

**A STUDY ON INDIAN TELECOMMUNICATION INDUSTRY – AN OVERVIEW**

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**ABSTRACT**

*The Indian telecom industry has seen substantial transformation in the last 13 years. From being the darling of investors in 2007, it is now one of the industries with the highest levels of debt in the nation. The study generated 11 research hypotheses based on prior literature. The research is based on 11 Indian telecommunications industries that are publicly traded. The data were gathered from the financial statements of the companies. The goal of this research is to find out how financial factors affect corporate performance. In light of this, the current research examines the financial performance of eleven telecommunications businesses over the course of five years, from “2017-2021.” It depicts Economic Uncertainty Policy and Return on Asset by analyzing The connection between dependent and independent factors.*

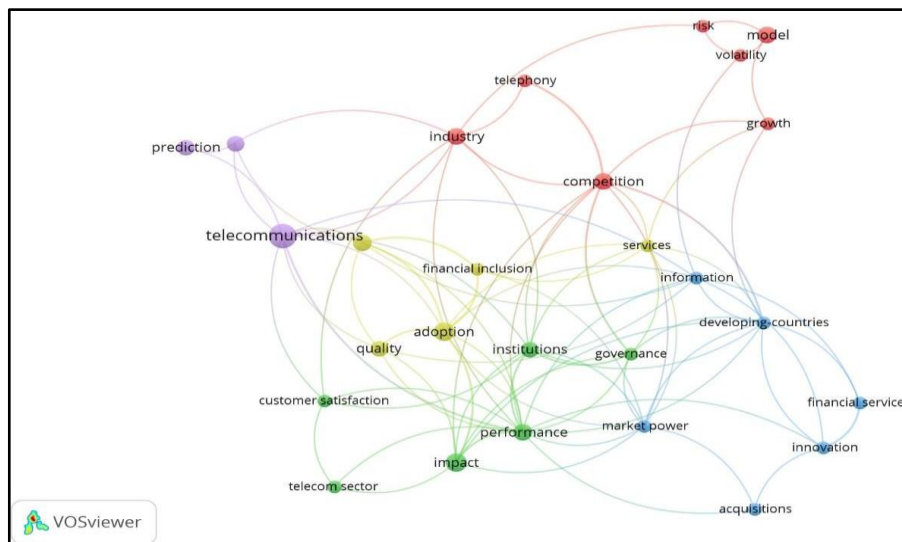
*Keywords: Telecommunication, Industry, Return on Investment, Economic Policy Uncertainty*

**INTRODUCTION**

The telecommunications sector is critical to each country's development and success. This sector's reach is expanding significantly, and we're gaining stronger network connections in remote locations as well. It is supplying various devices and elucidation essential for the digitalization of systems and processes in many vital economic sectors in developing countries, such as agriculture, health care, banking, and education.

India's telecommunications sector is one of the world's largest and fastest-growing networks. Due to increased client demand and favourable government legislation, it has experienced rapid expansion in recent years. India is currently ranked second in the world's telecom market, with 1.18 billion subscribers. Around 1155 million of these are wireless phone or mobile connections. India ranks second in the world in terms of internet users. As of September 2019, there were 687 million internet subscribers. As a result, India surpassed the United States in terms of app downloads in 2019 and ranked second in the globe. Following the launch of Reliance Jio in September 2016, the number of online network customers has significantly increased. As a result, data prices have dropped dramatically, from Rs.180 per GB in September 2016 to Rs.10.52 in December 2016, a drop of about 95% in per GB pricing. India now leads the globe in monthly data use, with monthly data consumption per subscriber rising from 239 MB in September





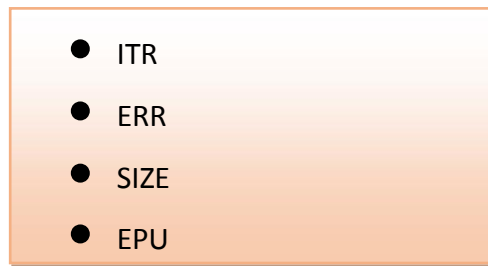
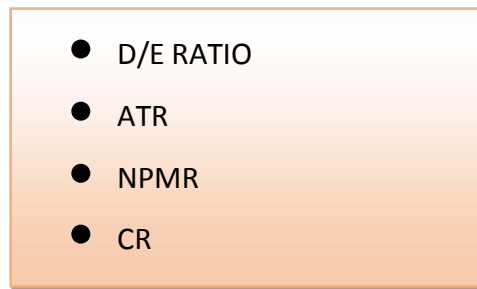
As there are only some results shown for financial performance of telecom industries in WEB OF SCIENCE only some keywords are shown in the figure 2. We need to know which determinants have an impact on total telecom firm performance in order to examine their financial performance. As a result, in this study, we used data from 11 Indian telecom enterprises to see which determinants are associated to firm financial performance.

#### Literature review:

India was the first country to establish communications with the telegraph. India boasts some of the world's oldest postal and telephone networks. The first experimental electric telegraph connection was constructed between Diamond Harbour and Calcutta in 1850. The British East India Company used it for the first time in 1851. The first company to use it was the British East India Company. The Public Works Department's tiny annex served as the home of the Posts and Telegraphs Department during that time. According to Panda & Shastri, (2016) In addition, India is thought to have the fourth-biggest application economy in the world. There are two major causes for the expansion of the Indian telecom sector. The first and most important cause or explanation is tied to rising demand for the product. Throughout the country Customers in India are now anticipating a new product. A telecommunications service provider capable of providing services such as quick internet connectivity and cost-effectiveness mobile network at affordable and accessible costs. In those days the networks like 1g,2g,3g,4g were used by the people. But nowadays 5G networks are more in trend as there is increased peak multi-Gbps data rates, incredibly low latency, greater dependability, enormous network capacity, and enhanced availability, people are interested to by 5G sims rather than 4g. This study developed a theoretical model based on the relationship structure between independent and dependent variables to investigate the effects of different financial determinants and economic policy uncertainties on telecom firm performance ROA, a measure of firm performance, is the dependent variable.

Figure 3: Conceptual theoretical mode

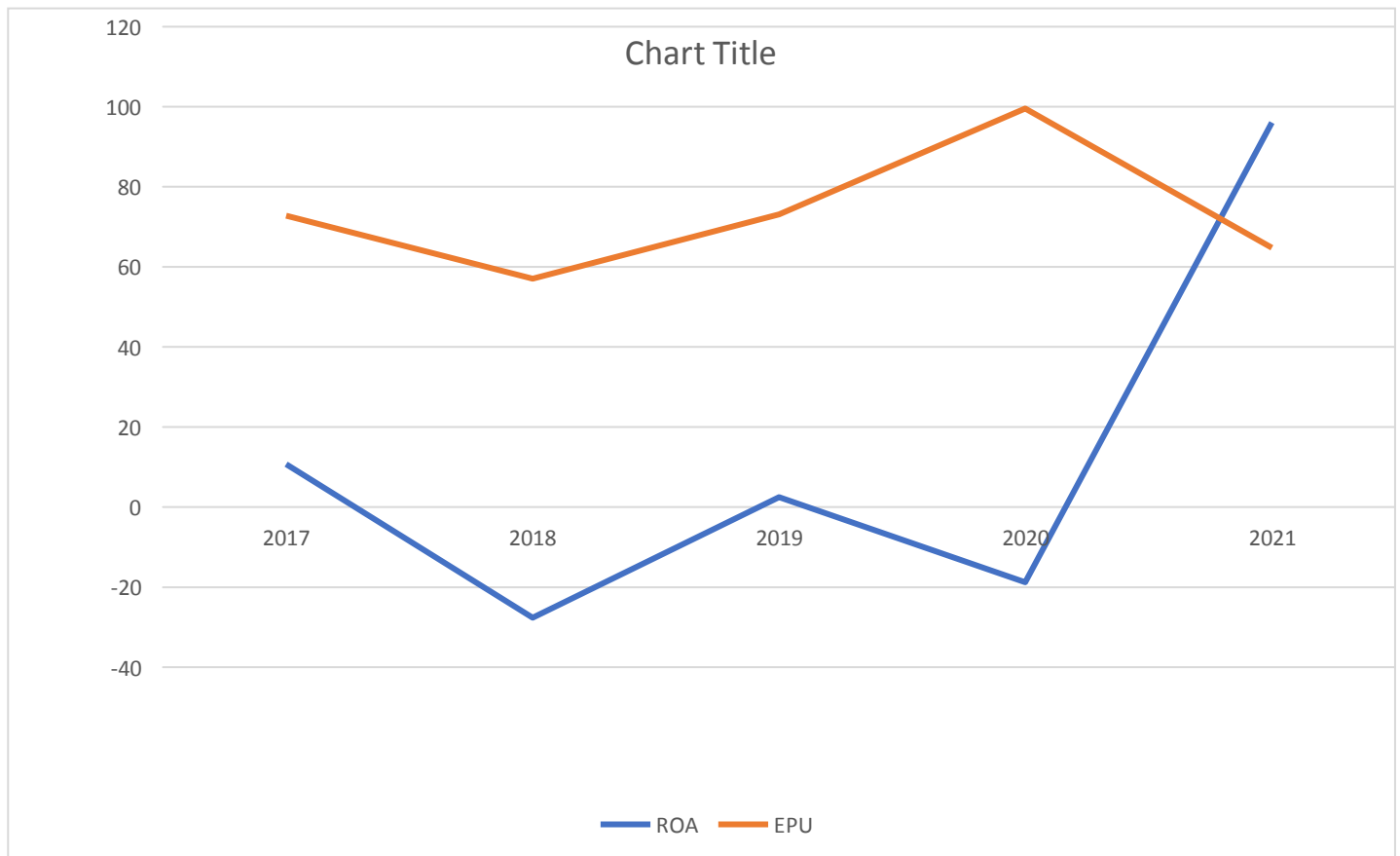
- EPS
- DILUTED EPS
- DPS



In figure 3 all determinants employed in the examination of financial performances of Indian telecom sector. We explain all the determinants that we have obtained from previous published sources, primarily from web of science articles, in the sections below.

- **Return on assets (ROA):** It is a measure of a company's profitability in relation to its total assets. ROA tells a manager, investor, or analyst how well a company's management is utilizing its assets to generate profits.
- **Return On Investment (ROI)** is expressed as a percentage; the larger the ROA, the better. Calculating the return on assets (ROA) ratio of a company, is ratio of EBIT (earnings before interest and taxes) to the total Assets.
- **Leverage:** The use of debt (borrowed capital) to finance a venture or undertaking is known as leverage. As a result, the project's potential returns are multiplied. Simultaneously, leverage increases the potential downside risk if the venture does not pan out. When a corporation, a property, or an investment is described as "highly leveraged," it means it has more debt than equity. Both investors and businesses employ the idea of leverage. Investors utilize leverage to boost the amount of money they can make on a given investment. They use a variety of products to leverage their investments, including options, futures, and margin accounts. Leverage can be used to finance a company's assets. To put it another way, instead of issuing shares to raise capital, businesses can use debt financing to invest in their operations in order to boost shareholder value.
- **Economic policy uncertainty:** The uncertainty measure we used in this study has been evaluated in a variety of methods. It is mostly based on a detailed examination of many news articles selected at random from famous Indian newspapers.

Figure 4: Relationship between ROA AND EPS



All other variables are presented in the table along with the references (See Table 1).

**Table 1: List of variables used in the study**

S.NO	VARIABLE NAME	FORMULA	REFERENCE
1	Return On Assets (ROA)	$ROA = \text{Net Income} / \text{Total Assets}$	
2	Equity Per Share (EPS)	$\text{Equity Per Share} = \frac{\text{Net Income} - \text{Preferred Dividends}}{\text{End Of Period Common Shares Outstanding}}$	
3	Diluted EPS	$\text{Diluted Eps} = \frac{\text{Net Income} - \text{Preferred Dividends}}{\text{Weighted Average}}$	
4	Divident Per Share	$\text{Dividend Per Share} = \frac{\text{Total Dividend}}{\text{No}}$	
5	Debt/Equity Ratio	$\text{Debt/Equity} = \frac{\text{Short Term Debt} + \text{Long Term Debt} + \text{Other Fixed Payments}}{\text{Share Holders Equity}} \times 100$	
6	Asset Turnover Ratio (ATR)	$\text{Net Sales} / \text{Average Total Assets}$	
7	Net Profit Margin Ratio (NPMR)	$\text{Net Profit} / \text{Total Revenue} \times 100$	
8	Current Ratio (CR)	$\text{Current Asset} / \text{Current Liabilities}$	
9	Inventory Turnover Ratio (ITR)	$\text{Cost Of Goods Sold} / \text{Average Inventories}$	

10	Economic Policy Uncertainty (EPU)	EPU Index	
11	Earnings Retention Ratio (ERR)	Net Income- Dividend Distributed/Net Income For The Year	
12	Size	Total Assets	

Based on above literature review below hypotheses are formulated.

- H1- There is a positive relationship between EPS and firm performance.
- H2- There is a positive relationship between DILUTEDEPS and firm performance.
- H3- There is a positive relationship between DPS and firm performance.
- H4- There is a positive relationship between D/ERATIO and firm performance.
- H5- There is a positive relationship between ATR and firm performance.
- H6- There is a positive relationship between NPMR and firm performance.
- H7- There is a positive relationship between CR and firm performance.
- H8- There is a positive relationship between ITR and firm performance.
- H9- There is a positive relationship between ERR and firm performance.
- H10- There is a positive relationship between SIZE and firm performance.
- H11- There is a negative relationship between EPU and firm performance.

## DATA AND METHODOLOGY

For this study the data was considered from BSE listed Indian telecommunication form a total no of eleven companies are taken into consideration. After collecting the data, we checked it for outliers to see if any missing value is there we consider that organization has an outliers. In order to examine normal distribution, we applied three standard derivation rule. The methodology was based on panel data analysis and for that purpose we have converted the raw information to panel form. We have applied descriptive statistics to understand the nature of the data. In order to better comprehend the nature of the relationship between IDVs (EPS, DPS, D/E RATIO, ATR, NPMR CR, ITR, ERR, EPU) and DVs (ROA). We used the Pearson correlation coefficient in the final analysis. We examined a panel regression model.

**Table 2: Firm Performance of Indian Telecommunication Industries**

Year	No: of observations	Mean	Median	Standard derivation	minimum	maximum
2017	11	9.67	1.07	27.53	-19.79	77.44

2018	11	- 33.33	1.02	93.23	- 2.91.16	12.5
2019	11	2.50	0.56	9.87	-14.5	25.57
2020	11	0.97	1.25	15.91	-31.95	30.94
2021	11	92.37	1.195	350.61	-132.32	1083.17

We utilized STATA 13.0 software to perform the panel regression model; first we executed the fixed effect regression model then after putting the findings of the fixed effect model in STATA'S memory, we executed the random effect regression model. we've saved the random findings once more in STATA'S memory. In order to determine which model (fixed effect or random) is most suited. The research utilizes HAUSMAN tests, which state that if the probability value is less than 0.5, the result is fixed. If the effect model is appropriate, or if it is not, vice versa.

## RESULTS

The association between ROA and EPU states that in the year 2017 where the EPU is at a higher level whereas ROA was at a lower level. When ROA gradually decreases, ROA gradually increases, implying that firm performance in the telecommunications industry was also on the rise until the pre-covid-19 (2019) period, when an inverse link between both factors was observed (See fig. 4)

**Table 3: Descriptive statistics of financial determinants**

Variable	No of values	Mean	Median	Std Deviation	minimum	Maximum
ROA	55	12.55	1.29	156.53	-291.16	1083.17
CASH EPS	55	6.39	0.19	46.55	-63.41	213.5
Diluted EPS	55	0.69	0.14	28.27	-71.08	96.73
DPS	55	1.25	0.26	25.49	-58.66	94.6
D/E RATIO	55	1.89	0.38	4.28	-4.12	16.24
ATR	55	32.50	27.75	21.67	-4.43	88.88
NPMR	55	-27.39	2.93	266.67	-766	1253
CR	55	0.96	0.65	1.12	0.05	7.43
ITR	55	3860.45	34.82	12962.01	0.00	80,407.38
ERR	55	9.25	0.00	167.67	- 1161.74	206.93
SIZE	55	110259.35	5516.75	227168.8	123.63	971699.00
EPU	55	73.44	72.74	14.4	57.02	57.02

The results of descriptive statistics are provided in table 2 and 3 summarize the financial determinants information according to descriptive data the mean value of ROA indicates that Indian listed telecommunication industries had positive results but only in the year 2018 there was a negative relation for a specific time period. The mean ROA was found to be in the range of -33.334 to 92.373. that is the range of dispersion is high.

**Table 4: Pearson correlation coefficients**

	RO A	EP S	DIL UTED EPS	DP S	D/ E RATI O	A TR	NPMR	CR	ITR	ER R	SIZ E	EP U
ROA	1.00											
EPS	0.23	1.00										
DIL UTE	0. 47	0. 54	1.00									
D												
EPS												
DPS	0. 10	0. 29	0.16	1. 00								
D/E RAT IO	- 0. 01	- 0. 29	-0.10	- 0. 51	1.0 0							
ATR	- 0. 05	0. 44	0.12	0. 70	- 0.4 4	1. 00						
NPMR	0. 75	0. 43	0.36	0. 06	- 0.1 1	0. 04	1.0 0					
CR	0. 02	0. 43	0.08	0. 22	- 0.1 3	- 0. 03	0.0 7	1. 0 0				
ITR	- 0. 05	- 0. 12	-0.27	0. 00	- 0.0 2	- 0. 06	- 0.0 3	- 0. 1	1. 0 0			
								2				



ERR	0.59	0.10	0.03	0.09	-0.02	0.15	0.02	0.05	0.07	1.00		
SIZE	-0.02	0.34	0.45	0.06	-0.04	0.01	0.02	-0.13	0.17	0.02	1.00	
EPU	-0.06	-0.07	-0.11	0.03	0.09	-0.04	0.00	0.00	-0.07	0.14	0.06	1.00

We calculated the mean value of firm size as 110259.35 by calculating the natural log value of total assets. Since the standard derivation for firm size was more than 1000, which is extremely high, there is a significant size disparity among the chosen firms. We transformed company size values into natural log values in order to deal with this difficulty. For all of the other variables, the mean value is positive, indicating that all of the IDVs have an effect on firm performance. It is therefore required to determine which IDVs have a major effect on firm performance, and which do not. Following descriptive statistics, we looked at the data to see whether there was any association. D/E RATIO, ATR, ITR, SIZE, and EPU are all negatively connected with ROA, according to the correlation coefficient table.

## CONCLUSION

Over time, the telecom industry has experienced substantial expansion and advancement. The deregulation of the sector brought about by the opening up of the Indian economy heightened competition among its many competitors. The impact of competition is seen in the reduction of tariffs, the availability of unique and inventive tariff plans tailored to certain markets, loyalty initiatives, and celebrity endorsements. Organizations have also made a consistent effort to match their organizational structures and vision with the dynamic and ever-evolving commercial environment. The top telecom companies in India, Airtel and Vodafone, are excellent illustrations of businesses that have effectively handled change over time. With the introduction of new technology, the sector is expected to become even more competitive and fierce in the upcoming years. It will be interesting to watch how the major players adjust to these changes and move with the times.

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