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FINDINGS

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ENVIRONMENTAL ACCOUNTABILITY BASED ON THE PYRAMID OF TRI HITA KARANA: STUDY AT SANGLAH HOSPITAL, BALI

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ABSTRACT

Environmental accountability is the answer to strengthen the monitoring aspect on hospital waste regulatory. Environmental accountability is a form of accountability which talk about organization's activities and funding that related with environment. This study aims to construct environmental accountability based on Tri Hita Karana (THK) in Sanglah Hospital. This study is using spiritual paradigm with THK culture as a tool of analysis and construction. Environmental accountability based on THK is built through a meaning of environmental accountability in Sanglah hospital from THK point of view and a review of sustainability reporting guidelines by GRI G4 paired with the values of THK. THK is a harmonious relationship between human with God (parahyangan), society (pawongan) and nature (palemahan) that makes environmental accountability based on pyramid of THK has an inseparable unity with God, human and nature with parhyangan as the peak of pyramid. This environmental accountability reflecting that hospital manages the environment is not only aimed at the preservation of nature but also to show concern for the community and as a form of accountability to God.

KEYWORDS

Tri Hita Karana, environmental accounting, accountability, spiritual paradigm, hospital.

JEL CODES

K32, K38, M14, M41, Q53, Q56.

INTRODUCTION

According to the Ministry of Health Decree No. 1204, hospital requires to treat their waste as it contains bacteria, viruses, toxins and radioactive materials that classified as the hazardous and toxic waste (B3). But there are several cases of of non-standardized waste processing in Indonesia. Sampang hospital was proved to dispose their medical waste without fulfilling the standard process of Wastewater Treatment Plant (WWTP) and did not have a legal permission for the installation of solid waste management (rri.co.id, 2014). Medical solid wastes are still commonly found in landfills general waste (krjogja.com, 2013). One possible cause is the absence of obligation to report the hospital waste processing activities that can be seen in the Minister of Health of the Republic of Indonesia no. 1981 of 2010 on Accounting Guideline for Hospital as Public Service Agency. The weakness of monitoring aspect for regulatory of the implementation of the waste processing motivating this study. According to Andrew (2001), accountability can provide a basis for expressing environmental and social issues. Environmental accountability could be the answer to strengthen the monitoring aspect of hospital waste regulatory. Environmental accountability is a form of accountability which talk about activities and funding that carried out by organizations related with the social and natural environment. One form of accountability is the preparation of sustainability report concerning on the economic, environmental, and social system of organization. Preparation of sustainability report guidelines, established by Global Reporting Initiative (GRI) (Sukoharsono, 2009). In addition to GRI, Tri Hita Karana (THK) used in this study because it contains values that appropriate to construct the more complex of environmental accountability which not only about economic, natural and social, but also about God. God going to be an additional element in basic environmental accountability because by increasing the God-conciousness, organization can be more responsible to maintain the mother nature and society as nature and human is create by God.

RESEARCH'S OBJECTIVE

Researcher wants to construct environmental accountability in the hospital by using the universal value of THK.

ENVIRONMENTAL ACCOUNTABILITY

According to the Oxford English Dictionary, accountability is derived from the word accountable, which means "required or expected to give an explanation for one's action". Gray et al (2006) found that accountability can be measured through transparency by explaining the organizational form, what your organization does, how the funding is, and the allocation of funds in accordance with these goals. Accountability environment means a form of accountability of the activities carried out by organizations dealing with the social and natural environment. Environmental accounting as a form of accountability is a method to improve business decision-making to be responsive to the environmental challenges and opportunities faced in business today (Sukoharsono, 2007). Environmental accounting contained in the environmental accountability has internal and external functions (Environmental Accounting Guidelines, 2005). Internal function enables companies to organize and analyze the cost and benefit of environmental conservation related to the decision making. On the contrary, external factor is included in the statement of financial accounting which is a specific part reporting environmental liabilities and other significant environmental costs.

THE CONCEPT OF TRI HITA KARANA

Tri Hita Karana (THK) is a concept highly respected by the people in Bali, Indonesia. THK is derived from the Sanskrit that consisting of *tri* (three), *Hita* (happy), and *Karana* (causes) which can be interpreted as the three causes of happiness. To achieve happiness, there are three ways which are to harmonize the relationship between human and God (*Parhyangan*), humans with other humans (*Pawongan*), and human with nature (*Palemahan*). THK does not actually exist in the Hindu religion but is the idea of a Hindu leader who can formulate the concepts in Hindu in 1964 (Kusuma, 2000). The elements in the THK cannot be separated from one another as they are interrelated and complementary. THK element is triangular in shape with *Parhyangan* on the top because the Lord Almighty always positions at the top. This triangular shape is what the researcher calls as the Pyramid of THK.

RESEARCH METHOD

The study implements a qualitative method with spiritual paradigm to awaken god-conciousness (Triyuwono, 2012). The site of this study is hospital because it has an obligation to implement waste management but not supported by the reporting obligations of environmental management. Rumah Sakit Umum Pusat

(RSUP, Public Hospital Centre) Sanglah, Denpasar is a Bali government-owned hospital that has implemented the Green Hospital in 2010. Sanglah hospital also obtained Gold Medal in the category of *Praja Nugraha* in 2011, 2012 and 2014 in the THK Awards and Accreditation as government offices that have successfully implemented THK in their business operations.

The data sources in qualitative study are divided into two, the secondary data and primary data (Moleong, 2014). The secondary data comes from the regulation of hospital associated with the natural environment and reports related to environmental accountability and also included in the written documents in this study. Primary data is sourced from the informants. This study takes the informants working at the hospital. The list of informants who contributed in providing information to the study are provided below.

TABLE 1:THE LIST OF INFORMANT IN SANGLAH HOSPITAL

No.	Informant	Justification
1.	Ni Putu Resiki	The Head of Installation of Hygiene and Environmental Health (IKKL)
2.	Ken Wirianti	The Head of Financial Accountability sub-section
3.	Kamustaya	The technician of WWTP
4.	Komang Widiastra	The coordinator of environmental health that manages the solid waste
5.	Nengah Sumerta	The Head of General division and also as the head of *Suka Duka* in Sanglah hospital

The technique analysis in this study is THK as a tool to classify the meaning of environmental accountability practices and to construct the THK-based of environmental accountability. The data analysis is conducted in four steps. After collecting the data, the first step in data analysis is a data reduction and data triangulation to compares the results gained among informants and the results of observation to obtain validity. The second step is data presentation in form of classifying of the meaning as the basis of this environmental accountability construction. Those meanings are the researcher's arguments to support this environmental accountability. The third step is to construct a THK-based environmental accountability by criticizing GRI G4 because it is the most widely used sustainability report guidelines. In GRI G4, there are economic, environmental, and social indicators which the researcher deemed it is appropriately paired with the elements of human and nature in THK. The value of spiritual in the implementation of environmental accountability is considered important for the researcher because the presence of this element becomes the main reason of the people to be more responsible for keeping the environment clean and healthy. The last step in the data analysis is conclusion or verification in the form of sentences to be easily understood and reviewed repeatedly.

THE IMPLEMENTATION OF ENVIRONMENTAL ACCOUNTABILITY IN SANGLAH HOSPITAL

Sanglah Hospital was inaugurated on December 30, 1959 and designated as public service agency (BLU) and became the technical implementation unit Ministry of Health in 2005. In 2009, Sanglah Hospital proclaimed to be world-classed Indonesian hospital. To maintain the quality of health services with international standards, Sanglah Hospital formed a special installation for managing health and environmental hygiene named Installation of Hygiene and Environmental Health (IKKL). Waste management process is divided into three: solid waste, liquid waste, and gas waste. IKKL has different standard operating procedur (SOP) for managing the third wastes. Sanglah Hospital status as BLU carries out the financial report under the Ministry of Finance. Sanglah Hospital is a working unit of the Ministry of Health (MoH) and is required to report its financial responsibility to the MoH. Therefore, Sanglah Hospital makes two types of financial statements, the financial statements based International Financial Reporting Standards (IFRS) and the financial statements based Government Accounting Standards. Based on these two types of financial statements, the environmental cost is only visible in the notes to the financial statements. Environmental costs in Sanglah Hospital is not described explicitly in the financial statements in 2014, but in financial statement on the general and operational costs part, there are maintenance costs of the building in which the WWTP and the incinerator belonging to the building facilities amounting to Rp152.496.300. There is also the cost of equipment and machinery maintenance amounting to Rp2.620.924.227 in which incinerators and wastewater equipment and machinery belong to the non-medical. However, the details regarding the costs for the incinerator and WWTP are not stated.

THE MEANINGS OF ENVIRONMENTAL ACCOUNTABILITY BASED ON THK

Environmental accountability expresses the whole of the environmental management activities so from this point of view will direct people's understanding that environmental accountability is the mere of *palemahan*. But after interviewing informants, their answer is not just to about the value of *palemahan*. Informants also address the environmental accountability into the other THK values, *pawongan* and *parhyangan*.

Environmental Accountability as *Palemahan*

Mrs. Putu Resiki, the head of IKKL, said that environmental management is about *palemahan* because the main focus of IKKL is about waste so IKKL so all work in IKKL are all related to nature. Mrs. Ken who served as the head of Financial Accountability sub-section said that she prefers to interpret the environmental accountability practices into *palemahan* element because activities of environmental accountability can be assessed by currency or nominal terms. For example, as the costs incurred for the maintenance of cleanliness and hospital's waste as long as there is evidence of transaction costs. Therefore, according to Mrs Ken, it is difficult to assess *pawongan* and *parhyangan* because the relationship between humans and human with God is abstract.

Environmental Accountability as *Pawongan*

Besides *palemahan*, Sanglah Hospital employees also assume that the *pawongan* element cannot be separated from environmental accountability. Mr. Kamustaya, the WWTP technician said that the environment accountability has an impact on surrounding communities. Waste water which is not properly managed would definitely have a negative impact not only on the river water, but also the health of surrounding communities. Liquid waste might contain harmful chemicals from the laboratory activity. Mr. Nengah Sumerta, head of *Suka Duka,* in Sanglah Hospital also gave his opinion that the human role is very important in environmental accountability. Not only the impact of environmental accountability, but also the human role in the environmental accountability process, including environmental management activities.

Environmental Accountability as *Parhyangan*

Mr. Kamustaya, it can be said that the management of waste, especially waste water, has no connection with the *parhyangan* element, because the work can be categorized as *yadnya,* sacrifice with a sense of sincere. What does a human being must do, *Ida Sang Hyang Widhi Wasa* certainly knows that there will be *karma phala* in each of our actions. In Hindu religion there is *Panca Sradha* means five Hindu religious beliefs, one of which is to believe in the existence of *Karma phala*. *Karma phala* is what we plant is what we get. So if we carry out the responsibilities given to us (work) with a sense of sincerity and full consciousness, we should do it well to earn a good result. Similarly, in the waste management process, if we though the results are not good and effortlessly repair, one day we will gain the result. Mr Nengah illustrates that *Parhyangan* element remains in environmental accountability. It is not visible but cannot be ignored. Employees at Sanglah Hospital certainly pray before work in temples or worship according to their beliefs, asking the smooth running of work at the hospital. This belief is firmly held by Hindus as the basis of their act, saying, and thinking.

THE CONSTRUCTION OF ENVIRONMENTAL ACCOUNTABILITY BASED ON THK IN THE HOSPITAL

The construction of THK-based environmental accountability is based on the criticism of environmental accountability guidelines widely used in the Global Reporting Initiative (GRI) G4 The researcher has built environmental accountability based on the results of field research to assess the suitability of implementation in the hospital.

Review of GRI G4 Based on THK Point of View

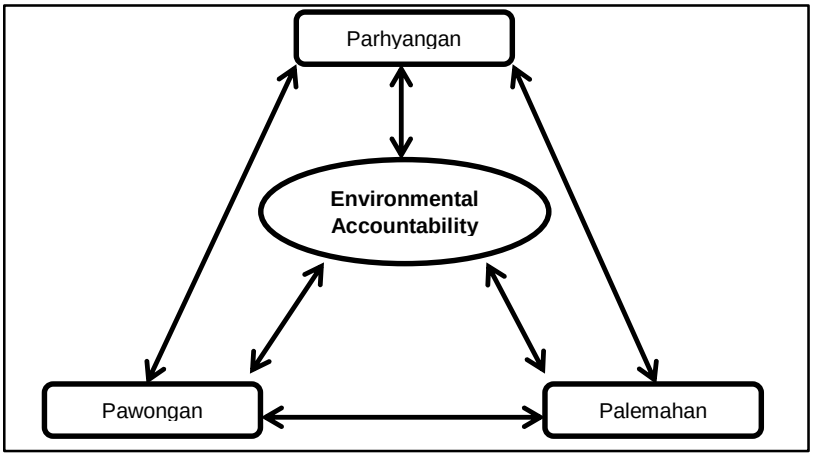
GRI has been a lot of improvement and development to continue to meet the demand of the users of sustainability report guidelines to all sectors of worldwide organizations. However, the researcher saw that GRI G4 has some drawbacks. Its global values to all sectors of the organization led to only a few indicators that are relevant to the process of the hospital business. Additionally, seen from the perspective THK, GRI promotes the value of capitalist due to the absence of spiritual element in drafting guidelines for sustainability report. There are only Economic, Environmental and Social element, neglecting the religious value, though Indonesia is a country that strongly upholds religious values. This is often overlooked by organizations in Indonesia, that all activities are not only a form of

accountability to stakeholders, but also accountable to God as the Creator. It is also stated by Sukoharsono (2010) that accountability is necessary to add a fourth dimension of sustainability which is the spiritual dimension in which the reporting system of accountability needs spiritual aspect comprising a Heartfelt Love (merciful), Love Sincere (truthful Love), in transcendental consciousness, Self-ability to contemplation and Honesty.

Construction of Environmental Accountability Based on Pyramid of THK

Researcher constructs THK-based environmental accountability which is appropriate to be implemented in hospitals based on a review of GRI G4. THK-based environmental accountability will contain elements of the Godhead in any activity undertaken. THK-based environmental accountability will also related one another because THK is an inseparable unity. Environmental accountability is a unity in which God as the Creator of the world created human kind and the universe. Human cannot live without nature so that people are obliged to take care for nature for survival. Human as the actor of implementation of environmental accountability and environmental accountability of nature as an object cannot be separated from God the Creator. Therefore, THK-based environmental construction is as follows.

FIGURE 1: THE PYRAMID OF ENVIRONMENTAL ACCOUNTABILITY BASED ON THK



The figure shows that environmental accountability associated with the three elements of the culture of Tri Hita Karana and the three elements are also connected to each other so as an unseperably unity. *Parhyangan* is the peak of the construction of environmental accountability because everything comes from God. Similarly, the existence of environmental accountability is the result of the human mind which comes from the Lord who shows concern for the needs of nature. Nature and also human are created by God and the belief that destorying nature means eliminate the soul of God in nature. Accountability is closely linked to elements of the environment or natural (*palemahan)* as its object. Organizations must implement environmental management to keep the natural order and not exploit them continuously. Natural resources used continuously without any preservation effort will cause their depletion and scarcity which will affect the inability of humans to survive. The actor implementing environmental accountability is human. Human as the only living creature that is conferred by God with mind and thoughts are obliged to care for nature. Human beings need nature to survive because of all the basic human needs, ranging from clothing, food and shelter come from nature. Therefore, *pawongan* also plays an important role in environmental accountability.

CONCLUSION

The study based on the spiritual paradigm produces an environmental accountability based on Balinese culture, THK. The Pyramid of THK-based environmental accountability is obtained from the meaning of environmental accountability by employees at Sanglah Hospital in Denpasar. Researcher interviewed Sanglah hospital's employees about the meaning of the implementation of environmental accountability through the concept of THK. Environmental accountability is not only seen as the embodiment of *palemahan* element as it relates to nature, but it can also be interpreted as an element of *pawongan* and *parhyangan*. Accountability environment has a reciprocal relationship with the elements of THK, *parhyangan*, *pawongan* and *palemahan,* in which these elements relate to one another and cannot be separated. The peak of the pyramid-shaped triangle is *Parhyangan*. *Parhyangan* represents the pinnacle of the pyramid because everything done by a human being must come from God and are also accountable to God. Through environmental accountability practices, human, gifted with mind by God, attempt to take care of nature and all beings as a form of their accountability to God. Environmental accountability is also a form of human responsibility to God to not exploit nature for the sake of personal interests without any attempt to preserve it. Environmental accountability also influences the human environment and is influenced by humans as the actors implementing environmental accountability, so that environmental accountability strongly relates to the *pawongan* element. Environmental accountability is also associated with *palemahan* since its well-implementation will result on a clean and green environment.

SUGGESTION

It is expected that further research can examine other objects which might potentially cause the pollution to the environment due to their lack of regulation on environmental accountability report. Besides, further research is expected to enrich the research on this issue by employing another concept to construct the environmental accountability.

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A STUDY ON IMPACTS OF COVID 19IN INDIAN STOCK MARKET

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ABSTRACT

A stock market is the common platform for buying and selling of shares. The shares of companies are sold to investors through equity crowd platforms either by stockbrokers or by an individual through online trading platforms. The market is down beyond its point due to the severe impact of COVID19. Corona virus disease (COVID-19) is an infectious disease caused by SARS-COV 2 virus that causes respiratory illness with symptoms such as a cough, fever, and in more severe cases results in death. The investors are in anxiety, assuming that the India is going to face big crisis, due to the sudden fall in market. The pandemic issue results in sold out; the market has reacted to unpredictability as trading stopped 4 times (Minami & Travis, 2020). Therefore, it is necessary, to understand the market condition and the sectoral indices across India. This study attempts to evaluate the impacts of stock market due to pandemic issue worldwide by using trend analysis.

KEYWORDS

COVID 19, stock market, national stock exchange, share indices, sectoral index, trend analysis.

JEL CODES

G10, G19.

INTRODUCTION

The outbreak of COVID 19 in China's Wuhan province is caused by a corona virus that usually infects animals but can transmit to humans. In reality, it is not the depression period; it is the slow down period. Definitely the market growth is expected to be improved. It may take 10 months to 1year to recover. As per the market cycle, definitely after a slow down, there is always a growth period. Based on the happenings on 2003 SARS incident, China growth reduced from 11% to 9 %, that is China's GDP was 4% in 2003 but in 2019 it was 17%, which shows any drop definitely hit harder.

IMPACT OF COVID 19

COVID 19 impacted economic and financial markets including stocks, bonds, commodity, gold and crude oil. Russia and Saudi Arabia oil price war also creates the big impact in Indian economy (Economic times, 2020). Labour market also gets affected that creates urban and rural unemployed people.

The lockdown impacts the agricultural sector and banking institutions. As per the data released by UNESCO on March 25, 1.5 billion students' worldwide (accounting to 87%) has been affected due to closure of educational institution in 165 countries. In order to avoid gathering religious pilgrimages are also being closed. Restaurants, hotels, science and technology, IT fields, tourism, events and institutions, transportations, cruise lines have been severely impacted too. The work from home culture made an evolution in specific fields. The Geo-political tension results in limiting the supply chain that especially affects pharmaceuticals, fertilizers manufacturing industries, automobiles manufacturing industries, textiles industries, electronics manufacturing industries extensively. As the situation getting worse, the government also banned the export of ventilators, surgical masks and textile raw material in March 19, 2020. Entertainment sector mainly film industry also dropped by billion dollars. But Netflix stock has been rose because; online streaming became popular during lock down days. Major sports events are cancelled or postponed. Retail sector gets affected when product demand exceeds the supply. Supply chain are also being disturbed due to pandemic attack. Home delivery is cancelled temporarily. Shopping centres are closed and reduced in working hours also disturbs the economy at large.

REVIEW OF LITERATURE

1. A study was conducted by William (1965) about the stock market efficiency. This research analyzed the processes of price equilibrium of both short run and long run and its impact on stock market efficiency. Along with this he also shed a light on a very crucial aspect for better allocation of nation's capital resource; stock market efficiency can act as an important tool.
2. Similarly stock market liquidity was researched by Rohatgi (1973) which concludes "that the basic function of stock market is to provide ready marketability or liquidity to holdings of securities. The ideal stock market is one that can provide immediate and unlimited liquidity."
3. Cho (1986) argues that "financial market liberalization may remain incomplete without an efficient market for equity capital as a means of spreading risk and reward".
4. Mohan (2002) analyzed "the change in volatility in the Indian stock market. They studied the introduction of future trading using daily closing prices of Nifty and weekly closing prices of Satyam Computers Ltd. The individual stocks seem to be slightly more volatile and their volatility has become less and less dependent on past volatility and more dependent upon the current period. The average long-term volatility has decreased at an index level."
5. A study on "Stock Return Volatility Patterns in India" was conducted by Batra (2004). In his study he analyzed the stock return volatility of two different phases i.e. Pre liberalization and post liberalization period in India. Study was examined for the time period from 1979-2003. Through this study it was found that the stock market was unstable during Balance of payment crisis and phase of economic reforms in India. Further it was examined that the volatility in stock market is affected more by domestic events i.e. economic and political events rather than the international events.
6. Shallu (2014) studied the impact of SEBI on the development of Indian Capital Market. She has concluded in her study that, with the establishment of SEBI, capital market has been developed a lot, more transparency has been introduced in the stock exchanges. But still investors are hesitant in investing under capital market. Finally, concluded that SEBI has transformed Indian stock market but at a slow rate.

RESEARCH METHODOLOGY

RESEARCH OBJECTIVES OF STUDY

The broader objectives of the study are as under:

1. To analyse the movement of selected sectoral indices and to know the relevant changes in share market.
2. To evaluate the performance of NSE sector indices during December 2019 to April 2020.

RESEARCH DESIGN

Descriptive and analytical method has been used. The collected data was suitably classified and tabulated in the form of simple tables and the data was objectively analyzed and conclusions were drawn based on trend analysis.

SCOPE OF THE STUDY

The share indices have been selected and performance across NSE sector indices are been used in this study. The sectoral index includes auto, bank, Fast Moving Consumer Goods (FMCG), Information Technology (IT), media, metals, pharmaceuticals, realty and financial services.

TOOLS FOR ANALYSIS AND DATA COLLECTION

The present study has analyzed the movement of share indices of selected sectors. In order to examine the impacts on share indices, trend analysis and descriptive statistics have been used. Secondary data has been used. Data has been collected from NSE indices report, journals, books and magazines.

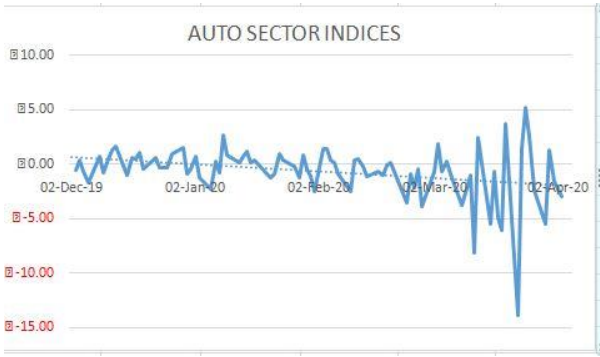
LIMITATIONS OF THE STUDY

1. The study is based on secondary data collected from websites.
2. The study is conducted with the samples of 9 sectoral indices of NSE.

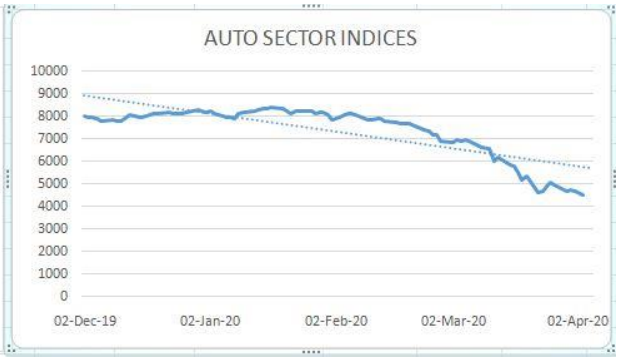
ANALYSIS BASED ON MOVEMENT ACROSS NSE SECTOR INDICES

COVID issue had a wide impact on all sectors. On the 1st week of March itself, Europe and North America fell more than 9%. Even Wall Street percentage drop down. Italy fell nearly 17% on Thursday. On 16th March, Wall Street index downed to 12%, G7 and G20 countries are declared to be in bear market. Rising of fear and worldwide economic shut down was a main cause of stock market crash. COVID 19 upsurge takes place mainly during the month of December 2019. The impact of sector share indices of the selected units is measured using Trend analysis. The data are collected from NSE sector indices, dated from December 2019 (2nd December) to April 2020 (April 3rd).

GRAPH 1: MOVEMENT OF NIFTY AUTO SHARE INDEX

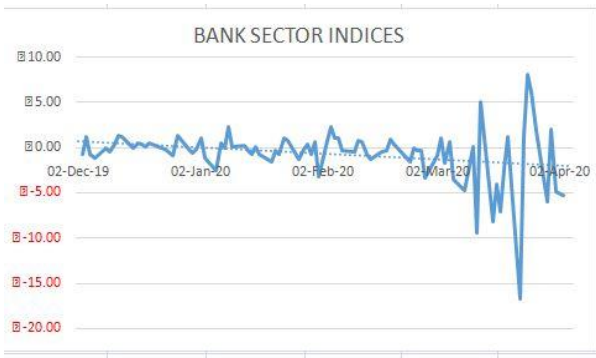


GRAPH 2: TREND ANALYSIS OF NIFTY AUTO INDEX

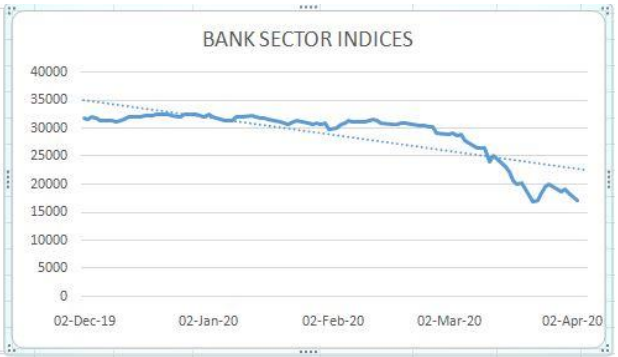


Graph 1 & 2 interprets that there is a fluctuation in indices during the month of December and there is gradual increase in January and February, when the global market gets affected due to COVID issue simultaneously Indian market also got affected, so there was a fall in market. Auto sector indices dropped from 2nd week of February (as there is a wide spread of COVID all over the World), the indices falls from 8142 points (6th February) to 4517.75 points (3rd April) in the month of March and April.

GRAPH 3: MOVEMENT OF NIFTY BANK SHARE INDEX

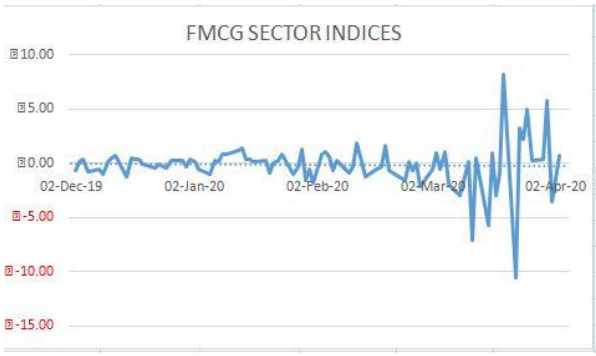


GRAPH 4: TREND ANALYSIS OF NIFTY BANK INDEX

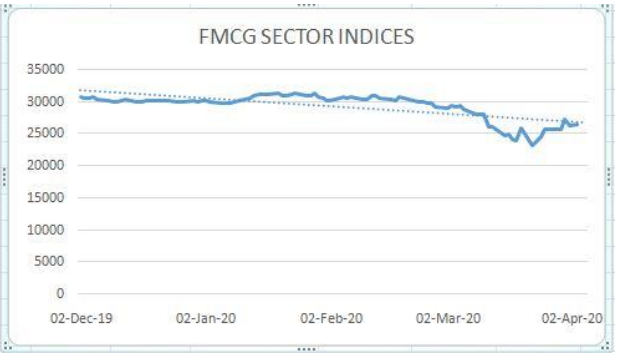


Graph 3 & 4 concludes that indices falls from 32412 points to 16917.65 points in last 3months (January, February, march) and further rise takes place from 24th march2020.

GRAPH 5: MOVEMENT OF NIFTY FMCG SHARE INDEX



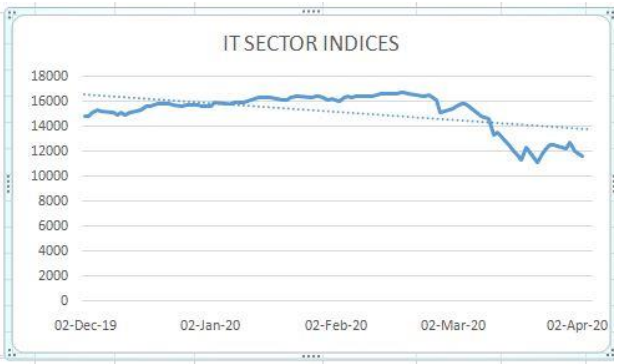
GRAPH 6: TREND ANALYSIS OF NIFTY FMCG INDEX



Graph 5 & 6 denotes that there is a gradual fall in indices from 2nd December from 30889 points to 29799.3 on January 6th 2020. The slight increase had been noted during the month of February. Again after the influence in world market the indices started to fall to 23184 points on 23rd March 2020.

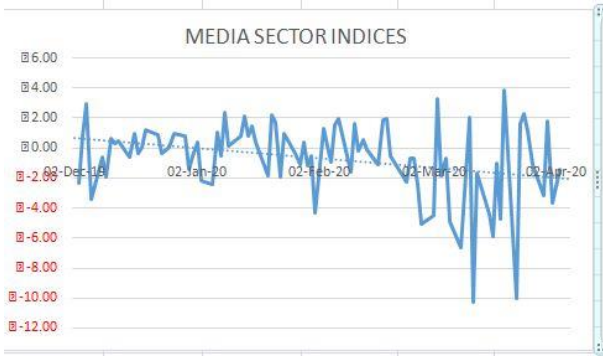
GRAPH 7: MOVEMENT OF NIFTY IT SHARE INDEX

GRAPH 8: TREND ANALYSIS OF NIFTY IT INDEX

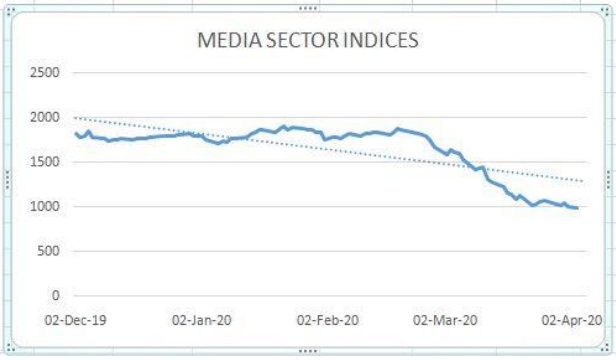


The graph 7 & 8 depicts IT sector shows a normal fluctuation, the fall down happened on the month of February and March. The maximum high is on 19th February with 16772.45 points and the low is on 19th march with 11340 points.

GRAPH 9: MOVEMENT OF NIFTY MEDIA SHARE INDEX

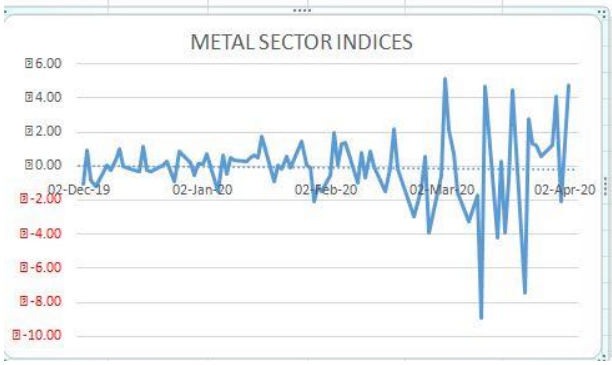


GRAPH 10: TREND ANALYSIS OF NIFTY MEDIA INDEX

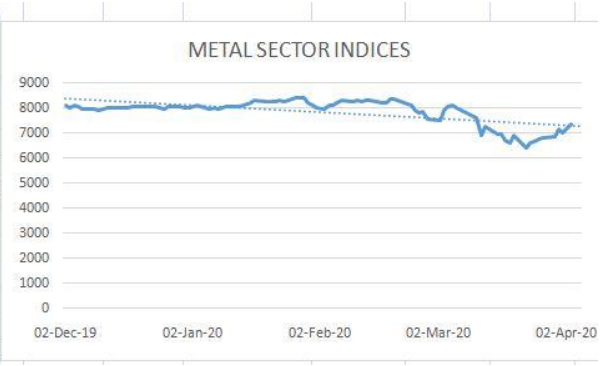


The graph 9 & 10 illustrate that the media sector faces a downfall from 1882.45 points (27th January) to 987.2 points (3rd April).

GRAPH 11: MOVEMENT OF NIFTY METAL SHARE INDEX



GRAPH12: TREND ANALYSIS OF NIFTY METAL INDEX



The graph 11 & 12 shows the falls from 8128.95 points to 6432.3 points from 17th January to 23rd march 2020.

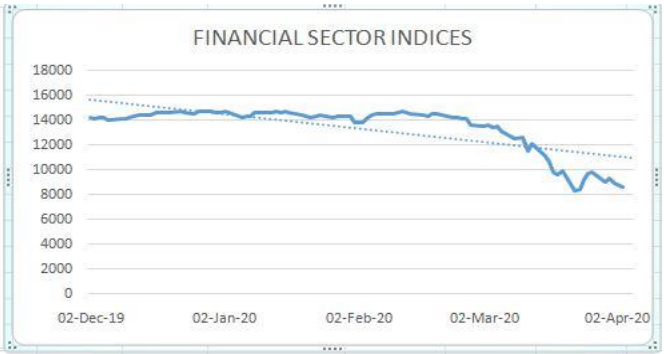
GRAPH 13: MOVEMENT OF NIFTY REALTY SHARE INDEX

GRAPH 14: TREND ANALYSIS OF NIFTY REALTY INDEX

The graph 13 & 14 analysis in realty sector faces a growth during the month of December and January. The downfall starts from 31st January with 331.05 points to 170.65 points on 24th march.

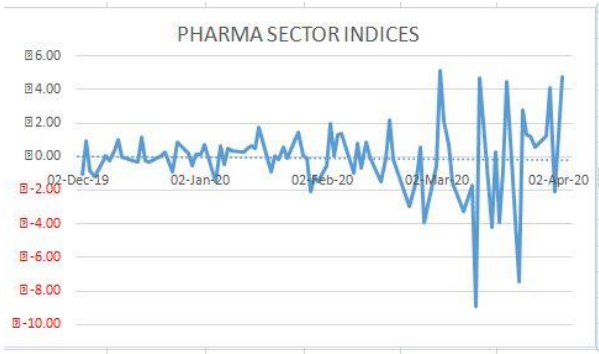
GRAPH 15: MOVEMENT OF NIFTY FINANCIAL SECTOR SHARE INDEX

GRAPH 16: TREND ANALYSIS OF NIFTY FINANCIAL SECTOR SHARE INDEX

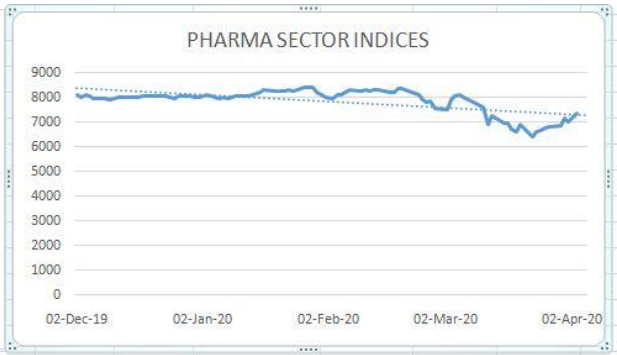


The graph 15 & 16 describes that the financial sector faces a major fall down from 14697.5 points to 8298.5 points from 2nd January to 23rd march 2020.

GRAPH 17: MOVEMENT OF NIFTY PHARMA SHARE INDEX



GRAPH 18: TREND ANALYSIS OF NIFTY PHARMA SHARE INDEX



The graph 17 & 18 interprets even pharmaceutical sector faces a downfall during this pandemic issue. The indices fall from 8420.25 points to 6432.3 points during the month of January to march.

EVALUATING THE PERFORMANCE ACROSS NSE SECTOR INDICES DURING DECEMBER 2019 TO APRIL 2020

TABLE NO. 1

SECTOR	HIGH	LOW	CHANGE IN PERCENTAGE
AUTO	17TH JANUARY 2020 (8142)	23RD MARCH 2020 (4517.75)	55%
BANK	27TH DECEMBER 2019(32412)	23RD MARCH 2020 (16917.65)	52%
FMCG	2ND DECEMBER 2019 (30889)	23RD MARCH 2020 (23184)	75%
IT	19THFEBRAURY2020(16772.45)	19TH MARCH 2020 (11340)	67%
MEDIA	27TH JANUARY 2020 (1882.45)	3RD APRIL 2020 (987.2)	52.4%
METALS	28TH JANUARY 2020 (8128.95)	23RD MARCH 2020 (6432.3)	79%
REALTY	31ST JANUARY 2020 (331.05)	24TH MARCH 2020(170.65)	51.5%
FINANCIAL SECTOR	2ND JANUARY 2020 (14697.5)	23RD MARCH 2020 (8298.5)	56.5%
PHARMA	28TH JANUARY 2020 (8420.25)	23RD MARCH 2020 (6432.3)	76.4%

Source: NSE indices report

Nearly 50 to 60 percentage downfall in nifty auto, nifty bank, nifty media, nifty financial services and nifty realty sector. And 60 to 70 percentage downfall in nifty IT sector. And major downfall in nifty FMCG, nifty metals and nifty pharma.

As a result, Equity, MF schemes delivered a negative return of about 25% to investors. As per benchmark Sensex crashed about 30% during the same period, falling from 41000 levels to 29000 levels. It is advisable for investors to go with equity. The Equity and assets are expected to do well. Start to invest in equity (at least a portion upto 20%). Because in India, risk is comparatively low due to lesser leverage when compared with other markets. It is also advisable to hold a stock that have actually fallen the least (30-40%). And also experts are advised investors to stick to large caps since large caps have corrected more than 20 %(because the company has margin of safety). Decline in crude oil price, definitely take a high in future.

As per EIA forecasts, it's slow down in first half in 2020 rise in 2021. It is advisable for long term investors to invest. Financial institutions like IL, FS and DHFL fall down but gold prices are rising. It's time to go with short term debt funding. As assets, government bonds and long term funds are not yield good return in future (as 10 year low 6.07% to 6.20%). There is an opportunity for long term investor to investing in Turm oil. Current market fall can be a best buying opportunity for investors.

ECONOMY ANALYSIS

Economic analysis is the study of economic systems relating to a production process or an industry. The analysis aims to determine how effectively the economy is operating (Agarwal M. R, 2003)

Next stage of slowdown will be recession, but due to corona virus, there is a chance for global recession and there is also a chance for stagflation (High inflation combined with high unemployment and stagnant demand in country's economy is termed as stagflation).

But India can overcome this problem by doing some effective measures, that follows, increasing domestic consumption and production is a major opportunity for the government to meet its demand and supply as population act as a big asset for government. Reducing the interest rate for loans may increase production. Increasing the planning activity, work force and facility expansion like infrastructure development, purchase of basic health and medical equipment's, promoting social welfare scheme and employment schemes can overcome the slow down. The reduction in crude oil price is the additional advantage for government to support the production units.

CONCLUSION

The intrinsic strength and weakness of the sector can be evaluated by valuing the assets of the company. All company should definitely take measures to recover the slow down condition, but it will be slow process and it takes time. And also Government should take necessary steps to increase the production. When consumption meets the production, automatically the economy will grow. As a point India can recover quickly. It may take 10 months to 1year to recover. As per the market cycle, definitely after a slow down, there is always a growth period.

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ANALYSIS OF SHARE PRICE BEHAVIOUR OF SELECTED HEALTH CARE COMPANIES IN EARLY STAGES OF COVID - 19

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ABSTRACT

Stock market plays a vital role in growing industries and commerce of a country that finally affect the economy. In the midst of current outbreak of COVID- 19 pandemic gives lot of anxiety in the economy. COVID-19 may have major long-term impact on the healthcare industry. Importance of Stock market has been well acknowledged in industries and investors outlooks. The stock market avail long-term capital to the listed firms by mobilizing funds from different investors and allow them to expand in business and also offers investors alternative investment avenues to put their surplus funds in. The investors prudently watch the performance of stock markets by observing the composite market index, before investing funds. This paper analyses the equity share prices of five selected health care companies which are listed in the National Stock Exchange. Therefore, this study indent to know the immediate impact in the share price behaviour of selected Health Care Companies and the way the movements are happening within short span of time.

KEYWORDS

COVID-19, RSI, moving averages, share price behaviour.

JEL CODES

G10, G11, G19.

INTRODUCTION

Capital formation through saving and investments is a necessary precondition for economic development of a country. The capital markets play an important role in this process. Indian capital markets have played a major role over the years in mobilizing and channelizing resources for the economic development of the country. Under this process, the functioning of capital markets has become efficient. The Indian Capital Market has witnessed a tremendous growth in recent years by increasing of investors' interest. In recent years India has received considerable capital inflows from different sources.

COVID-19 has been equally devastating for major economies, predominantly the healthcare sector. Prominent stakeholders still adjust their strategy with the rapidly evolving situation. COVID-19 is predicted to possess major long-term consequences on the healthcare industry.

The impact of the coronavirus pandemic and lockdown thereafter is clearly visible in financial markets. But there is no clarity on the deeper impact on businesses and industrial sectors still now. Therefore, this study indent to know the immediate impact of the same in the share price behaviour of selected Health Care Companies and the way the movements are happening within six months span from January, 2020 to June, 2020.

A better understanding of the stock exchange trend will facilitate allocation of monetary sources to the foremost profitable investment opportunity. The behaviour of stock returns will enable the investors to form appropriate investment decisions. The fluctuations of stock returns are due to several economic and noneconomic factors. The study is aimed toward ascertaining the behaviour of share returns. This project analyses the equity share fluctuations in Indian Selected Health Care Companies.

An investor can achieve his investment decision only he's ready to select the proper shares. The investors should keenly watch the situations like market value, economy, company progress, returns, and therefore the risk involved during a share before taking decision on a specific share. This study made will help the investors to analyze the behaviour of share prices movement and thus can achieve his investment decisions.

REVIEW OF LITERATURE

1. Anwaar Maryyam (2016) conducted the research using panel regression for a period of 5 years. The results showed that independent variables like return on assets and net margin have substantial positive influence on stock returns while other independent variables like earnings per share have substantial negative influence on stock returns.
2. Bennet, James A.et.al (2001) in their research summarized that its most vital finding that income appears to predict across- sectional variation in future returns.
3. Daigler Robert T.et.Al., (1981). The study analyzed the power of daily technical indicators to predict future changes within the "standard and poor's 500 index". The study reviews that the initial analysis of the connection between daily technical data and future market movements is achieved by examining the statistical difference between the group means of predicted "up days" versus predicted "down days". The statistical analysis is extended by sorting the observations into groups.
4. David.L.Scott and William Edward4 (1990) reviewed the important risks of owning common stocks and thus the ways to reduce these risks. They suggested a relatively easy method to ensure a poimake sure some extent of liquidity is to limit investment in stocks having a history of adequate trading volume. Investors worried about business risk can shrink it by selecting common stocks of firms that are diversified in several industries which are not related.
5. Grewal S.S and Navjot Grewall (1984) identified some basic investment rules. First rule is that the investors to invest only listed shares. Second that not to buy inactive shares. A final rule is not to invest in shares in closely-held companies because these shares tend to be less active than those of widely held ones since they need a fewer number of shareholders. They caution not to hold the shares for an extended period, expecting a high price, but to sell whenever one earns appropriate reward.
6. L.C.Gupta (1992) shown the findings of his study that there is existence of natural speculation within the Indian stock market. He opined that, short- term speculation, if excessive, could lead on to "artificial price". He concluded that such artificial prices are sure to crash sometime or other as history has repeated and proved.
7. Micko Tanaka Yamasakiet. Al., (2007) they conducted a study on the Adaptive use of Technical Indicators for predicting the Intra-Day price movements. They recommended a system to pick a sole combination of technical indicators and their parameter values adaptively by learning the patterns from the tick-wise financial data.
8. Nabhi Kumar Jain (1992) specified certain tips for purchasing shares for holding and also for selling shares. He advised the investors to get the shares of a growing company of a growing industry. Invest in shares by diversifying in growth companies operating during a different but equally fast growing sector of the economy. He suggested to selling the shares once the corporate has reached or almost reached the height of its growth. Also, sell the share once you realize you've made an error within the initial selection of the shares.
9. Preethi Singh (1986) disclosed the essential rules for selecting the company to require an edge in, she opined that understanding and measuring return and risk is prime to the investment process. Based on her study, most investors are 'risk averse'. To realize a far better return the investor has to face greater risks. She concludes that risk is prime to the technique of investment. Every investor should have an understanding of the numerous pitfalls of investments.

IMPORTANCE OF THE STUDY

Even before the pandemic hit, the worldwide economy was browsing a turbulent time. Within the first three quarters of FY 2019-20, India's real GDP growth was under 5% - rock bottom within the last six years. The stock markets which are considered as a reliable barometer of an economy's health, are reeling struggling since early March when the worldwide impact of COVID-19 started getting clear. After the World Health Organization (WHO) officially declared it a pandemic, global markets, including India, witnessed bloodbath. It's important to know the influence of those factors in several sectors particularly health care industries.

STATEMENT OF PROBLEM

The Health Care industry has been witnessing loss of business and this trend is predicted to continue for the foreseeable future, and therefore the incontrovertible fact that the sector's costs are mostly fixed, then there'll be losses and severe impact on cash flows. Therefore, the investor should analyse while making investment decision within the share market.

COMPANIES SELECTED FOR THE STUDY

The following five companies from the health care sector are randomly selected which are listed in NSE-

1. ASTER DM HEALTHCARE LTD.
2. CADILA HEALTHCARE LTD.
3. FORTIS HEALTHCARE LTD.
4. HEALTH CARE GLOBAL ENTERPRISES LTD.
5. THYROCARE TECHNOLOGIES LTD.

OBJECTIVES OF THE STUDY

1. To analyze the share price behaviour during the emergence of COVID - 19 Crisis of Selected health care companies.
2. To predict the day to day Fluctuations in the stock market from January 2020 to June 2020(immediately after COVID-19) of selected companies.
3. To study how the movement of stock prices of selected securities with simple moving average technique.
4. To Study how variation in stock prices impact the buy or sell decision.
5. To predict the day today Fluctuations in the stock market using Technical Analysis and to study the price movements in the stock exchange.
6. To review the present trend and strength of the trend of selected health care industry.

LIMITATIONS OF THE STUDY

1. This study is restricted only to few selected health care companies which are listed in NSE.
2. The study is predicated on Technical Analysis only.
3. This study is predicated on secondary data only and not on primary data.
4. The study period is for 6 months' duration to analyse the immediate impact of COVID-19.

RESEARCH METHODOLOGY

Secondary data was used for the analysis. The data has been obtained from the national stock exchange website. Daily closing price of 5 Health Care companies listed in NSE has been taken and the price movement are computed and studied. The daily share prices of above mentioned companies were taken for a period of six months from 1st January 2020 to 30th June 2020.

TOOLS USED FOR ANALYSIS

Simple Moving Average

Moving averages are crucial analytical tool used to identify current price trends and therefore the potential for a change in a longtime trend. Moving average smooth volatility, and makes it easier to look at the worth trend of a security. If the moving average points up, this suggests that the security's price is increasing. If it's pointing down it means the security's price is decreasing. The longer the time-frame for the moving average, the smoother the moving average. A shorter-term moving average is more unpredictable, but its reading is nearer to the source data.

Relative Strength Index

This is a strong indicator that signals buying and selling opportunities in the market.

RSI=100-(100/ (1+RS) RS= Average gain per day/Average loss per day.

The most commonly used period of time for the calculation of RSI is 14 days.

RSI values above 70 are considered to represent overbought condition and values below 30 are considered to indicate oversold condition. When the RSI has crossed the 30 line from below to above and is rising, a buying opportunity is indicted. When it's crossed the 70 line from above to below and is falling, a sell signal is indicated.

BETA AND ALFA

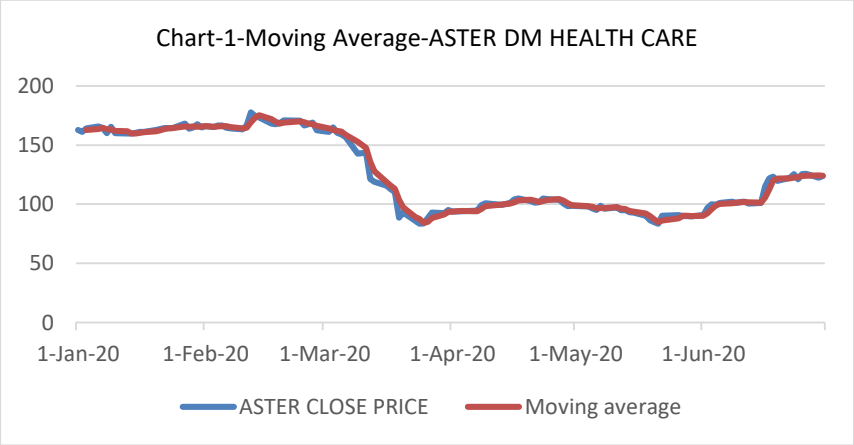
Alpha and beta are two measurements of investment risk.

Beta may be a historical measure of volatility. Beta measures how stock moves versus a benchmark index.

Alpha may be a historical measure of an asset's return on investment compared to the danger adjusted expected return.

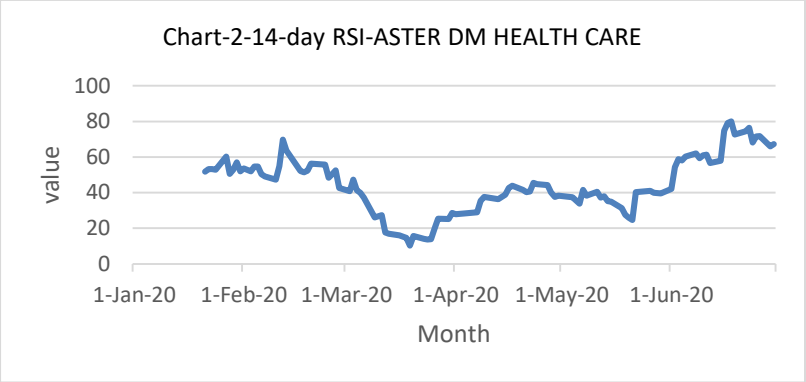
RESULTS AND DISCUSSION

CHART 1: ASTER DM HEALTH CARE



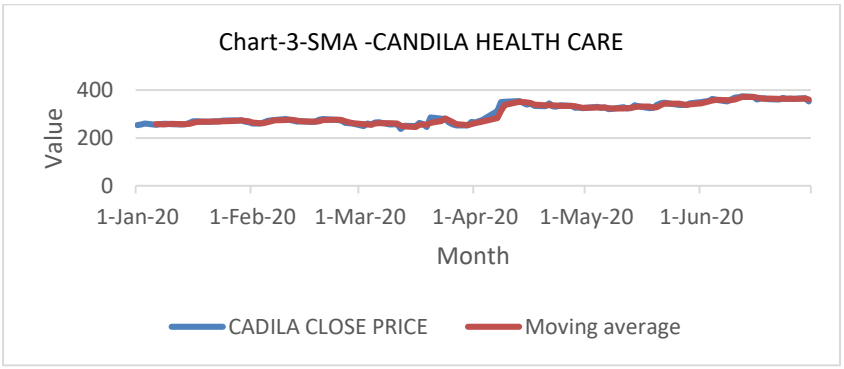
Above chart –1 of the SMA trend line of Aster DM Health care indicates a downward trend along with the daily closing price which penetrates a downward movement till April 2020 amid of the COVID 19 and showed an upward movement from April,2020. This creates a buy signal for the investors so the investors can make profit in future when the prices go further up.

CHART 2: 14-DAY RSI-ASTER DM HEALTH CARE



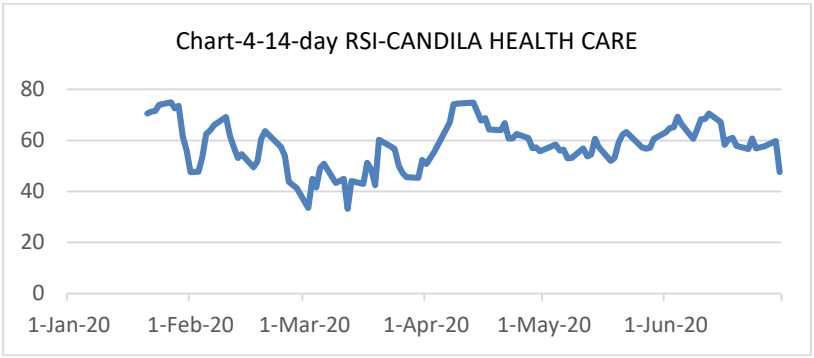
The chart 2, the RSI crosses 70 during the mid of February, 2020 and mid-June, 2020 which creates a sell signal since, the script is overbought. It is not advisable for the investor to buy anymore. However, in middle of April, 2020 it penetrated 30 which creates a buy signal since, the script is oversold. Therefore, the investor bought the script in the month of March and sold it in the month of June he would made some profit from this script following the RSI indicator.

CHART 3: SMA-CANDILA HEALTH CARE



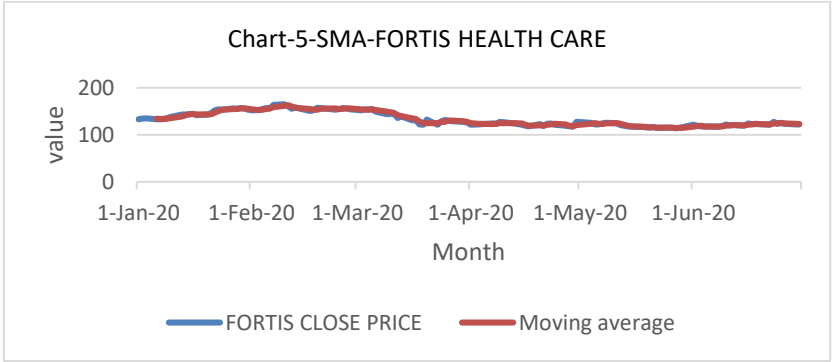
In the chart 3 above, the SMA trend line of Cadila Health care indicates an upward penetration with the share price line. This creates a buy signal for the investor since there is a great possibility for increase in the future price of the stock. Now, the investor proceeds to invest.

CHART 4: 14-DAY RSI-CANDILA HEALTH CARE



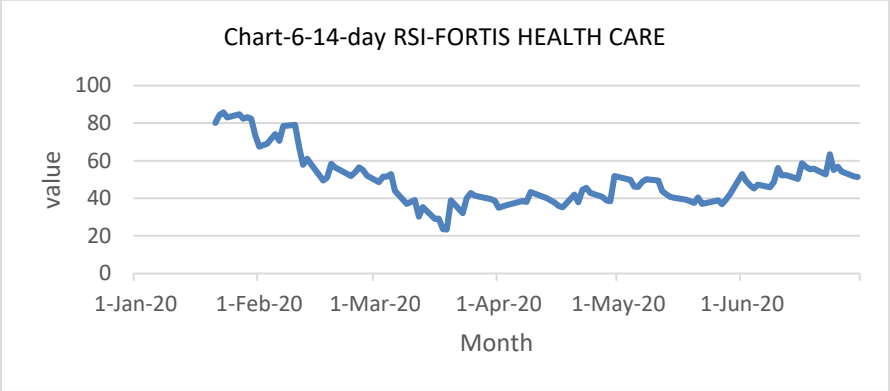
From the above chart-4 when the RSI has crossed the 70 line from above to below and is falling, a sell signal is indicated. Therefore, from the above chart it is clear that in the month of January and Aril 2020 indicates sell signal due to overbought conditions.

CHART 5: SMA-FORTIS HEALTH CARE



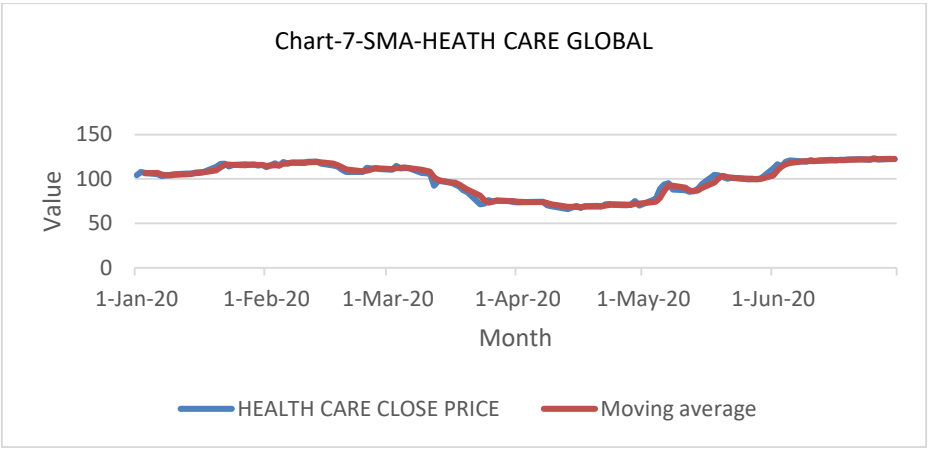
In the above chart 5, the SMA trend line of Fortis Healthcare Ltd intersects its share price line from downwards during the mid of February 2020. This indicates a likely fall in share price in the immediate future. The investor can sell to escape future losses. But in the mid May, 2020 it started showing an upward movement, which influence the investors to buy for expecting increase in the price in near future.

CHART 6: 14-DAY RSI-FORTIS HEALTH CARE



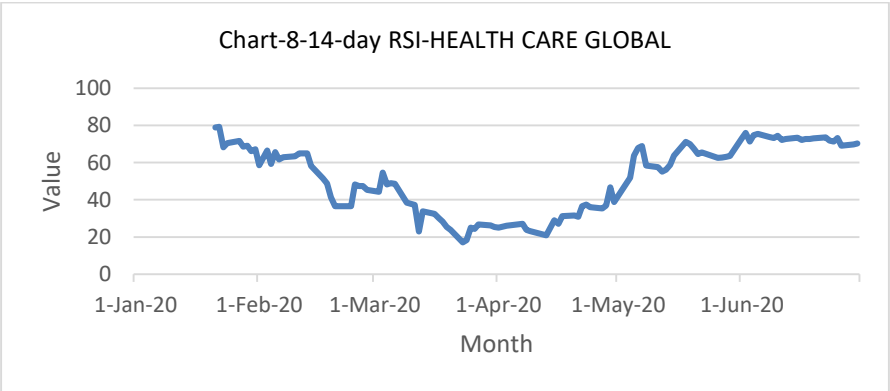
RSI values above 70 are considered overbought condition and values below 30 are considered to signify oversold condition. When the RSI has crossed the 30 line from below to above and is rising, a buying opportunity is indicated. When it has crossed the 70 line from above to below and is falling, a sell is indicated. From the above chart-6 it is evident that in the mid-February and mid-March,2020 with a short span of time there were mixed signal of buying and selling due to over bought and oversold condition as per the RSI indicator maily because of the COVID-19 pandemic issues.

CHART 7: SMA-HEATH CARE GLOBAL



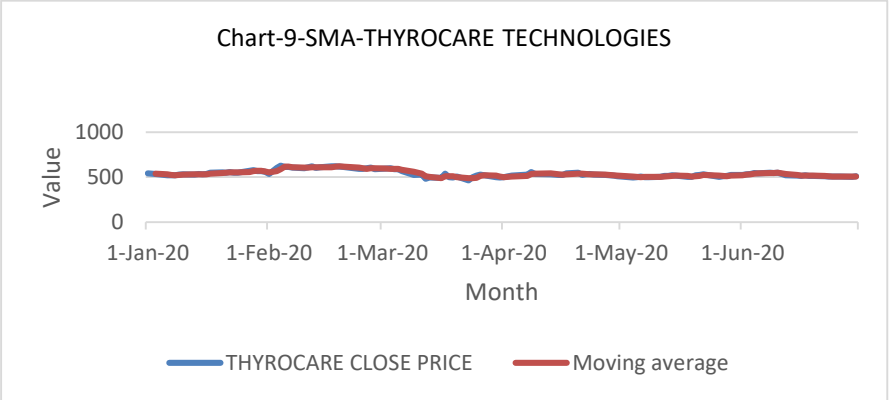
In the above chart 7 the simple moving average line moves in tandem with the actual price, it indicates the prediction of the price moved as expected.

CHART 8: 14-DAY RSI-HEALTH CARE GLOBAL



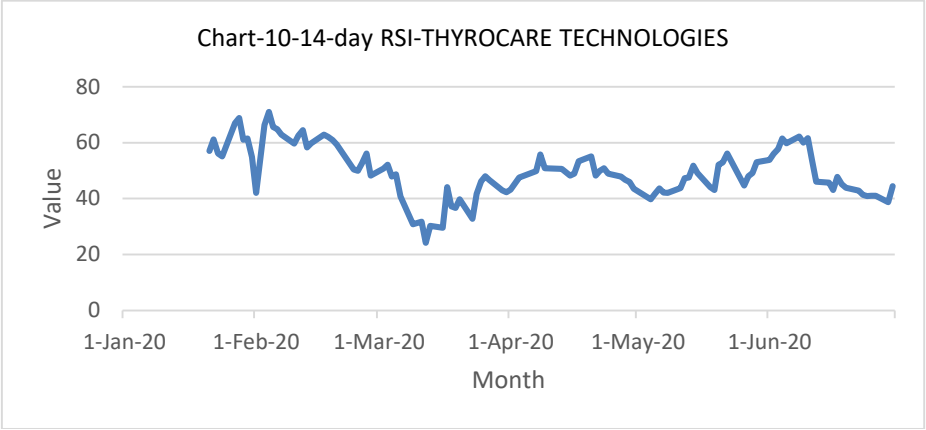
As per the chart 8 the RSI has crossed the 30 from below to above and is rising in mid-April,2020 a buying opportunity is indicted. Therefore, the investor held the script can expect a rise in price in near future.

CHART 9: SMA-THYROCARE TECHNOLOGIES



In the above chart 9 the simple moving average line of Thyrocare technologies also moves in tandem with the actual price, it indicates the prediction of the price moved as expected.

CHART 10: 14-DAY RSI-THYROCARE TECHNOLOGIES



In the chart 10, the RSI falls between 70 and 30, this indicates the investor can hold the script for some more time. The script is neither overbought nor oversold. During March it creates a buy signal since the RSI touches 30 points.

TABLE 1: COMMON MEASUREMENTS OF INVESTMENT RISK

	ASTER DM HEALTHCARE LTD	CADILA HEALTHCARE LTD	FORTIS HEALTHCARE LTD	HEALTHCARE GLOBAL ENTERPRISES LTD	THYROCARE TECHNOLOGIES LTD
BETA	0.615585	0.384415	0.595873	0.470361	0.538053
ALFA	-0.00139	0.00322	0.000111	0.001989	0.000253

Sources: Computed in MS Excel

- Alpha shows stock performance in comparison to a benchmark index.
- Beta indicates volatile of stock's price in comparison to the market as a whole.
- A Beta of 1 indicates a security of average risk, more than 1 has above risk, and less than 1 would have below average risk.
- Negative Beta indicates the stock returns move in a direction opposite to that of the market returns.
- High value Beta may be preferred by an investor in growth stocks but low value beta may not be preferred by investors who seek steady returns and lower risk.
- A high alpha is always better.
- A positive alpha indicates the security is performing well in the market, while a negative alpha indicates the security fails to create returns at the same rate as the broader sector.

RECOMMENDATION

Sectors with novel products, growing distribution reach, technology-driven procedures and healthy record would revive the expansion momentum post lockdown and flourish once we overcome COVID -19 pandemic.

CONCLUSION

Most of the healthcare segment companies are not considered as important as other segment. They have been always behind the scene or subsidiary companies. They have been either unknown or not given an excessive amount of importance. The present scenario has drawn tons of focus to the healthcare industry and its contribution

COVID-19 is predicted to possess major long-term consequences on the healthcare industry. Technological progression, cost control, and greater access are going to be essential a part of healthcare reforms in foreseeable future.

As for the outlook for the market, we only got to reminisce at its history. Drops in BSE /NSE sensitive index is temporary, and every dip provides investors with the chance to enter the market and earn a better return especially for those with future horizon. Moreover, the upper the fluctuations, the upper chances of recuperating returns. While these crises are real and it impacts the economy, but historically, such crisis has not lasted long, because the world is competent enough to return up with answers to combat these challenges. Despite the very fact that it's hard to predict the magnitude and impact of Coronavirus on the economy, but it's certain that the markets will recover soon the crisis gets over.

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A STUDY ON SMALL AND MEDIUM TRADER'S PERCEPTION TOWARDS GST WITH SPECIAL REFERENCE TO EDATHUA

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ABSTRACT

Goods and Services tax has changed the whole indirect taxation system in India. it incorporates all the possibilities of information technology to ensure transparency and time saving measures. It reduces the chances of corruption long procedural formalities and redtapism and unnecessary delay in refund of tax. Even though it is opposed by many small and medium trades because they are not aware of the benefit and simplicity of the new taxation system. Lack of awareness is the main reason for opposing current indirect taxation system.

KEYWORDS

GST, awareness level, goods and services tax, satisfaction level.

JEL CODES

H20, H29, K34.

INTRODUCTION

The biggest taxation reforms after the independence of India can be termed as Goods and Services Tax. Perhaps may be the biggest taxation reforms of human history because it indirectly affect 1.25 Billion people in India. The largest democratic country in the world needs a up to date efficient, transparent, people friendly, revenue generating taxation system. In India Goods and Services Tax (GST) has implemented on 1st July 2017. It is drastic change in the system of indirect taxation from value added tax (VAT). Every taxation reforms leads to existing taxation systems inefficiency or inadequacy in changing financial, economic, technological environment. The GST taxation system try to utilize the all the goodness of information technology by incorporating transparency and around clock access to traders. The biggest problems in indirect tax system in India was tax avoidance, lack of registered trader's impossibility to track the chain of flow of trade from manufacture to ultimate consumers. Even though GST is beneficial for government, traders, consumers why it is opposed by a large. Is there any problems or unawareness about GST leads to strong opposition from public, even after the 3 years of GST era most of small and medium traders are not familiar with the terms and procedure of Goods and Services Tax. In GST taxation try to incorporate each and every registered dealer's transaction into the formal channel or simply means it is recorded in GST network. All the available and practical measure to reduce the time lag and chance unfair advantages by government officials are limited. GST is beneficial to government, traders, consumers, society, economy and most importantly the common man. GST is opposed by small and medium traders is because of natural tendency of human being's hesitance to change or there is any other important factor such as unawareness or complexities.

BASIC TERMS RELATED TO GST

Goods and Services Tax Identification Number (GSTIN)

A unique state wise PAN based 15 digit number allotted to each GST registered person is known as GSTIN. The first two digit denote state code as per 2011 census and next 10 digit will be PAN number of the taxpayer. The 13th digit is assigned on the basis of number of registration within a state.14th digit is default as Z and last digit is a check code. GSTIN is the most basic important term related to GST.

Input Tax Credit (ITC)

Input tax credit or ITC is the tax that business pays on a purchase and it can use t reduce its tax liability by claiming credit to the extent of GST paid on purchases, GST is an integrated system where every purchase by a business should be matched with a sale by another business. This makes flow of credit across an entire supply chain a seamless process. Input tax is the GST incurred on any purchase or acquisition of goods and services by a taxable person for the purpose of making a taxable supply in course or furtherance of business. In simple words Input tax credit means at the time of paying tax on sale, you can reduce the tax you have already paid on purchase.

Reverse Charge Mechanism (RCM)

Tax is paid by a supplier who makes supply of goods or services or both. Generally, service providers are liable to collect and deposit tax although the incident of the tax is placed on consumers ultimately, it is the duty of the supplier to deposit the tax. Reverse charge mechanism means the liability to pay tax is on the recipient of supply of goods or services instead of the supplier of such goods or services in respect of notified categories of supply. It is mechanism where the recipient of the goods and or services is liable to pay GST instead of the supplier.

Composition scheme

Composition scheme is a convenient way for the small taxpayer in order to escape from too many GST formalities and pay the tax at a fixed rate based on their business turnover. It is an alternative method of every of tax designed for small taxpayers based on the aggregate turnover in the preceding financial year. The objective of the composition scheme is to bring simplicity and to reduce the compliance cost for the small tax payers.

Electronic cash ledger

This is like an e-wallet, any GST payment made in cash or through bank reflects in electronic cash ledger. Where the taxpayer needs to make any payment such as tax, interest penalty, etc. and he does not have enough credit in the E- credit ledger, he will have to simply add money to the wallet and the money will be utilized to make the payment. Whenever the taxpayer makes a GST payment through online banking, credit or debit card, wire transfer or over the counter payment the amount paid is reflected in the electronic cash ledger.

Electronic way bill (E-way Bill)

E-Way Bill is an electronic way bill for the movement of goods which can be generated on the e-way bi; portal. Transport of goods of more than Rs. 50,000 in value in a vehicle cannot be made by a registered person without an e-way bill. E- way bill can also be generated or cancelled through SMS, android app by site to site integration. When E-way bill generated a unique E-way bill number(EBM) is allotted and available to the supplier, recipient and the transporter.

STATEMENT OF THE PROBLEM

GST is implemented to reduce the tax evasion and reduce complication related to indirect taxation in India. It utilises the all possible methods in information technology to ensure transparency and time saving in related to taxation. Even if it is opposed by a large number of traders especially medium and small traders. GST combines almost all the indirect taxes in it leads to less complication reduce time related to complying with multiple taxes etc. The study aims to find out the awareness level about GST and its satisfaction level of traders.

OBJECTIVES OF THE STUDY

1. To find the awareness level of GST of small and medium traders.
2. To find out the level of satisfaction about GST Taxation.
3. To find out the cost related to GST is affordable.

METHODOLOGY

The study is based on primary data collected from the 50 respondents. Those who are GST registered traders in the locality of Edathua, Alapuzha kerala India.

DATA ANALYSIS

TABLE NO. 1: TYPE OF BUSINESS

TYPE OF BUSINESS	NUMBER OF RESPONDENTS	PERCENTAGE
Textiles	6	12
Bakery	4	8
Medical shop	5	10
Ladies store	3	6
Restaurant	2	4
Grocery	2	4
Others	28	56
Total	**50**	**100**

From the above table majority of the traders belongs to other category.

TABLE NO. 2: TYPE OF REGISTRATION

TYPE OF REGISTRATION	NUMBER OF RESPONDENTS	PERCENTAGE
Regular	48	96
Composition scheme	2	4
Total	**50**	**100**

96 percent of the respondents choose regular registration.

TABLE NO. 3: AWARENESS LEVEL OF GST

TERMS	NO. OF RESPONDENTS KNOW THE TERMS	PERCENTAGE
GSTIN number	43	86
Input tax credit	24	48
Reverse charge mechanism	26	52
Composition scheme	33	66
Electronic cash ledger	37	74
E-way bill	39	78

Table shows that majority of the respondents know the term GSTIN number but the traders who are actually registered they are unaware of some basic terms related to GST.

TABLE NO. 4: SATISFACTION LEVEL ABOUT GST

SATISFACTION LEVEL	NO. OF RESPONDENTS	PERCENTAGE
Highly satisfied	7	14
Satisfied	9	18
Neutral	6	12
Dissatisfied	18	36
Highly dissatisfied	10	20

Table shows that the majority of the respondents are dissatisfied with GST taxation.

TABLE NO. 5: WORK RELATE TO GST IS DONE BY

PERSONS	FREQUENCY	PERCENTAGE
Tax consultants	26	52
By trader itself	9	18
Employees	14	28
Others	1	2
Total	**50**	**100**

From the above table it can be ascertained that majority of the traders use tax consultants service for GST only few traders are done by themselves.

TABLE NO. 6: AFFORDABILITY OF COMPLIANCE COST

AFFORDABLE	NUMBER OF RESPONDENTS	PERCENTAGE
YES	35	70
NO	3	6
NO COMMENTS	12	24
TOTAL	**50**	**100**

70 percent of the respondents believe that cost related to GST is affordable

FINDINGS

- Awareness level of important and basic terms related to GST even for registered trader is insufficient for the smooth functioning of business.
- Majority of the respondents are not satisfied with the GST taxation system.
- Majority of respondents business in other category, means other than the category such as a textiles bakery etc.
- 96 percent of traders are registered in normal category only 4 percent choose composition scheme even though composition scheme is designed for small and medium traders.
- Majority of respondents relay tax consultant's service for work related to GST even if it can be done by an average individual.
- Majority of the traders is said that cost related to GST if affordable for them.

CONCLUSION

The Goods and Services Tax (GST) biggest taxation reform in India after the independence. It leads to drastic change in the indirect taxation system. From the study it can be ascertained that even though two and more years of implementing GST traders are not fully aware of GST mechanism, rule, terms, etc. This may be the reason for dissatisfaction of traders. Unawareness leads exploitation of agents related to GST taxation. Lion majority of the respondents choose regular mode of registration even if traders are small and medium type. Traders not utilise the benefit of the composition scheme which more convenient for small and medium traders. GST related work can be done by a small and medium trader by them self even if traders depends tax consultants for GST compliance. Traders are considered GST is economical for them.

SUGGESTION

It is better to conduct awareness class about GST taxation system for small and medium traders. It may be beneficial for the traders to have a call Centre facility for queries related to GST.

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AN EMPIRICAL STUDY ON THE RANDOM WALK HYPOTHESIS AND WEAK FORM MARKET EFFICIENCY: EVIDENCE FROM NATIONAL STOCK EXCHANGE OF INDIA

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ABSTRACT

Numerous studies were conducted all over the world to test Random Walk Hypothesis (RWH) in actual market conditions which led to controversial results. Efficient market hypothesis (EMH) states that financial markets are "informationally efficient", implying that current prices fully and instantaneously reflect all private or publicly available or historical information of the concerned security in the market. This article has attempted to empirically test whether Nifty 50, Nifty 200 and Nifty 500 follows random walk model and conforms to Efficient Market Hypothesis. Daily closing prices of the selected sample have been collected from the official website of NSE for a period of 5 years from January 1, 2015 to December 31, 2019 and daily continuously compounded rates of returns have been calculated from the same. K-S test result showed that the returns does not follow normal distribution. Runs Test results evidenced significant P value of Nifty 500 Index returns which rejects the null hypothesis of the weak form of efficiency with 99% level of confidence but Nifty 50 and Nifty 200 index returns showed randomness in its return behavior. To resolve this contradiction, ADF and P-P test of stationarity were performed which confirmed inefficiency of the Indian stock market in terms of all the three indices of our study Further, significant P values of Variance Ratio Test also led us to the final conclusion that Indian stock market do not follow random walk movement and hence is inefficient in the weak form. This in turn provides an opportunity to the investors to earn super-normal gain by utilizing past information as share prices do not adjust instantaneously in response to any new information release in the market.

KEYWORDS

Kolmogorov-Smirnov goodness of fit (K-S) Test, Augmented Dickey-Fuller (ADF) Test, Phillips-Perron (P-P) Test, Efficient market hypothesis (EMH), Random Walk Hypothesis (RMH), Variance Ratio Test.

JEL CODES

G10, G19.

I. INTRODUCTION

The phrase "efficient market" used to describe the market price that fully reflects all available information was coined by **Fama (1970)**. **Dyckman and Morse (1986)** state "A security market is generally defined as efficient if (1) the price of the security traded in the market act as though they fully reflect all available information and (2) these prices react instantaneously, or nearly so, and in unbiased fashion to new information". If a market is efficient, stock price movements should follow a random walk and the price movements in the past should not be related to future price movements. But if the market is not efficient and price movements are not random, some investors can exploit the inefficiency by gaining abnormal returns. They may be able to correctly predict the future price movements by examining the historical price movements. A random walk is defined by the fact that price changes are independent of each other **(Brealey et al, 2005).** According *to* Random Walk model, security prices will behave randomly, **i.e.,** there will be no dependence between successive price changes and as a consequence any trading strategy based on past price series will be of no use. This is because, as per Efficient Market Hypothesis, in an efficient market any new information will be rapidly incorporated in the security prices in an unbiased manner. As a result, the price change will be totally random and unpredictable **(Sarkar, 2014&2015)**. **Fama**, classified the market efficiency into three levels on the basis of the information: Weak, Semi-strong and Strong forms. The weak form of the theory also known as the 'Random Walk' states that the current price of the stocks already fully reflects all the information that is contained in the historical sequence of the prices. While the semi-strong form of the theory maintains that the current stock prices instantaneously and fully reflects all the public information about the security such as corporate reports, corporate announcements, information related to corporate dividend policies, forthcoming stock splits and so on. The strong form of market efficiency states that not only is the public information useless to the investor or analyst, but all the information is useless. In other words, the current stock prices instantaneously and fully reflect all known information about the securities including the privately available inside information. However, RWH is consistent with the weak form of efficient capital market only and not with the semi-strong or strong form. Over the years, researchers proposed various customized test techniques to identify the appropriate level of efficiency of a market.

The scope of the present study is confined to the testing of weak form of Efficient Market hypothesis and to confirm whether Indian stock market follows Random Walk Model with special reference to National Stock Exchange.

II. LITERATURE REVIEW

Following are some of the studies which have focused on the "Efficient Market Hypothesis" and the "Random Walk Model" both at the national as well as international level:

Rahman, Simon and Hossain (2016) in their paper have tried to provide empirical evidence on weak form efficiency which has been carried out to diagnose the random walk behavior of Chittagong Stock Exchange (CSE) by composing daily returns of three indices for the period of 2006 to 2015. The results of various non-parametric tests (Wald-Wolfowitz Runs Test, Variance Ratio Test and Kolmogorov Smirnov (K-S) Goodness of Fit Test) and parametric test (Augmented Dickey-Fuller (ADF) Test and Autocorrelation Function Test (ACF)) highlighted the fact that the Chittagong Stock Exchange is not efficient in weak form. Therefore, there exist the opportunity of generating a superior return by the investors.

Hawaldar, Rohit and Pinto (2017) aimed at testing the weak form of market efficiency of the individual stocks listed on the Bahrain Bourse for the period 2011 to 2015. The K-S test result concluded that in general the stock price movement does not follow random walk. The results of the runs test revealed that share prices of seven companies do not follow random walk. Autocorrelation tests depicted that share prices exhibited low to moderate correlation varying from negative to positive values. Since the study showed mixed results, weak form of efficiency of Bahrain Bourse could not be confirmed.

Patel, Rajpal and Modi (2018) in their study particularly focused on testing weak form of market efficiency wherein future market trend can be predicted using past data. Three year daily closing points were taken from Bombay stock exchange (SENSEX) commencing from1st April 2015 to 31st March 2018. Runs test was conducted to analyze the data. The study concluded that market follow trends and thus investors can earn abnormal profits and thus violates random walk theory.

Titan (2015) examined the growing body of empirical research on efficient market hypothesis. It was concluded that testing for market efficiency is difficult and there is a high possibility that, because of changes in market / economic conditions, new theoretical model should be developed to take into consideration all changes. As a reasons, it is important to continue the empirical studies to decide if capital markets are or are not informational efficient.

Gupta and Gedam (2014) in their paper collected the stock prices of the selected companies from NSE (National Stock Exchange). The results of Runs Test revealed that among the companies chosen except Tech Mahindra, the stock prices are independent of the past prices. Therefore, the market is weakly efficient in most of the cases except Tech Mahindra in which the alternate hypothesis is being expected.

Chavannavar and Patel (2016) investigated market efficiency of Nifty 50 stocks and Nifty 50 Index for the period of 3 years. The study analyzed whether current security prices reflect all the historical information, whether future prices can be predicted by analyzing past prices and whether all public information was reflected in the security prices. The results of the study concluded that Indian Stock Markets are efficient in both Weak & Semi-strong form.

Jayakumar and Sulthan (2013) examined the random walk hypothesis to determine the validity of weak-form efficiency of the second major stock markets in India, NSE over the span from 3rd July 2007 to 31st December 2011, comprising a total of 1116 observations. The random walk hypothesis was examined using auto correlation function, unit root tests (Augmented Dickey-Fuller test) and the runs test. The test results revealed that the Indian stock markets are not weak form efficient signifying that there is systematic way to exploit trading opportunities and acquire excess profits.

Sharma and Kennedy (1977) in their paper titled "A Comparative Analysis of Stock Price Behaviour on the Bombay, London and New York Stock Exchanges" have compared the behaviour of stock indices of the Bombay, London and New York stock exchanges during the period from 1963-1973. They used run test and spectral analysis. Both the test confirmed the random movement of stock indices for all the three stock exchanges. They concluded that stocks on the BSE (Bombay Stock Exchange) follow random walk and are weak- form efficient.

III. RESEARCH OBJECTIVES

The following are the prime objectives of the said study:

1. To reassess the validity of Random Walk Hypothesis (RWH) in Indian stock market with a special reference to the selected indices of the National Stock Exchange (NSE) by applying modern statistical techniques in addition to the traditional techniques.
2. To test the weak form efficiency of the selected indices of NSE.

IV. RESEARCH HYPOTHESIS

Based on the above research objectives, the following research hypothesis are framed.

H_{01}: Nifty 50 Index follows Random walk Hypothesis (RWH)
H_{02}: Nifty 200 Index follows Random walk Hypothesis (RWH)
H_{03}: Nifty 500 Index follows Random walk Hypothesis (RWH)
H_{04}: Nifty 50 Index is efficient in the weak form
H_{05}: Nifty 200 Index is efficient in the weak form
H_{06}: Nifty 500 Index is efficient in the weak form

V. RESEARCH METHODOLOGY

Sample selection: For the purpose of this empirical study, three major indices of the National Stock Exchange namely NIFTY 50, NIFTY 200 and NIFTY 500 have been considered. Such indices are selected mainly because of its recognition as its extensive use as a benchmark by industry experts.

Study period: The present study has been carried out for a period of five years. Daily closing prices of the selected indices from January 1, 2015 to December 31, 2019 have been collected from the official website of NSE India.

Daily index returns have been computed from the daily closing prices based on continuously compounded rate. Logarithmic returns are calculated based on the following formula:

$R_t = Ln (I_t / 1_{t-1})$, Where, **R_t** = return at period t; **1_t** = Index value at the end of period t; **I_{t-1}**= Index value at the end of period t-1.

There are various test techniques to identify the appropriate level of efficiency of a market. As per the research objective weak form efficiency of the returns are tested. There are both traditional as well as modern test techniques to confirm such weak form efficiency. The traditional technique includes serial correlation or Auto correlation test which is a parametric test and a non parametric Runs test. However, return series must be normally distributed in order to perform the Auto correlation test but no such restriction is imposed for conducting the Runs test. So, the next step would be to confirm whether the return series follows normal distribution and for this Kolmogorov-Smirnov goodness of fit test or K-S test has been performed.

Kolmogorov-Smirnov test or K-S test: The Kolmogorov-Smirnov Goodness of Fit Test is a non parametric test which is commonly used as a test for normality that is to check whether the data set that is return in our case follows normal distribution.

The Kolmogorov-Smirnov statistic is:

$$\boldsymbol{D_n = \max_x \left| F_{exp}(x) - F_{obs}(x) \right|}$$

The null and alternative hypotheses of the K-S test are as follows:

H_0: The dataset follows normal distribution.

H_1: The dataset doesn't follow normal distribution.

If the calculated test statistic lies between ±1.96 we accept the null hypothesis and conclude that the daily returns follow normal distribution and in that case we should apply autocorrelation test instead of run test. But, if the test statistic is less than -1.96 or more than +1.96 then we reject null hypothesis and conclude that daily returns do not follow normal distribution and then we should apply a non – parametric runs test instead of performing the autocorrelation test.

Runs Test: It is non- parametric test conducted to test a series of price changes for independence, where the no. of runs in a series is compared against the no. of runs expected in a purely random series of similar size.

It follows Z distribution, where,

$Z = \frac{R - E(R)}{\sigma_R}$

R= Actual no. of runs

E(R) = Expected no. of runs

$E(R) = \frac{2 n_1 n_2}{n_1 + n_2} + 1$

σ_R= Standard Error of the distribution

$\sigma_R = \sqrt{\frac{n_1 n_2 (2 n_1 n_2 - n_1 - n_2)}{(n_1 + n_2)^2 (n_1 + n_2 - 1)}}$

n_1 = Number of positive runs.

n_2 = Number of negative runs.

If the Z statistic is found to be insignificant, random walk of the return series is confirmed.

Unit root Tests: The modern tests on weak form efficiency is based on the stationarity property of the time series data. A series is said to be non-stationary if it has a time varying (i.e. dependent on time) mean or time varying variance or both. The stationarity property can be examined by applying unit root test. If unit root exists for a given time series data that is return in our case, it is said to be non- stationary and vice versa. There are alternative approaches of unit root tests out of which two most popular tests, Augmented Dicky Fuller (ADF) Test and Phillips Perron (P-P) Test have been considered to examine whether the returns are stationary or not. The null hypothesis of a unit root is rejected in favour of the stationary alternative if the test statistic is more negative than the critical value.

Variance Ratio Test: The Variance ratio test of random walk is a test which is used to examine whether security's returns indeed follow a random walk. This test was proposed by Andrew Lo and Craig Mackinlay in the year 1987. Variance ratio test is said to be more reliable and more powerful than the very well-known Unit Root Tests.

The variance ratio test of is based on the property that the variance of increments of a random walk *Xt* is linear in its sample interval.

According to Variance Ratio Test, if a series follows a random walk process, the variance of its q-differences would be q times the variance of its first differences, i.e.

Var (X_t, - X_{t-q}) =qVar (X_t, - X_{t-1}) where q is any positive integer.

The variance ratio, VR (q), is then determined as follows:

VR (q) = $\frac{\sigma^2(q)}{\sigma^2(1)} = \frac{\frac{1}{q}(X_t - X_{t-q})}{X_t - X_{t-1}}$

The equations to calculate (1) 2 □□and () 2 □□*q* are as follows.

$$\sigma^2(1) = \frac{1}{nq-1}\sum_{t=1}^{nq}(X_t - X_{t-1} - \hat{\mu})^2$$

$$\hat{\mu} = \frac{1}{nq}\sum_{t=1}^{nq}(X_t - X_{t-1})$$

and,

$$\sigma^2(q) = \frac{1}{m} = \sum_{t=1}^{nq}\left(X_t - X_{t-q} - q\hat{\mu}\right)^2$$

Where,

$$m = \mathrm{q(nq - q + 1)}\left(1 - \frac{q}{nq}\right)$$

The null hypothesis is that *VR (q)* is not statistically different from 1.

The standard normal test statistic used to test the null hypothesis of random walk under the assumption of homoscedasticity is *Z(q)*, calculated as:

Z(q) = $\frac{(VR(q)-1}{\sqrt{\theta(q)}} \sim N(0,1)$

Where,

$$\theta(q) = \frac{2(2q-1)(q-1)}{3q(nq)}$$

The standard normal test statistic used for heteroscedasticity increments is *Z*(q)*, calculated as:

Z*(q) = $\frac{(VR(q)-1}{\sqrt{\theta^*(q)}} \sim N(0,1)$

Where,

$$\theta^*(q) = \sum_{j=1}^{q-1}\left[\frac{2(q-j)}{q}\right]^2 \hat{\delta}(j)$$

and,

$$\hat{\delta}(j) = \frac{\sum_{t=j+1}^{nq}(X_t - X_{t-1} - \hat{\mu})^2\left(X_t - X_{t-j-1} - \hat{\mu}\right)^2}{\left[\sum_{t=1}^{nq}(X_t - X_{t-1} - \hat{\mu})^2\right]^2}$$

If the test statistics are found to be statistically significant it will indicate that the return series do not follow random walk.

VI. DATA ANALYSIS AND FINDINGS

Descriptive statistics of all the three indices Nifty 50, Nifty 200 and Nifty 500 are reported below in **Table 1**. Very low mean returns and standard deviation of all the three indices gives an indication that the following indices bear low expected risk as well as return. However, the mean return (0.000135) of NIFTY 50 Index being the highest is associated with least risk (0.003730) as compared with the other two indices. Distribution having Skewness value 0 is considered to be symmetric that is normally distributed. The value of Skewness being negative reflects the lack of symmetry in the distribution around its mean value of all the three indices. A series having kurtosis value 3 is said to be normally distributed and is considered to be mesokurtic in nature. The measure of kurtosis (more than 3 in all cases) suggests that the daily index return series in NSE have much more peaked tails which are leptokurtic in nature. The Jarque –Bera test follows χ^2 distribution with 2 degrees of freedom with the null hypothesis that the return series are normally distributed, however, the P value being significant that is less than 0.01 rejects the null hypothesis and concludes that return series are not normally distributed. Again Kolmogorov-Smirnov test is conducted as shown in Table 2 in order to confirm such non- normality in the said return series.

TABLE 1: DESCRIPTIVE STATISTICS

	NIFTY50 RETURNS	NIFTY 200 RETURNS	NIFTY 500 RETURNS
Mean	0.000135	0.000133	0.000132
Median	0.000177	0.000337	0.000439
Maximum	0.022507	0.022950	0.022401
Minimum	-0.026480	-0.029472	-0.030169
Std. Dev.	0.003730	0.003805	0.003792
Skewness	-0.254743	-0.415819	-0.492233
Kurtosis	6.775876	7.542103	7.835547
Jarque-Bera	746.4063	1096.323	1252.083
Probability	0.000000	0.000000	0.000000
Sum	0.166995	0.163929	0.162809
Sum Sq. Dev.	0.017151	0.017849	0.017727
Observations	1234	1234	1234

Source: Author's computation using Eviews 8

Table 2 below presents the results of Kolmogorov-Smirnov goodness of fit test. The null hypothesis of such test states whether the return series confirms normal distribution. The P value of Kolmogorov-Smirnov test being significant at 1% level (0.0000) for all the three indices rejects the null hypothesis and clearly states that the movements of daily return of Nifty 50, Nifty 200 and Nifty 500 do not follow normal distribution that is the index return movements do not follow random walk model.

TABLE 2: RESULT OF TESTS OF NORMALITY

	Kolmogorov-Smirnov(a)		
	Statistic	df	Sig.
Nifty 50	.048	1234	.000
Nifty 200	.059	1234	.000
Nifty 500	.057	1234	.000

Source: Author's computation using SPSS 16

Even though the significant P values of the Jarque-Bera test and the Kolmogorov-Smirnov tests confirmed the non-normality of the selected Index returns. A non-parametric test to examine the randomness of the said return series would be effective as it does not require the return series to be normal. For this purpose, mean values have been considered as the cut off points. The results of runs test have been represented below in **Table 3**.

The Z value of Nifty 500 Index returns are well below -2.58 and the P value is 0.002 that is less than 0.01. So, it rejects the null hypothesis which supports that the index return movements are random and hence concludes that daily return realizations of Nifty 500 are not independent, and the stock market in terms of Nifty 500 Index is not efficient in the weak form.

However, the Z value of Nifty 50 and Nifty 200 Index respectively being greater than -1.96 and p values being more than 0.05 leads to rejection of the alternative hypothesis of non-random return movements and accepts the null hypothesis that both the indices return movements are random which does not enable investors to earn abnormal profits and thereby the stock market in terms of Nifty 50 and Nifty 200 Index respectively is efficient in the weak form. Here, the results are contradicting. So a more advanced and sophisticated test technique that is unit root test have been applied in order to resolve the contradiction and to reach towards the final conclusion.

TABLE 3: RESULT OF RUN TEST FOR RANDOMNESS WITH MEAN AS THE BASE

Sl. No.	Indices	Number of Runs	Z value	Sig. (2-tailed)
1	Nifty 50	611	-0.394	0.693
2	Nifty 200	585	-1.800	0.071
3	Nifty 500	563	-3.017	0.002*

Source: Author's computation using SPSS 16

The stationarity property of all the three indices can be examined by applying the Unit root test. If unit root exists for a given time series that is return in our case, it is said to be non- stationery and vice versa. So, ADF Test is conducted considering random walk with intercept or drift on all the three indices of our study. **Table 4** below highlights the test results that Nifty 50, Nifty 200 and Nifty 500 are significant with P values less than 0.01. Therefore, the null hypothesis of unit root (non-stationary) is being rejected at 1% level of significance suggesting that NSE does not show characteristics of random walk and as a result of which, is not efficient in the weak form.

This study has also performed PP test as a confirmatory data analysis. The results of Philips-Perron test of random walk model reveals that the P values of the selected indices of our study are significant (0.0000) at 1% level. Thereby, rejecting the null hypothesis of unit root (non-stationary) of index returns of NSE thereby suggesting that NSE index returns do not show any characteristics of random walk. So, it may be concluded that such stationary series may allow modelling and prediction. So, the investors can predict future stock prices with these stationary series which in turn would enable them to earn abnormal profits.

TABLE 4: RESULT OF ADF AND P-P TEST

	Augmented Dickey-Fuller Test		Phillips-Perron Test	
	t-Statistic	P - Value	Adj. t-Statistic	P - Value
Nifty 50	-33.12060	0.0000	-33.09699	0.0000
Nifty 200	-32.65495	0.0000	-32.57417	0.0000
Nifty 500	-32.22837	0.0000	-32.11329	0.0000

Source: Author's computation using SPSS 16

For the purpose of the study, Variance ratio test has been performed with the assumption of both homoscedastic and heteroscedastic increments. Moreover, the variance ratio is calculated for intervals (q) of 2, 4, 8 and 16. For each interval, we report, the estimate of the variance ratio, VR (q), and the test statistics for the null hypotheses of homoscedastic {Z (q)} and heteroscedastic, {Z*(q)}, increments' random walks. Empirical evidences obtained from the variance ratio test as reported in **Table 5**, highlights that the null hypothesis of random walks is rejected under the assumption of homoscedastic increments for all the index returns for m=2, 4, 8 and 16 respectively with Z statistics of variance ratios being significantly different from one. The heteroscedastic increments assumption also witnessed Z statistics of variance ratios being significantly different from one for all the indices. The value of variance ratio is also gradually decreasing with the increasing intervals for all the three indices showing weaker correlations with increasing intervals. Therefore, it may be concluded that successive returns have serial dependence which makes the series a non-random walk.

So, the conflicting results in case of Nifty 50 and Nifty 200 as reflected through runs test are resolved with Unit root tests and Variance ratio test.

TABLE 5: RESULTS OF VARIANCE RATIO TEST

	Nifty 50				Nifty 200				Nifty 500			
	Variance Ratio	Z(q)	Z*(q)	P value	Variance Ratio	Z(q)	Z*(q)	P value	Variance Ratio	Z(q)	Z*(q)	P value
q=2	0.535	-16.312	-10.383	0.000	0.543	-16.043	-9.430	0.000	0.548	-15.870	-9.111	0.000
q=4	0.272	-13.655	-9.274	0.000	0.277	-13.566	-8.620	0.000	0.281	-13.487	-8.394	0.000
q=8	0.139	-10.220	-7.576	0.000	0.141	-10.193	-7.197	0.000	0.143	-10.172	-7.068	0.000
q=16	0.067	-7.440	-5.915	0.000	0.069	-7.430	-5.722	0.000	0.070	-7.421	-5.653	0.000

Source: Author's computation using SPSS 16

VII. CONCLUSION AND RECOMMENDATIONS

The Efficient Market Hypothesis states that prices fully and very quickly reflect all available information so no one can earn excess profits based on that information. However, recent studies in stock price behavior report several deviations from the implications of market efficiency.

Market efficiency has long been a matter of controversy in the emerging economies like India. Since Fama's 1970 study on market efficiency, many studies have been conducted to test market efficiencies. Although in the developed economies it is mostly found that the market is weak form efficient. But in emerging markets like India the results are found to be mixed – some concludes Indian stock market is weak form efficient and some concludes it is not even efficient in the weak form. The present study has used both the traditional as well as modern test methods to check the validity of Random Walk Hypothesis in Indian stock market with a special reference to National Stock Exchange.

Empirical evidences from the above analysis (K-S test) posits that Nifty 50, Nifty 200 and Nifty 500 Indices returns are not normal, so a non- parametric test that is runs has been performed to test the market efficiency in the weak form. The result of runs test reflected a contradictory evidence indicating that although Nifty 50 and Nifty 200 returns showed non-random behavior showing weak form inefficient market but Nifty 500 returns showed random walk movement in its return series. In order to resolve this contradiction, a modern test technique, unit root test has been conducted, where, both ADF and PP test witnessed the non-existence of unit root which indicates that the return series are stationary hence the series can be modelled and hence predictions of future movements are possible. Finally Variance Ratio test which is considered to be more powerful than unit root test also confirms that all the three indices return series hardly exhibit any 'random

walk'. So, the test results clearly resolve the contradiction which in turn supports the previous conclusion that the Indian stock market is not efficient in the weak form and also does not follow "Random Walk Model" as security prices do not reflect all past information. Hence, it is possible to earn super-normal profits by utilizing past information as share prices do not adjust instantaneously in response to any new information released in the market.

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