focusing on education and environmental sustainability, can drive operational efficiencies and foster innovation. Effective CSR practices not only improve the social and environmental impacts but also strengthen the companies' market performance and stakeholder relationships.
3. **Carroll, A.B. (1991), In the research titled "The Pyramid of Corporate Social Responsibility: Toward the Moral Management of Organizational Stakeholders"** Carroll's pyramid model presents a structured approach to CSR, emphasizing different levels of responsibility. Pharmaceutical companies typically focus on ethical and philanthropic responsibilities, such as health and safety initiatives, aligning their CSR activities with their core mission of improving public health. In contrast, IT companies might emphasize legal and ethical responsibilities related to technology use and environmental practices. This model helps explain the variations in CSR spending patterns across industries, highlighting how companies prioritize different aspects of social responsibility.
4. **Husted, B.W., & de Jesus Salazar, M. (2006), In the research titled "Taking Friedman Seriously: Maximizing Profits by Investing in Corporate Social Responsibility"** Husted and Salazar argue that CSR investments can align with profit maximization when strategically managed. For pharmaceutical companies, investing in CSR initiatives, such as improving access to medicines, can enhance their market access and regulatory standing, leading to long-term profitability. IT companies may see similar benefits from investing in innovation and sustainability, as these efforts

can drive operational efficiencies and enhance their market position. This strategic approach to CSR helps both sectors achieve a balance between social impact and financial performance.

5. **Maignan, I., & Ferrell, O.C. (2004), In the research titled "Corporate Social Responsibility: A Conceptual Framework"** Maignan and Ferrell provide a framework for understanding CSR that highlights sector-specific focus areas. Pharmaceutical companies often invest in health-related CSR initiatives, such as supporting medical research and public health programs, to align with their core business. IT companies, on the other hand, focus on environmental sustainability and educational initiatives to address the digital divide and promote green technologies. This framework helps explain the different CSR priorities and spending patterns observed in these sectors, reflecting their unique operational impacts and business objectives.
6. **Fombrun, C.J. (1996), In the research titled "Reputation: Realizing Value from the Corporate Image"** Fombrun explores how CSR affects corporate reputation and value. Pharmaceutical companies use CSR to enhance their public image by addressing health and ethical issues, which can improve stakeholder trust and regulatory relations. IT companies leverage CSR to build a positive brand through contributions to education and environmental causes, enhancing their reputation and market appeal. Effective CSR practices in both sectors help improve corporate image and stakeholder perceptions, contributing to overall business success.
7. **Sen, S., & Bhattacharya, C.B. (2001), In the research titled "Does Doing Good Always Lead to Doing Better? Consumer Reactions to Corporate Social Responsibility"** Sen and Bhattacharya examine consumer responses to CSR activities and find that CSR initiatives generally lead to positive outcomes for companies. Pharmaceutical companies benefit from enhanced trust and reputation by focusing on health-related CSR activities, while IT companies gain brand equity and customer loyalty through their contributions to education and environmental sustainability. The study highlights that while the impact of CSR varies, well-managed initiatives can lead to significant benefits in consumer perceptions and company performance.
8. **Blowfield, M., & Murray, A. (2014), In the research titled "Corporate Social Responsibility: A Critical Introduction"** Blowfield and Murray provide a critical analysis of CSR practices across industries, noting that pharmaceutical companies are primarily focused on health and ethical issues, whereas IT companies emphasize environmental and educational CSR activities. The review underscores the need for alignment between CSR practices and core business activities to maximize social and environmental impacts. It also highlights the importance of sector-specific approaches to CSR, reflecting the distinct challenges and opportunities faced by pharmaceutical and IT companies in their social responsibility efforts.

Research Gap

The existing literature extensively discusses the strategic importance of CSR in both the pharmaceutical and IT industries, emphasizing its role in enhancing reputation, fostering innovation, and improving market position. However, there is a lack of comparative analysis on how specific CSR practices in these two sectors impact long-term financial performance and operational efficiency differently. Moreover, while many studies focus on consumer reactions and stakeholder trust, limited research explores the direct correlation between CSR activities and tangible business outcomes such as profitability, regulatory compliance, and competitive advantage. Additionally, there is a gap in understanding how evolving digital and health-related CSR practices adapt to global sustainability challenges, particularly in emerging markets.

Research methodology

The research methodology for this comparative study of CSR spending patterns among the top 10 pharmaceutical and IT companies focuses on a quantitative analysis of secondary data. The study will collect data on CSR expenditures from annual reports, sustainability reports, and company websites for the selected pharmaceutical (e.g., Sun Pharma, Torrent, Zydus) and IT companies (e.g., TCS, Infosys, Wipro). The data will be categorized based on the five objectives: spending in the education sector, environmental sustainability, social causes, health initiatives, and other areas. Statistical tools such as descriptive analysis, comparative analysis, and trend analysis will be used to compare the CSR spending patterns across the two sectors. The study will examine the variations in allocation and priorities, seeking to identify sector-specific trends and strategic differences in CSR focus areas.

Data Analysis

Objective 1 To study the spending pattern of Top 10 pharma and IT companies in education sector.

Note: All figure are of year 2020-21

Pharma Company	Education (In cr.)	IT Company	Education (In cr.)
Sun Pharma Distributors Limited	0.32	Tata Consultancy Services Limited	16
Torrent Pharmaceuticals Ltd	1.13	Infosys	48.15
Zydus Lifesciences Limited	0	Hcl Technologies Limited	54.55
Abbott India Limited	0	Wipro Limited	112.65
Glenmark Pharmaceuticals Limited	1.84	Ltimindtree Limited	6.5
Suven Pharmaceuticals Limited	0.19	Tech Mahindra Limited	82.23
Ipca Laboratories Limited	2.15	Oracle Financial Services Software Limited	0
Jubilant Pharmova Limited	1.63	Persistent Systems Limited	1.54
Emcure Pharmaceuticals Limited	0	Mphasis Limited	13.22
Astrazeneca Pharma India	0	Microsoft Corporation (India) Pvt Ltd	0.36
Average Spending	0.726	Average Spending	33.52

Source: www.csr.gov.in

Null Hypothesis H₀₁: There is no significant difference in spending pattern in education sector between pharma and IT companies.

Alternate Hypothesis H₁₁: There is a significant difference in spending pattern in education sector between pharma and IT companies.

To Test above null Hypothesis independent sample test is applied and t-test is obtained.

Independent Samples Test					
	t-test for Equality of Means				
	t	Df	p-value	Mean Difference	Std. Error Difference
Education (In cr.)	-2.630	18	.017	-32.79400	12.46878

Interpretation: Above table indicate that p-value is 0.000. It is Less than 0.017. Therefore, t-test is rejected. Hence Null Hypothesis is rejected and Alternate Hypothesis is accepted.

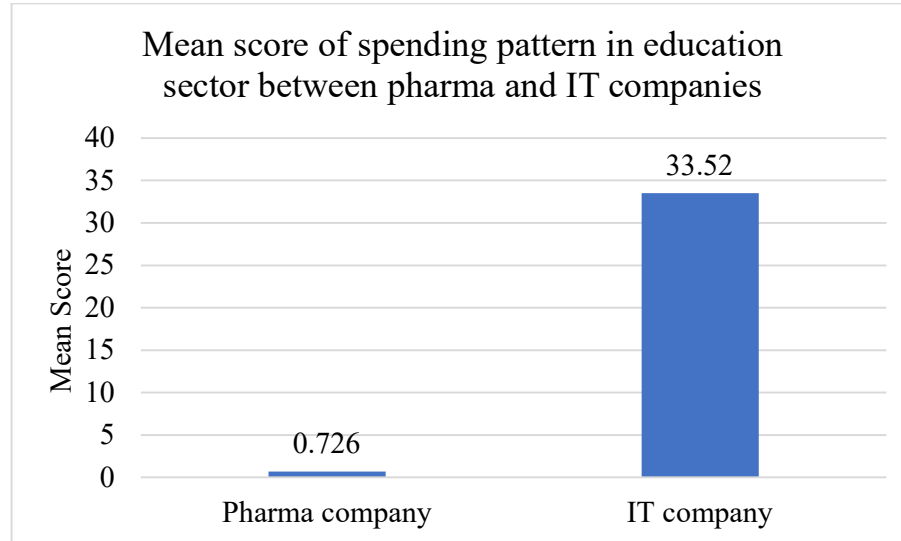
Conclusion: There is a significant difference in spending pattern in education sector between Pharma and IT companies.

Findings: To understand the findings of Hypothesis, mean score of spending pattern in education sector between Pharma and IT companies is obtained and shown below.

Group Statistics					
	Company	N	Mean	Std. Deviation	Std. Error Mean
Education (In cr.)	Pharma company	10	.7260	.86984	.27507
	IT company	10	33.5200	39.42015	12.46575

The table presents group statistics comparing the education spending (in crores) between a sample of 10 pharmaceutical companies and 10 IT companies. The mean education spending for pharmaceutical companies is 0.726 crore with a standard deviation of 0.86984, indicating low variance within the group. In contrast, IT companies have a significantly higher mean education spending of 33.52 crores with a standard deviation of 39.42, reflecting a wide dispersion in their

spending patterns. The standard error for pharma companies is 0.27507, while for IT companies, it is 12.46575, indicating more precise estimates for the pharma group than the IT group due to their respective variations in education spending.



Objective 2 To study the spending pattern of Top 10 Pharma and IT companies for environmental sustainability.

Pharma Company	Environmental Sustainability (In cr.)	IT Company	Environmental Sustainability (In cr.)
Sun Pharma Distributors Limited	0.1	Tata Consultancy Services Limited	0
Torrent Pharmaceuticals Ltd	2.56	Infosys	42.05
Zydus Lifesciences Limited	0	Hcl Technologies Limited	44.31
Abbott India Limited	0	Wipro Limited	39.09
Glenmark Pharmaceuticals Limited	0	Ltimindtree Limited	2.75
Suven Pharmaceuticals Limited	0	Tech Mahindra Limited	0
Ipca Laboratories Limited	0	Oracle Financial Services Software Limited	0
Jubilant Pharmova Limited	0	Persistent Systems Limited	0.22
Emcure Pharmaceuticals Limited	0	Mphasis Limited	7.12
Astrazeneca Pharma India	0	Microsoft Corporation (India) Pvt Ltd	0
Average Spending		Average Spending	

Null Hypothesis H₀₂: There is no significant difference in spending pattern in environmental sustainability between Pharma and IT companies.

Alternate Hypothesis H₁₂: There is a significant difference in spending pattern in environmental sustainability between Pharma and IT companies.

To Test above null Hypothesis independent sample test is applied and t-test is obtained.

Independent Samples Test					
	t-test for Equality of Means				
	t	Df	P-value	Mean Difference	Std. Error Difference
Environmental Sustainability (In cr.)	-2.135	18	.047	-13.28800	6.22420

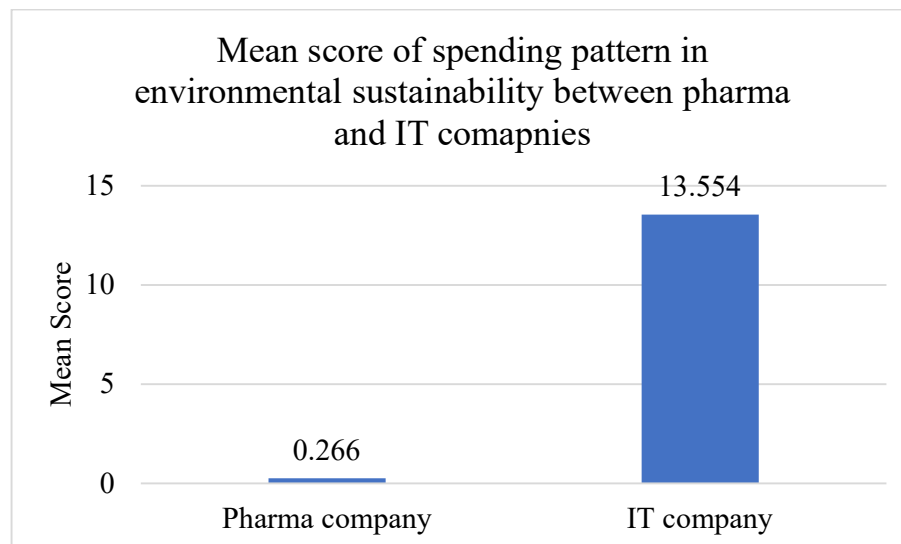
Interpretation: Above table indicate that p-value is 0.000. It is Less than 0.047. Therefore, t-test is rejected. Hence Null Hypothesis is rejected and Alternate Hypothesis is accepted.

Conclusion: There is a significant difference in spending pattern in environmental sustainability between Pharma and IT companies.

Findings: To understand the findings of Hypothesis, mean score of spending pattern in environmental sustainability between Pharma and IT companies is obtained and shown below.

Group Statistics					
	Company	N	Mean	Std. Deviation	Std. Error Mean
Environmental Sustainability (In cr.)	Pharma company	10	.2660	.80664	.25508
	IT company	10	13.5540	19.66611	6.21897

The table provides group statistics for environmental sustainability spending (in crores) by 10 pharmaceutical and 10 IT companies. Pharmaceutical companies have a low mean spending of 0.266 crores with a standard deviation of 0.80664, indicating minimal variation in their spending. In contrast, IT companies show a significantly higher mean spending of 13.554 crores, with a standard deviation of 19.66611, reflecting substantial variability within the group. The standard error for Pharma companies is 0.25508, whereas for IT companies it is 6.21897, suggesting more precise estimates for the Pharma group compared to the IT group.



Objective 3 To study the spending pattern of Top 10 Pharma and IT companies for social development.

Pharma Company	Social (In cr.)	IT Company	Social (In cr.)
Sun Pharma Distributors Limited	0.12	Tata Consultancy Services Limited	0
Torrent Pharmaceuticals Ltd	0	Infosys	34.14
Zydus Lifesciences Limited	0	Hcl Technologies Limited	49.95

Abbott India Limited	4.77	Wipro Limited	0
Glenmark Pharmaceuticals Limited	44.34	Ltimindtree Limited	2.78
Suven Pharmaceuticals Limited	0.2	Tech Mahindra Limited	0
Ipca Laboratories Limited	0.78	Oracle Financial Services Software Limited	2.6
Jubilant Pharmova Limited	3.58	Persistent Systems Limited	0.65
Emcure Pharmaceuticals Limited	0	Mphasis Limited	0.47
Astrazeneca Pharma India	0	Microsoft Corporation (India) Pvt Ltd	0.32
Average Spending		Average Spending	

Null Hypothesis H₀₃: There is no significant difference in spending pattern in social sector between pharma and IT companies.

Alternate Hypothesis H₁₃: There is a significant difference in spending pattern in social sector between pharma and IT companies.

To Test above null Hypothesis independent sample test is applied and t-test is obtained.

Independent Samples Test					
	t-test for Equality of Means				
	t	df	P-value	Mean Difference	Std. Error Difference
Social (In cr.)	-.521	18	.608	-3.71200	7.11980

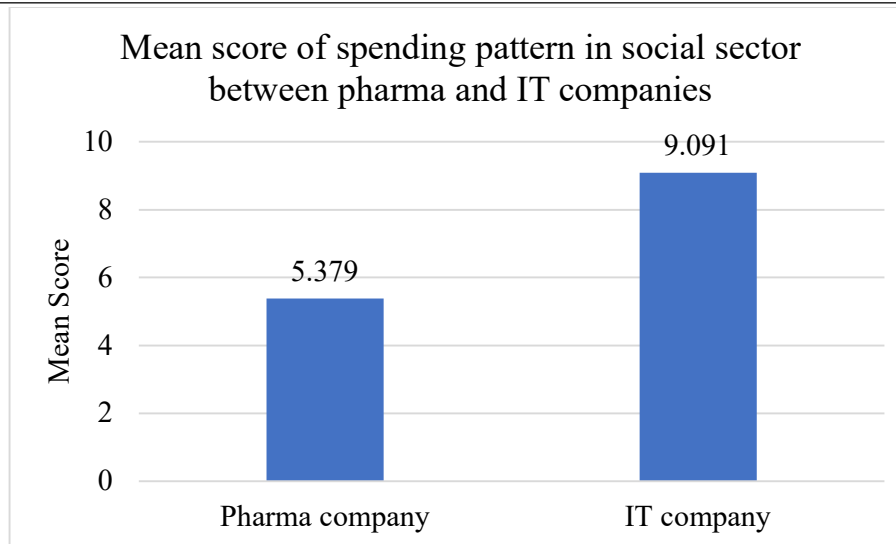
Interpretation: Above table indicate that p-value is 0.000. It is Less than 0.608. Therefore, t-test is accepted. Hence Null Hypothesis is accepted and Alternate Hypothesis is rejected.

Conclusion: There is no significant difference in spending pattern in social sector between pharma and IT companies.

Findings: To understand the findings of Hypothesis, mean score of spending pattern in social sector between pharma and IT companies is obtained and shown below.

Group Statistics					
	Company	N	Mean	Std. Deviation	Std. Error Mean
Social (In cr.)	Pharma company	10	5.3790	13.79586	4.36263
	IT company	10	9.0910	17.79299	5.62664

The table shows group statistics for social spending (in crores) by 10 pharmaceutical and 10 IT companies. Pharmaceutical companies have a mean social spending of 5.379 crores with a standard deviation of 13.80, indicating variability in their spending patterns. IT companies have a higher mean social spending of 9.091 crores, but with a greater standard deviation of 17.79, showing more variability compared to pharma companies. The standard error for pharma companies is 4.36263, while for IT companies, it is 5.62664, indicating more precise estimates for the pharma group than for the IT group.



Objective 4 To study the spending pattern of Top 10 pharma and IT companies for health sector.

Pharma Company	Health Care (In cr.)	IT Company	Health Care (In cr.)
Sun Pharma Distributors Limited	0.5	Tata Consultancy Services Limited	28
Torrent Pharmaceuticals Ltd	21.53	Infosys	137.8
Zydus Lifesciences Limited	78.54	Hcl Technologies Limited	43.37
Abbott India Limited	7.6	Wipro Limited	62.8
Glenmark Pharmaceuticals Limited	1.16	Ltimindtree Limited	2.04
Suven Pharmaceuticals Limited	4.59	Tech Mahindra Limited	14.77
Ipca Laboratories Limited	7.96	Oracle Financial Services Software Limited	19.54
Jubilant Pharmova Limited	0	Persistent Systems Limited	11.97
Emcure Pharmaceuticals Limited	6.48	Mphasis Limited	1.62
Astrazeneca Pharma India	1.61	Microsoft Corporation (India) Pvt Ltd	3.6
Average Spending		Average Spending	

Null Hypothesis H₀₄: There is no significant difference in spending pattern in health care sector between pharma and IT companies.

Alternate Hypothesis H₁₄: There is a significant difference in spending pattern in health care sector between pharma and IT companies.

To Test above null Hypothesis independent sample test is applied and t-test is obtained.

Independent Samples Test					
	t-test for Equality of Means				
	t	df	P-value	Mean Difference	Std. Error Difference
Health Care (In cr.)	-1.283	18	.216	-19.55400	15.23744

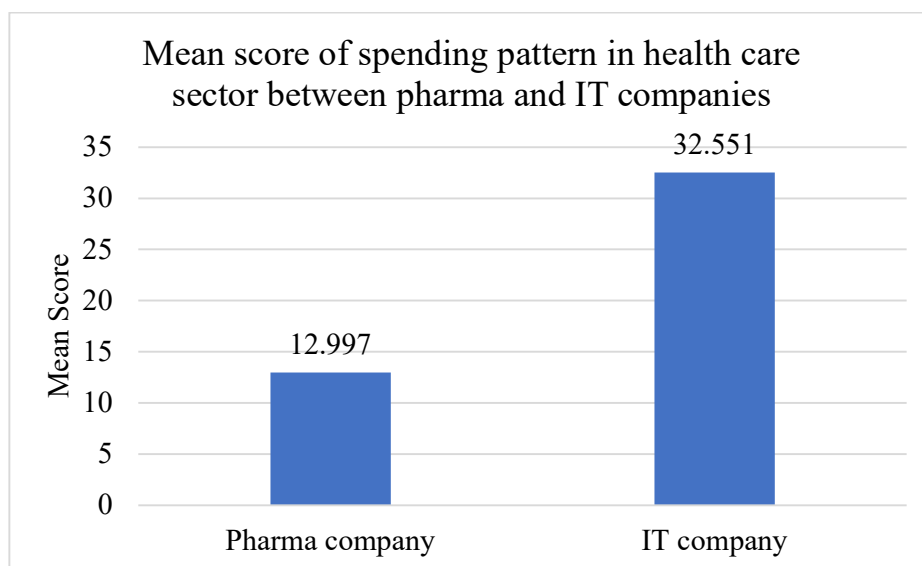
Interpretation: Above table indicate that p-value is 0.000. It is Less than 0.216. Therefore, t-test is accepted. Hence Null Hypothesis is accepted and Alternate Hypothesis is rejected.

Conclusion: There is no significant difference in spending pattern in health care sector between pharma and IT companies.

Findings: To understand the findings of Hypothesis, mean score of spending pattern in health care sector between pharma and IT companies is obtained and shown below.

Group Statistics					
	Company	N	Mean	Std. Deviation	Std. Error Mean
Health Care (In cr.)	Pharma company	10	12.9970	23.87751	7.55073
	IT company	10	32.5510	41.85285	13.23503

The table provides group statistics for healthcare spending (in crores) by 10 pharmaceutical and 10 IT companies. The mean healthcare spending for pharmaceutical companies is 12.997 crores, with a standard deviation of 23.88, indicating considerable variation within the group. IT companies, on the other hand, have a higher mean healthcare spending of 32.551 crores, but with an even larger standard deviation of 41.85, reflecting greater variability in their spending. The standard error for the pharma group is 7.55073, while for the IT group, it is 13.23503, indicating less precision in estimating the mean for the IT companies.



Objective 5 To study the spending pattern of Top 10 Pharma and IT companies for other areas of VII schedule section 135.

Pharma Company	Others (In cr.)	IT Company	Others (In cr.)
Sun Pharma Distributors Limited	0	Tata Consultancy Services Limited	630
Torrent Pharmaceuticals Ltd	0	Infosys	56.06

Zydus Lifesciences Limited	0	Hcl Technologies Limited	0.4
Abbott India Limited	0	Wipro Limited	31.8
Glenmark Pharmaceuticals Limited	0	Ltimindtree Limited	0
Suven Pharmaceuticals Limited	0	Tech Mahindra Limited	8
Ipca Laboratories Limited	0	Oracle Financial Services Software Limited	12.5
Jubilant Pharmova Limited	0	Persistent Systems Limited	0.23
Emcure Pharmaceuticals Limited	0	Mphasis Limited	2.25
Astrazeneca Pharma India	0	Microsoft Corporation (India) Pvt Ltd	0
Average Spending	0	Average Spending	74.124

Others spending includes the criteria such as Other Central Government Funds, Prime Minister'S National Relief Fund, Art and Culture, Armed Forces, Veterans, War Widows/ Dependants, Livelihood Enhancement Projects, Poverty, Eradicating Hunger, Malnutrition, Technology Incubators.

From the above table it is observed that pharma companies does not spend on any of the categories which are included in "others". IT companies average spending for others category is 74.124

Conclusion

The study reveals significant differences in the Corporate Social Responsibility (CSR) spending patterns between pharmaceutical and IT companies across various sectors. In the education and environmental sustainability sectors, IT companies demonstrate significantly higher spending than pharmaceutical companies, as supported by the rejection of the null hypotheses for both sectors. However, in the social and healthcare sectors, no significant difference is observed between the two industries, with both sectors showing variability in their spending patterns. Furthermore, in the "Others" category, pharmaceutical companies show no expenditure, while IT companies have considerable spending, particularly in areas like central government funds, national relief, and technology incubators. These findings underscore the differing CSR priorities and financial commitments of pharmaceutical and IT companies.

Bibliography

- Porter, M. E., & Kramer, M. R. (2006). Strategy and society: The link between competitive advantage and corporate social responsibility. *Harvard Business Review*, 84(12), 78-92.
- Epstein, M. J., & Buhovac, A. R. (2014). *Making sustainability work: Best practices in managing and measuring corporate social, environmental, and economic impacts* (2nd ed.). Berrett-Koehler Publishers.
- Carroll, A. B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons*, 34(4), 39-48.
- Husted, B. W., & de Jesus Salazar, M. (2006). Taking Friedman seriously: Maximizing profits by investing in corporate social responsibility. *Journal of Management Studies*, 43(1), 75-91.
- Maignan, I., & Ferrell, O. C. (2004). Corporate social responsibility and marketing: An integrative framework. *Journal of the Academy of Marketing Science*, 32(1), 3-19.
- Fombrun, C. J. (1996). *Reputation: Realizing value from the corporate image*. Harvard Business School Press.
- Sen, S., & Bhattacharya, C. B. (2001). Does doing good always lead to doing better? Consumer reactions to corporate social responsibility. *Journal of Marketing Research*, 38(2), 225-243.
- Blowfield, M., & Murray, A. (2014). *Corporate social responsibility: A critical introduction* (2nd ed.). Oxford University Press.
- McWilliams, A., & Siegel, D. (2001). Corporate social responsibility: A theory of the firm perspective. *Academy of Management Review*, 26(1), 117-127.
- Visser, W. (2011). *The age of responsibility: CSR 2.0 and the new DNA of business*. Wiley.

11. Crane, A., Matten, D., & Spence, L. J. (2013). Corporate social responsibility: Readings and cases in a global context (2nd ed.). Routledge.
12. Burke, L., & Logsdon, J. M. (1996). How corporate social responsibility pays off. *Long Range Planning*, 29(4), 495-502.
13. Kotler, P., & Lee, N. (2005). Corporate social responsibility: Doing the most good for your company and your cause. Wiley.
14. Elkington, J. (1998). Cannibals with forks: The triple bottom line of 21st-century business. Capstone Publishing.
15. Freeman, R. E. (1984). Strategic management: A stakeholder approach. Cambridge University Press.