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Women Empowerment Through Entrepreneurship - Role Of Training Institutions And Bodies - A Study

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Abstract: In today's World, women are contributing significantly and meaningfully to socio-economic development. But it is unfortunate that the potentials and capacities of women are underutilized. And women still continue to suffer from various constraints and limitations, which inhibit them from optimally realizing their potential for economic development. Women perform around 75% of the world's unpaid care and domestic work, valued at 13% of global gross domestic product. If included in national accounts, the unpaid care economy would represent between 15 to over 50% of gross domestic product, according to a United Nations report.

The women entrepreneurship is reflected to be an effective mechanism to the empowerment of women. Developing entrepreneurial skills among women will be a good method for empowerment of women and this would uplift the women social status in the society.

Keywords — Economic empowerment / development, Gender discrimination and inequality, Skill development, Training institutions, Women empowerment, Women Entrepreneurship

I. INTRODUCTION

"When you empower a man, you empower an individual; when you empower a woman, you empower a nation."

- HE Tebelelo Seretse,
- Ambassador of Botswana to the United States

"The cure for poverty has a name: it's called THE WOMEN EMPOWERMENT".

- Christopher Hitchens

These two statements will explain the importance of women empowerment. UN Commission on the Status of Women (2002) states that women empowerment is the "process by which women gain power and control over their own lives and acquire the ability to make strategic choices".

Women empowerment has five components:

- Women's sense of self-worth
- Their right to have and to determine choices
- Their right to have access to opportunities and resources
- Their right to have power to control their own lives, both within and outside the home
- And their ability to influence the direction of social change to create a more just social and economic order, nationally and internationally.

Women perform around 75% of the world's unpaid care and domestic work, valued at 13% of global gross domestic product. If included in national accounts, the unpaid care economy would represent between 15 to over 50% of gross domestic product, according to a United Nations report.

In this context, education, training, awareness raising, building self-confidence, expansion of choices, increased access to and control over resources, and actions to transform the structures and institutions that reinforce and perpetuate gender discrimination and inequality are important tools for empowering women and girls to claim their rights.

Scholars have identified two forms of empowerment, economic empowerment and political empowerment. In this research paper, the researcher discusses the role of training institutions and different bodies in economic empowerment of women through entrepreneurship.

II. FEMALE ENTREPRENEURSHIP INDEX (FEI) ANALYSIS:

Female Entrepreneurship Index (FEI) analysed 77 countries in 2015 - an increase from 30 in 2014; and employed a proven theoretical framework to measure entrepreneurial environment ecosystem and individual aspirations, and score nations from 0 to 100. The FEI includes 23 gender-specific variables focusing on female entrepreneurs.

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MEDIATION ANALYSIS ON STRESS LEVELS OF BANK EMPLOYEES USING SEM APPROACH

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ABSTRACT

In today's modern era, stress is highly inevitable among bank employees. The stress may be positive or negative. The positive stress leads to an increase in employee productivity and commitment. The negative stress leads to work-life imbalance, increase in employee dissatisfaction and employee turnover. This paper tries to investigate the relationship between "Role Overload" which is considered as the independent variable and "Organizational Level Stress" as dependent variable which is mediated by individual-level stress and group level stress. The data is collected from a structured questionnaire provided to selected bank employees on a five-point Likert scale. A sample of 110 respondents was collected from Krishnagiri district in Tamil Nadu state in India using convenience and judgement sampling. Structural Equation Modeling (SEM) is used to analyze the collected data. The findings of the study show that the relationship between "Role Overload" and "Organizational Level Stress" is fully mediated by "Individual-Level Stress" and "Group Level Stress".

KEYWORDS: *Stress, Bank Employees, Role Overload, Mediation Analysis and SEM*

INTRODUCTION

In today's competitive scenario, the banking sector places a vital role in the economic development of a country. In the past 7 years, the banking industry has undergone various transformations and changes. Bank employees are special workgroup who undergo various levels of stress in the workplace. They cannot afford the time to relax as they are generally loaded with work variety, multi-tasking, and conflicting tasks. Workload beyond one's capacity, ambiguity in defining duties & responsibilities, lack of support from superiors, lack of authority to control resources, an absence of autonomy in taking decisions, work-life imbalance etc. are some of the sources of stress in organizations which affects the mental and physical wellbeing of the employees. The association of elements such as role overload, role conflict, and role ambiguity among employees was found to play a significant role in determining various levels of stress.

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IMPACT OF RETAILER BRAND EQUITY ON CUSTOMER LOYALTY WITH CUSTOMER SATISFACTION IN SELECTED RETAIL OUTLETS IN BANGALORE CITY

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ABSTRACT

Customer loyalty is a deeply held commitment to re buy or re patronized a preferred product or service in the future, thereby causing repetitive same brand or same brand set purchasing despite situational influences and marketing efforts to cause switching behaviors. Loyal customers will not switch to another product even if convinced that other brands perform better. A firm enjoys high brand loyalty when a sizeable number of its customers won't switch. Loyal customers pay back the company in the long term cash flows and in generating a stream of referrals. Customers can demonstrate their loyalty by choosing to stay with the provider, increase the number of their purchases or the frequency of their purchases. They can also be loyal by influencing the buying decisions of others. Loyal customers offer a competitive edge against competitors. Customer loyalty is ultimately the desired goal of all firms. The purpose of this research was to examine the relationship between the retailer brand equity and Customer loyalty. The study also recommends that management of selected Retail outlets in Bangalore city should strive to ensure that customers get value for their money. Retail outlets should not prioritize brand associations over brand trust

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Precision Agriculture Adoption: Challenges of Indian Agriculture

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ABSTRACT: *World demand for food is anticipated to increase by 70 percent contrary to this, agriculture input equation is changing in the form of decline in the agriculture labour, shrinking agriculture productive land, raising temperature, shifting weather patterns and land degradation; challenging every stake holder in agriculture sector in meeting food requirement of future. Precision farming can bring in some solution with its integrated technology-communication- management approach to several needful decisions in agriculture production cycle. Socio-economic environment is pushing hard this technology adoption due to its massive benefit in agriculture productivity. However, its required to study is Indian agriculture sector is ready for precision technology adoption? Which are the challenges creating obstacles? Any technology transition is possible only when we understand and addresses these challenges. This study is aims at addressing these research questions.*

Key Words: *Precision agriculture, technology adoption, challenges, strategies*

Introduction:

UnitedNations'17SustainableDevelopmentGoalstookeffectatthebeginningof2016,launchingthe countdown to achieve inclusive sustainable development and economic growth by 2030(GAP Report 2016). Many goals are aimed at enhancing agricultural and forestry development and growth. The Sustainable Development Goal -2 calls the world community to "end hunger", achieve food security and improve nutrition and promote sustainable agriculture (GAP Report2016).

By2050,worldpopulationwillbe9.7billion;foodconsumptionisanticipatedtoincreaseby70percent (FAO). Contrary to this, agriculture input equation is changing in the form of decline in the agriculture labour, shrinking agriculture productive land, rising temperature, and shifting weather patterns, Poor land management leads to land degradation, further reducing the soil fertility and waterproductivity (Hakkim, Joseph, Gokul and Mufeedha, 2016).

With these challenges accelerating agriculture productivity to feed world can be achieved through regenerativesystemofagricultureandfoodproduction.Agriculturalprocessshouldadoptandpractice modern technology and information sciences for effective utilization of agriculture inputs. 'precision agriculture' initiative by US government in the year 1983 can provide solution to these complex challenges (Lowenerg 2015). It rules out the hypothetic approach and adopts the site-specific management approach with suitable micro management practices (Hakkin et al 2016). Precision farming is combination of ICT, satellite technology, mechanization, and effective management of all these agriculture resources for greater productivity (Shukar ABD).

Precision farming is changing the way people do farming as it offers benefit of profitability, productivity, sustainability, crop quality, environmental protection and rural economic development (Liaghat and Balasundram 2010),(Fountas, Pedersen and Blackmore, 2004), (Anue et al, 2017) (Singh).

India being second largest populated and agri dominated country has greater responsibility towards meeting the need for global agriculture produced. The present age-old farming practices are no more suitableandfavorableforfarmersandeconomyaswhole.TheICTadoptionintoagriculturesectorhave indicatedfavorable(maynotbeasanticipatedbuthasdefiantlymadechangeintheattitudeoffarmers towardstechnologyadoption)results.Precisionfarmingcanchangetheindianagricultureproductivity if systematic phase wise collective efforts are taken by different stake holders of agriculture sector towards its adoption. Time and situation demand for embracing the precision farming for the benefit ofall.

Technology adopted in precision farming and its benefit offerings

1. Yield Monitor- yield monitors are becoming more common in North America. During harvest cropyieldinformationisrecordedongridbasis.Yielddifferencesareanalyzedthroughcomputer technology;thisinformationisusedforfinetuningthevariablerateofapplicationofagriculture inputs to various grids. Study conducted by Taylor (2016) on commercial grape yield monitor reflects

CHALLENGES OF ROBOTIC PROCESS AUTOMATION ADOPTION IN BANKING AND FINANCIAL SERVICES

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ABSTRACT-

Banking and Financial industry players are facing significant internal and external challenges. To survive; they must focus their efforts on creating value for customer by focusing on operational efficiency and cost benefit. In present business and technology environment, Automation is only hope towards achieving this goal. Many organizations have claimed economic and operational benefits it offers; however, few have expressed difficulty in embracing this technology transition due to challenges it poses. However, due to security and safety of customer information, technology transition becomes more complex and challenging. A careful situation analysis is most important for successful technology transition. This study aims at understanding challenges of automation adoption in banking and financial services. Further the attempt is made to develop RPA adoption model for banking and financial services business process automation.

(Keywords: Banking and financial services, Automation, Technology adoption, smooth transition)

INTRODUCTION-

Banking and Financial industry players are facing significant internal and external challenges. To survive, they must focus their efforts on creating value for customer by focusing on operational efficiency and cost benefit (Deloitte) (IBM 2016) (TCS). The present IT systems which do always interact/integrate with each other bring into advantage but have its own economic and time-consuming challenges. Further making IT system smarter involves either massive IT transformation or extensive business process improvement (Deloitte 2016). Alternative to IT is to rely on third parties to improve process execution through business process out-sourcing and off-shoring. However even these initiatives are complex, time consuming, expensive and come up with its own fair amount of risks (Deloitte 2016)

Looking at these challenges, organizations need to transform their mode of business operations so as to ensure reliable, consistent, economic mechanism to achieve customer satisfaction. Automation assures these all benefits, which is why the industry is looking ahead with aggressive automation transformation.

Automation is slowly gearing up its momentum, banking and financial organizations leading the automation adoption. Basically, there are two facilitating factors which enable this sector for automation adoption, first, business process involves systematic repetitive procedures and second one is set of statutory and regulatory

A Study on Business Management Students Perception towards Indian Privatization

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1.1 ABSTRACT

Indian Government engaged in privatization of its public sector enterprises since 1991. This privatization program has faced inconsistency due to political upheavels and other factors. In a democratic country people support is necessary to keep the privatization program alive and running. In this context this paper intend to examine the business management student perceptions on Indian Privatization. This research undertaken to fill the research gap pertaining to students perception on privatization program. The objectives of the research were investigating the management students perception on Indian Public sector enterorises, privatization program, Investment in public enterprises and privatization methodology. we hypothesize that management students perception is positively correlate with privatization. These hypotheses are tested with the survey data from 150 management students from different regions of karnataka. Statistical analysis indicates that relationship quality is positively correlated with privatization perceptions.

Keywords: Privatization perception, Students perception on privatization, privatization methodology.

1.2 INTRODUCTION

Since the adoption of liberal market policies in mid 1990s, the Indian government has privatized a good number of Public Sector Enterprises. More than 100 out of 400 previously state-owned companies have been either partilly or fully privatized. This large-scale privatization has also raised the public discussion about the privatization program. This privatization program triggered concern on status of economy, private sector dominance, job security, reduction in government jobs, cost and benefit advantage of public sector. Thus, whereas some Government seem to acknowledge the benefits of privatization policy, others blame privatization for the declining living standards. In India, some state-owned businesses have completed their privatization and some others are undergoing the process of privatization or evaluation. This study will not only investigate perceptions towards privatization; it will also touch upon the implementation of privatization in India

It is from this background that we decided to conduct an perception study to find out students perception about the privatization policy, its implementation and the perception about the management of the country's economy as a whole. The survey sought to get students opinion on the following issues; First, studentss' opinion on Public sector enterprises, then whether the general policy of privatization is good or bad; third is students' opinion on public sector investment Lastly, students' evaluation of the way the government is managing the privatization.

AN ASSESSMENT OF THE ATTITUDE TOWARDSENTREPRENEURSHIP AMONG HIGHER EDUCATION STUDENTS AT BANGALORE

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ABSTRACT: *: The article raises the issue of entrepreneurship attitde among graduate students. It discusses the essence of the issue and its conditions along with facilitating role of education. Further research evaluating the students' knowledge of entrepreneurship and their subjective assessment of itsnecessity in starting their own business. The primary objective of this study was to assess theattitudes and perceptionstowards entrepreneurship among students in a higher educationinstitution. The empirical study was conductedamong selected multidisciplinary compositeeducation institutes.100 samples were chosen to record the response from the different institutes. The survey was conducted using a self-completion questionnaire method, wherebyquestionnaires are handed out to respondents for self-completion and returned to the researcher at a shorter duration. An attitude scale to test the prevalence of entrepreneurial attitudes andperceptions among the respondents was used. The Likert scale was used whereby therespondents were asked to rate a specific issue on a scale that ranged from strongly disagrees to strongly agree. Research results found thatpositive attitudes towards the environment eco system are more significant; it can be determined by some factors which promote the positive attitudes towards entrepreneurship. The academic institution should encourage students to consider entrepreneurship, then students will run their own business to have more flexibility in their personal and family life*

Key Words: *entrepreneurship among graduate students, students entrepreneurial attitude, student entrepreneurship, incubation.*

INTRODUCTION:

Entrepreneurial intentions and attitude has largely been examined in a developed country context, but its investigation in emerging developing countries has been very limited. Several Indian Government project reflect the Indian Entrepreneurial intention as a foremost construct within the entrepreneurship literature. In developing countries, self-employment intention may represent evidence of an emerging entrepreneurial cohort needed to surmount the economic depression.

Today India as developing country is faced with massive challenges of high levels of unemployment among the youth, especially university graduates, due to lack of work experience, low skill base and education.The formal labour market in India is currently limited and unable toabsorb the ever increasing number of labour force; hence, the decision by thegovernment to prioritise the skill development and support of small medium enterprises.Beside all these interventions,in recent years entrepreneurship coaching is offered in most of the colleges and universities as part of thecurriculumbut it is evident that levels of entrepreneurship are still not improving in india.However there has been an upward trend in the number of young Indian enteringhigher education

Student perceptions and attitude on enthrepreneurhip, risk taking and risk tolerance is one component of entrepreneurship arecritical, hence there is a need for more attention in understanding these critical factors to know weather students are ready for taking up the challenges. Inthe research perspective, cognition has impact on the chance that some people willidentify and seize the opportunity. Opportunity identification depends on priorawareness and knowledge, whilst exploitation depends on having the necessary

BACKGROUND TO THE STUDY

According to the latest data on Indian Job market, theunemployment rate in India has increased to 6.2% in the FY of 2018-19from 4% in the 2009. Therecent economic recession exacerbated the unemployment situation in the country.Goverment initiatives suchh as make in India, skill development programmes appears to be failed as unemployment has increased to new levels. The solution to the problem and creation of wealth,economic growth and sustainable jobs lies in entrepreneurship. This research intended to identify the students attitude towards entrepreneurship and self employment opportunities.

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AN EMPIRICAL STUDY OF OPTION PRICING BY USING BLACK-SCHOLES MODEL FOR SELECT STOCKS OPTIONS FROM INDIAN STOCK OPTION MARKET

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Abstract: **In this modern world, the finance has become imperative factor for financial eco system to be efficient with that the investment has also equal importance and it's an opportunity for every business and individual, one among them is option. Option pricing is a crucial factor for hedging and speculative activates. Value determination plays a decisive role for an option writer in financial eco system to maintain the balance and stability for the investors. Where Black-Scholes option pricing model is a widely accepted by the investor and research community for check the reliability European options pricing which available in the market. this study is an attempt to test empirically the relevance of B-Scholes options pricing model in Indian Derivative market with specific reference to select metal stock options. Results of the paired sample T-test revealed that there is no significant difference between the expected option prices calculated thorough Black-Scholes Model and market price of options for majority call option contacts but visa versa for put option contacts, in three out of six cases. It can be inferred that model is relevant for metal stocks. So the investor can always employ the B-Scholes model for their investment strategies.**

Keywords: **Finance, Eco system, option, call, put, Black-Scholes, model, investor.**

1. INTRODUCTION

Option pricing and relevance of the price of option is a very important in the one of speculative markets like derivatives markets. Accurate pricing of options eliminates the arbitrage opportunity. Mainly hedgers and speculators are found the derivatives market where their common types investment in derivatives instruments like futures, options, forwards and swaps. Quantum of speculation is more in case of stock market derivatives. Pricing is relevant for both speculators and hedgers. There are two important models for option pricing – Binomial Model and B-Scholes Model. B-Scholes model is widely accepted for European style of option. The present study is an attempt to study the relevance of B-Scholes model in Indian Derivative market with specific reference to select metal stock options in Nifty index.

2. REVIEW OF LITERATURE

Fischer Black and Myron Scholes (1973) the actual options prices deviate in certain systematic ways from the values predicted by the formula. Option buyers pay prices that are a formula. Option writers, however, receive prices that are at about the level of predicted by the formula. There are large transaction costs in the option market, all of which are effectively paid by option buyers. The difference between the price paid by option buyers and the value given by the formula is greater for options on low-risk stocks than the options on high risk stocks.

ROLE OF DEMOGRAPHIC FACTORS ON INVESTMENT DECISION OF INVESTORS IN BANGALORE

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Abstract: The financial market is more dynamic in the present scenario. The main reason for investors to invest in various financial portfolios is to get higher returns by investing feasible amount. The aim of this paper is to study the role of demographic factors like age, marital status, and annual income in making investment decisions of investors. The type of research used in the research are descriptive & empirical. The data is collected from structured questionnaire provided to investors on a five point Likert scale. A sample size of 70 respondents were collected from Bangalore city using convenience sampling. Statistical tools like Chi-square, Mann-Whitney test, Kruskal-Wallis test are used to analyze the collected data using SPSS software. It was found that the investment decision majorly rely on the factors such as expected return, liquidity and safety of investors.

IndexTerms **- Investor, Investment decision, Demographic factors.**

I. INTRODUCTION

The world is changing dynamically in various ways and needs of people is increasing day by day. People are looking for happy & safe life. In current scenario, money can make people more delightful. So they start investing in various financial avenues and ventures for secure life & bright future. But it became a big question for them that which financial avenue will give high return and more safety. At present, there are many investment opportunities available in market like equity, bonds, debentures, real estate, public provident fund, etc. But after all, there are some demographic factors from which investment decision for above avenues may get effected. Demographic factors may be age, annual income, marital status, educational qualification, types of employment, etc. This paper attempts to identify the role played by demographic factors in making investment decision.

II. REVIEW OF LITERATURE

Dr. C. M. Shinde and Priyanka Zanvar (2015) found that demographic factors of investors such as Age, Educational qualification, Income level, affect the investor's level of risk tolerance. These results are important for managers to advise their clients about better area of investment and risk level according to their demographic profile. **Dr. Dhiraj Jain and Mr. Nikhil Mandot (2012)** concluded that most of the investors' primary objective of investment is to earn regular income and expected rate of return differs from individual to individual based on their level of market knowledge and risk taking ability. This paper further reveals that there is a negative correlation between Marital Status, Gender, Age, Educational Qualification and Occupation of the investors' also there is a positive correlation between Cities, Income Level and Knowledge of the investors'. This has been identified on the basis of cross analysis by applying Correlation analysis.

Manoj Kumar Dash (2010) identified that modern investor is a mature and adequately groomed person. In spite of the phenomenal growth in the security market and quality Initial Public Offerings (IPOs) in the market, the individual investors prefer investments according to their risk preference. His study also concludes that investors' age and gender predominantly decides the risk taking capacity of investors. **Subramanian VA and Athiyaman T (2016)** found that demographic factors such as age, education, investment experience and income of the investors are correlated with their risk tolerance and; gender, occupation and civil status are not related with risk tolerance.

Vickie L. Bajtelsmit and Alexandra Bernasek (1996) in this paper, authors' have delineated the alternative explanations for gender differences in investment and risk taking in an effort to help guide data collection and identification of relevant variables for empirical research. Review of the limitations of previous studies suggests that existing datasets are inadequate for the purposes of investigating gender differences in investing. **Grinblatt and Keloharju (2000)** suggest that investors who have less than two years of equity experience often earned poor gross returns.

III. OBJECTIVES OF THE STUDY:

i. To study the association of demographic factors that influence the investment decision of investor's.
ii. To identify the factors on which the basis of investment decision relies on.

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Effectiveness of NPA Control Measures in Managing Loan Assets in Banks

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ABSTRACT

The economic reforms instigated by the Ex- finance minister and Prime minister of India Dr. Manmohan Singh would have been stayed perfect without the restructuring of the Indian banking sector. The important side of norms and guidelines for making the whole segment pulsating and economical. The problem of losses and lower profitability of Non-Performing Assets (NPA) and liability mismatch in banks and the financial sector depend on how various risks are managed in their business. The lasting solution to the problem of NPAs can be achieved only with proper credit assessment and risk management mechanisms. It is better to avoid NPAs at the market stage of credit consolidation by putting in place of rigorous and appropriate credit appraisal mechanisms.

In order to achieve the objective of the study an appropriate methodology has been adopted. Research done is descriptive in nature. The present study is mainly based on Secondary data. The data is taken from the Ph.D. thesis titled "A Study on Handling Non-Performing Assets with special reference to Public Sector Banks in Kanyakumari District".Statistical Tools used is the Friedman Test: The Friedman Test is a non-parametric test. It is used to test for differences between groups when the dependent variable being measured is ordinal.

This study tries to understand the effectiveness of existing measures in handling existing NPAs and the effectiveness of measures in controlling the incidence of new NPAs.

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1. INTRODUCTION

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ROLE OF DEMOGRAPHIC FACTORS ON INVESTMENT DECISION OF INVESTORS IN BANGALORE

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Abstract: The financial market is more dynamic in the present scenario. The main reason for investors to invest in various financial portfolios is to get higher returns by investing feasible amount. The aim of this paper is to study the role of demographic factors like age, marital status, and annual income in making investment decisions of investors. The type of research used in the research are descriptive & empirical. The data is collected from structured questionnaire provided to investors on a five point Likert scale. A sample size of 70 respondents were collected from Bangalore city using convenience sampling. Statistical tools like Chi-square, Mann-Whitney test, Kruskal-Wallis test are used to analyze the collected data using SPSS software. It was found that the investment decision majorly rely on the factors such as expected return, liquidity and safety of investors.

IndexTerms **- Investor, Investment decision, Demographic factors.**

I. INTRODUCTION

The world is changing dynamically in various ways and needs of people is increasing day by day. People are looking for happy & safe life. In current scenario, money can make people more delightful. So they start investing in various financial avenues and ventures for secure life & bright future. But it became a big question for them that which financial avenue will give high return and more safety. At present, there are many investment opportunities available in market like equity, bonds, debentures, real estate, public provident fund, etc. But after all, there are some demographic factors from which investment decision for above avenues may get effected. Demographic factors may be age, annual income, marital status, educational qualification, types of employment, etc. This paper attempts to identify the role played by demographic factors in making investment decision.

II. REVIEW OF LITERATURE

Dr. C. M. Shinde and Priyanka Zanvar (2015) found that demographic factors of investors such as Age, Educational qualification, Income level, affect the investor's level of risk tolerance. These results are important for managers to advise their clients about better area of investment and risk level according to their demographic profile. **Dr. Dhiraj Jain and Mr. Nikhil Mandot (2012)** concluded that most of the investors' primary objective of investment is to earn regular income and expected rate of return differs from individual to individual based on their level of market knowledge and risk taking ability. This paper further reveals that there is a negative correlation between Marital Status, Gender, Age, Educational Qualification and Occupation of the investors' also there is a positive correlation between Cities, Income Level and Knowledge of the investors'. This has been identified on the basis of cross analysis by applying Correlation analysis.

Manoj Kumar Dash (2010) identified that modern investor is a mature and adequately groomed person. In spite of the phenomenal growth in the security market and quality Initial Public Offerings (IPOs) in the market, the individual investors prefer investments according to their risk preference. His study also concludes that investors' age and gender predominantly decides the risk taking capacity of investors. **Subramaniam VA and Athiyaman T (2016)** found that demographic factors such as age, education, investment experience and income of the investors are correlated with their risk tolerance and; gender, occupation and civil status are not related with risk tolerance.

Vickie L. Bajtelsmit and Alexandra Bernasek (1996) in this paper, authors' have delineated the alternative explanations for gender differences in investment and risk taking in an effort to help guide data collection and identification of relevant variables for empirical research. Review of the limitations of previous studies suggests that existing datasets are inadequate for the purposes of investigating gender differences in investing. **Grinblatt and Keloharju (2000)** suggest that investors who have less than two years of equity experience often earned poor gross returns.

III. OBJECTIVES OF THE STUDY:

i. To study the association of demographic factors that influence the investment decision of investor's.
ii. To identify the factors on which the basis of investment decision relies on.

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AN EMPIRICAL STUDY OF OPTION PRICING BY USING BLACK-SCHOLES MODEL FOR SELECT STOCKS OPTIONS FROM INDIAN STOCK OPTION MARKET

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Abstract: **In this modern world, the finance has become imperative factor for financial eco system to be efficient with that the investment has also equal importance and it's an opportunity for every business and individual, one among them is option. Option pricing is a crucial factor for hedging and speculative activates. Value determination plays a decisive role for an option writer in financial eco system to maintain the balance and stability for the investors. Where Black-Scholes option pricing model is a widely accepted by the investor and research community for check the reliability European options pricing which available in the market. this study is an attempt to test empirically the relevance of B-Scholes options pricing model in Indian Derivative market with specific reference to select metal stock options. Results of the paired sample T-test revealed that there is no significant difference between the expected option prices calculated thorough Black-Scholes Model and market price of options for majority call option contacts but visa versa for put option contacts, in three out of six cases. It can be inferred that model is relevant for metal stocks. So the investor can always employ the B-Scholes model for their investment strategies.**

Keywords: **Finance, Eco system, option, call, put, Black-Scholes, model, investor.**

1. INTRODUCTION

Option pricing and relevance of the price of option is a very important in the one of speculative markets like derivatives markets. Accurate pricing of options eliminates the arbitrage opportunity. Mainly hedgers and speculators are found the derivatives market where their common types investment in derivatives instruments like futures, options, forwards and swaps. Quantum of speculation is more in case of stock market derivatives. Pricing is relevant for both speculators and hedgers. There are two important models for option pricing – Binomial Model and B-Scholes Model. B-Scholes model is widely accepted for European style of option. The present study is an attempt to study the relevance of B-Scholes model in Indian Derivative market with specific reference to select metal stock options in Nifty index.

2. REVIEW OF LITERATURE

Fischer Black and Myron Scholes (1973) the actual options prices deviate in certain systematic ways from the values predicted by the formula. Option buyers pay prices that are a formula. Option writers, however, receive prices that are at about the level of predicted by the formula. There are large transaction costs in the option market, all of which are effectively paid by option buyers. The difference between the price paid by option buyers and the value given by the formula is greater for options on low-risk stocks than the options on high risk stocks.

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A Review on Gadgil Report (2011), Kasturirangan Report (2013) & Oommen V Oommen Report (2013) on Western Ghats - Environmental Management Planning in India

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Abstract

India was the first nation in the world to establish a ministry of renewable energies, and it is a member of progressive intergovernmental collaborative ventures, such as the Kyoto Protocol, the Convention on Biological Diversity, the Montreal Protocol, the Ramsar Convention etc.

The Western Ghats is a widespread section spanning six (6) States and host India's richest wilderness in 13 national parks and several sanctuaries. The Western Ghats hills are also sourcing to numerous rivers, including Godavari, Krishna and Cauvery. This Hill and Ghats region desires high attention in the sustainability aspect of India and especially South part of India. Ministry of Environment and Forests, Govt. of India, constituted Western Ghats Ecology Expert Panel in 2010, Prof. Madhav Gadgil as the chairman and other 13 distinguished ecologists. This eminent panel submitted its report on January 31st, 2011.

The mandate of Western Ghats Ecology Expert Panel was to demarcate ecologically sensitive zones and recommend measures to conserve, protect and rejuvenate the ecology of region. Taking into account the comments and suggestions made by different stakeholders including State Governments and Central Ministries on Western Ghats Ecology Expert Panel Report, the MoEF constituted a High-Level Working Group, under the chairmanship of Dr. K. Kasturirangan, to advocate and recommend an all-round and holistic approach for sustainable and equitable development, keeping in focus the preservation and conservation of ecological systems in Western Ghats region. This working group submitted report on April 15th, 2013.

The three-member committee led by Dr. Oommen V Oommen, Kerala State Biodiversity Board was instituted in October 2013 in the wake of agitations, mainly in the high-range districts of Idukki, Wayanad and Kozhikode, against the draft notification issued by the Ministry of Environment and Forests (MoEF), accepting the suggestions and draft of the Kasturirangan Committee on Western Ghats conservation.

With this background, the researcher reviews the recommendations, criticisms and comparisons of reports submitted by Prof. Gadgil, Dr. Kasturirangan& Dr. Oommen V Oommen. And the study also focuses on environmental management planning in India.

Key Words: Ecologically Sensitive Zones, Environment, Equitable Development, Preservation & Conservation, Sustainability, Tourism, Western Ghats

3D Metric approach to study the factors affecting student's psychology on Education

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A Comparative Model of Feature Engineering With and Without Domain Knowledge

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Abstract: One of the key aspects of building a good machine learning model is Feature engineering. Feature engineering is a process where we create new features from existing raw features. To create new features, we require domain experts who have knowledge of the subject. By using their knowledge they create new features which are helpful for a machine to learn better. The time taken by the domain experts to understand the data and then create new features is time-consuming and expensive. This problem is addressed with a neural network which will not require domain experts to engineer new features. Current paper deals with the case study pertaining to the data of Human Action Recognition. Using the data, the machine predicts the various physical actions and appearances of a person like if the person is sitting, standing, walking, walking up stairs, and walking downstairs or lying. We compare the accuracy of the model using data which was feature engineered by experts and the model which was not feature engineered by the domain experts.

Keywords- Machine Learning, Feature Engineering, Domain Knowledge, Human Action Recognition, Neural Networks.

I. INTRODUCTION

Data is the world's most valuable resource, it is very important for an industry to grow and be a helping hand to the human. Data is used to build intelligent machines which can work on complex problems which require human understanding. Data can be used in any domain like in health care to detect disease like cancer at earlier stages, improve business revenue, targeting the right audience in digital marketing, etc. The key factor for the machines to work on relatively complex problems is the availability of rich information. The rich information is not readily available in the form of data but needs to be generated from the existing raw data. Feature Engineering is the process of generating rich information from the raw data. The process of generating new features requires a lot of experience about the particular subject that the problem is related to [1]. This requires a lot of time and is highly expensive. For many real-world problems, we try finding a solution using Artificial Intelligence which needs to be faster and cheaper. But generally, we cannot actually generate features manually and then train a model because of high time complexity. For this reason, we use the Neural Network.

Neural Network uses the raw data and generates features by itself which works well for complex problems. This avoids the requirement for a domain expert to work on finding complex data from raw data. In this paper, we are using Human Action Recognition data to do the comparative study. The dataset is collected through a smartphone by wearing it on to the waist [2], and it is categorized as Walking, Walking Upstairs, Walking Downstairs, Sitting, Standing and Laying.

A. Feature Engineering

Feature engineering is one of the essential steps in the applications of machine learning. For training a machine learning model well, we require pre-processed data. In the process of data pre-processing, other than data cleaning we also need to feature engineer the data in such a way that a model's performance is high. In feature engineering, we require domain expertise of the subject to create new features from the existing raw features. The features used in training a machine learning model is important as it influences the result that would be achieved by the model. This process is time-consuming and expensive because the domain expert needs to understand the problem and data before creating new features.

B. Classical machine Learning

Classical machine learning is a set of algorithms and statistical modeling which takes data as an input and models it using statistics and algorithms to give the desired output. The most common classical machine learning models are Linear Regression, Logistic Regression, Support Vector Machine, Decision Tree, Random Forest, etc [3]. Even though the time is taken to train this model is less but the time taken by domain experts to create new features is very

high. The domain experts need to try out many methods which might or might not work well to build a model [4]. The time taken by a domain expert to create new feature is a big disadvantage because in the real world, time available to solve a problem is very narrow and the classical machine learning models even though take less time to train a model but the amount of time taken to feature engineer the data is very high.

C. Neural Network model

A neural network is basically inspired by how neurons in our brain work to send signals to each other to do a particular work. A set of neurons are interconnected in such a way that the output of a neuron will be an input to the other neurons. In a neural network, we don't need domain expertise to do feature engineering as the model engineers the new features by itself by taking raw data as input and the accuracy achieved is similar to the output accuracy achieved using classical ML models with feature engineering [5].

The performance of the models are compared using two types of data, one with feature engineering done by domain experts and another without any domain expert but using an only neural network to build a model, and then compare the performance of the models using Confusion matrix and Accuracy as performance matrix. The paper is organized as follows: Section II gives a view of related works pertaining to the subject of study. Data set creation details are given in Section III. Section IV deals with the methodology followed whereas Section V describes the various outputs obtained after the study. SECTION VI gives the conclusion of the study.

II.RELATED WORKS

The field of Artificial Intelligence is gaining popularity as the utilization and implementation factors have increased exponentially. M. B. Holteet.al [6] have discussed the human recognition activity through multi-view video and the recent developments in the domain. K. Charalampous and A. Gasteratos [7] have given insight about online deep learning methods which can be a better aid in action recognition. Since not much emphasis is given on model building with and without feature engineering the current work is carried out.

III. DATASET DESCRIPTION

These experiments were conducted for a group of 30 volunteers between the ages of 19 to 48 years. Everyone wears a smartphone on the waist (Samsung Galaxy S II) for six activities (Walking, Walking upstairs, Walking downstairs, Standing, Sitting, Laying). Using its embedded accelerometer and gyroscope[8], we capture 3-axis acceleration and 3-axis angular velocity at a constant rate of 50 Hz. Data has been manually tagged by video recording experiments [9]. The obtained data sets were randomly divided into two groups, of which 70% of the volunteers were selected to generate training data and 30% of test data.
The sensor signals (accelerometer and gyroscope) were pre-processed by applying a noise filter and then sampled in a fixed width sliding window (128 readings/window) of 2.56 seconds and 50% overlap. The sensor acceleration signal has a gravity and body motion component that is separated into body acceleration and gravity using a Butterworth low pass filter. It is assumed that gravity has only a low-frequency component, so a filter having a cutoff frequency of 0.3 Hz is used. From each window, the feature vector is obtained by calculating variables from the time domain and the frequency domain.

The raw features that were taken:
body_acc_x, body_acc_y, body_acc_z, body_gyro_x, body_gyro_y, body_gyro_z
total_acc_x, total_acc_y, total_acc_z

These are the engineered features by the domain expert using raw features:
mean(): Mean value, ***std()***: Standard deviation, ***mad()***: Median absolute deviation, ***max()***: Largest value in array, ***min()***: Smallest value in array, ***sma()***: Signal magnitude area, ***energy()***: Energy measure. Sum of the squares divided by the number of values, ***iqr()***: Interquartile range, ***entropy()***: Signal entropy, ***arCoeff()***: Autorregresion coefficients with Burg order equal to 4, ***correlation()***: correlation coefficient between two signals, ***maxInds()***: index of the frequency component with largest magnitude, ***meanFreq()***: Weighted average of the frequency components to obtain a mean frequency, ***skewness()***: skewness of the frequency domain signal, ***kurtosis()***: kurtosis of the frequency domain signal, ***bandsEnergy()***: Energy of a frequency interval within the 64 bins of the FFT of each window [10],***angle()***: Angle between to vectors.

IV. METHODOLOGY

The model's performance was analyzed on both features and non-featurized data sets.
In the first step, we build classical machine learning models with both raw and featurized data. The results were noted down for each linear, non-linear and tree-based models with both the data sets.
In the second step, we build deep learning model (LSTM) with raw data to see how the model performs in a neural network without taking feature engineered data.

V. RESULTS AND DISCUSSION

The various results obtained after model building and testing its efficiency is presented as below:

Step 1: The Human Action Data is being collected from UCI

which provides open source data. The data is in two formats a) Raw data b) Feature engineered data.

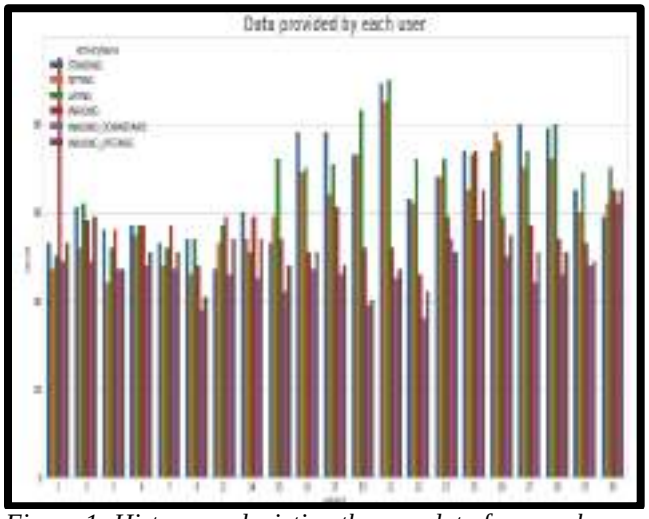

Figure 1: Histogram depicting the raw data from each user

Step 2: Raw data contains only the data which is not featured by a domain expert and thus hard to classify its activity. We have used TSNE(dimensionality reduction technique) to reduce the dimensionality of the data to see whether the data is separable or not and we can clearly interpret that the activities are hard to classify by seeing the TSNE plots and similarly we also applied TSNE on the featured data and saw that we can interpret most of the classes clearly which are separable from each other.

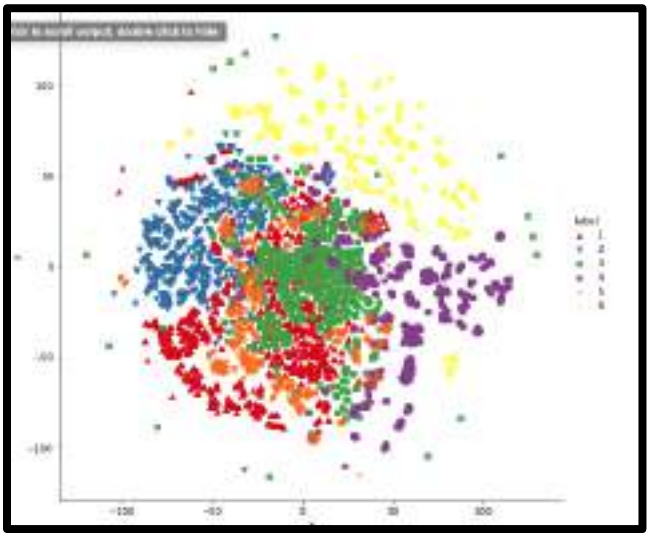

Figure 2: Image showing that there is no good separation of each class in raw data

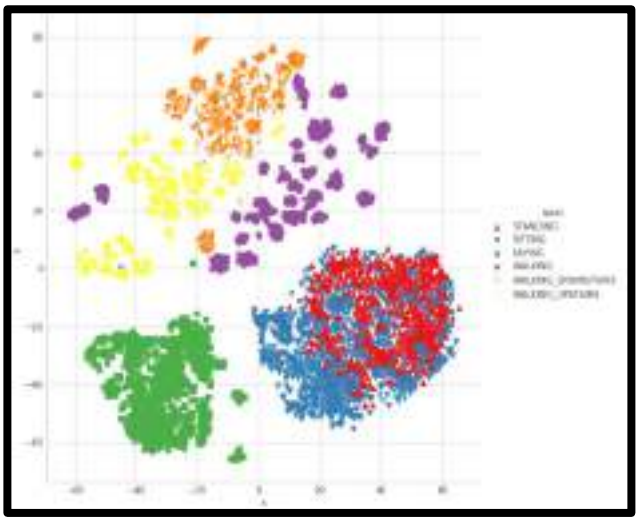

Figure 3: Image showing that there is good separation of each class after feature engineering of raw data

Step 3: We implemented classical machine learning algorithms with raw data to see how well the model is being trained. In the table, we can see that the accuracy is approximately 50% for various classification models algorithms.

Accuracy without feature engineering of data

Algorithm	Accuracy
Logistic Regression	55.01
Linear SVC	53.51
Decision Tree	51.68
Random Forest	49
Gradient Boosting	51.92

Step 4: To improve the accuracy, we tried using the feature engineered data which was done by the domain experts. The accuracy has been drastically improved as seen in the table. The best accuracy was around 96% for the model with the classical machine learning model.

Accuracy after feature engineering of data

Algorithm	Accuracy
Logistic Regression	96.27
Linear SVC	96.61
Decision Tree	86.43
Random Forest	91.31
Gradient Boosting	91.31

Step5: We tried reaching the accuracy of around

96%without feature engineering and only by using the raw data. As the data is a Time series data, using LSTM technique was the best. We experimented using one hidden layer and two hidden layered neural network with parameter tuning of the hidden layers and dropout rate, and got an accuracy of 91% in two hidden layer LSTM model.

Accuracy using Neural Network(LSTM) without feature engineering

Number of hidden layer	Test Score
1	0.8396
2	0.9101

VI. CONCLUSION

From the above experiment, it is seen that with raw data it is difficult to train a classical machine learning model when the problem is complex and hence domain expert is needed to generate new features which would be useful to build a better performing model. When we need to solve a complex machine learning problem we can use a neural network as a model training technique which would give accuracy similar to the classical machine learning model with feature engineering. Even though training a neural network model is time-consuming but it is comparatively less when a domain expert takes time to understand the data and generate new features which might or might not be useful for training a machine. Training a machine using the neural network is a better option when we don't want to interpret the output predicted and if the output needs to be interpreted then domain knowledge and classical machine learning model is a better option.

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A Comparative Study of Enabling Technologies for Autonomous Vehicles

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Abstract- Autonomous driving technology is an upcoming and fast developing, and a future business booster in the automotive, smart cities, transportation, and other related sectors. The better usage of the concepts such as Artificial Intelligence and Machine learning in the field of automotive industry is a promising one. Certain automobile companies are investing billions of money on research and development of self-driving vehicles. In this paper the author broadly discuss about the autonomous vehicles and their working functionalities, adding to that, the pros and cons of LiDAR technology behind every autonomous vehicles. This paper also throws light on other enabling technology such as GPS, Video Camera, Radar, Position Estimator and Distance Sensors and compare with LiDAR technology.

Keywords: Autonomous Vehicles, self-driving vehicles, LiDAR, GPS, Video Camera, Position Estimator, Distance sensors.

I. INTRODUCTION

The invention of the real autonomous vehicle goes back to 1926. A radio-controlled car devised by Francis Houdini which he drives without anyone at the steering wheel. This was published by New York Times. This car was controlled by radio to start engine, gear change, and horn. John McCarthy, father of Artificial Intelligence in 1969, called "Computer Controlled Cars" capable of navigating a public road via television camera input.

In 1990, Dean PomerleaufromCarnigieMellon University(CMU) explains how neural networks are used to self-drive a car by taking raw images from road and send steering signals in real time.Pomerleau again in 1995 take their autonomous car on the road and travels over 2000 miles in coastal region of US. Then inthe year 2000 sensor technology accompanies autonomous vehicle technology to assist the parking of the vehicle.Over the world each year it has been recorded that 1.2 million lives are lost, and 90% due to human mistakes. Humans are more used to have their own control on the vehicle over the machine control. Now a days people are being familiar by the idea of the vehicle taking over the driving task like automatic emergency decelerate.

Later several locomotive companies started research to improve self driving cars further in that Toyota, Lexus and BMW are prominent. Google ventures into the autonomous vehicle and its project Waymo initiated in 2009 at Stanford Artificial Intelligence laboratory. By the end of 2014 Google announced that their car driven 300,000 miles under computer control with no single accident. From then major automotive companies like GM, Ford, Benz, BMW and others are working hard to launch their autonomous cars in the near future [1].

Photo credit Wikimedia Commons

Figure1: Autonomous car,1925

The concept of Autonomous Vehicle (AV) is part of robotic technology that uses several sensors for sensing the surroundings. A model called sense-plan-act combination of sensors such as LIDAR (Light Detecting and Ranging) along with GPS, Video Camera, and Radar [2].

Implementation of AV's is a challenging one because decision making must be very fast in severe conditions, infrastructures to facilitate the movement of AV's, communicating with other co-vehicles, the expectation that the AV's will perform better or equal with respect to the existing vehicles,environmental aspects[3]. The cost of these cars would likely not affordable to common people, price might be in the range of Rs. 7000000. If a car crash occurs legal process is a tough task. The AV's relay on information of users and locations would be a major security concerns. On the other side accidents can be minimized, traffic coordination and parking would be easy. The people like disabled, old aged and very young can travel freely. Speed

limits can be varied depending on the traffic; sensor technology works better than human, drastically reduces theft of car [4].

Over the last 10 years a rigorous notifiable developments have been made and many technologies are used in AV's such as Sensor technologies, Graphical Processing, GPS, Radar, LiDAR and many other. Off late the advances in the deep learning are well utilized for the purpose. The concepts like Transfer Learning, which is used for thepurpose of detecting objects and its changes for autonomous navigation by a vehicle in real-time. Deep learning is used to detect and classify the traffic lights and lane.GPS system helps in identifying car position and navigation. Various kinds of sensors are used, like LIDAR, which measures the distance to the target [5].

II. WORKING FUNCTIONALITIES

Certain functionalities are used in AV'sthatdetects the position of the vehicle itself and position of other vehicles nearby,edges of the road, lanes, traffic lights. Apart from these altering thesteering,acceleration and braking,in conjunction of various systems together are used to control the driverless car.

*RADAR:*The position of the vehicle nearby can be identified by RADAR sensing technique. The Radar operates in any weather conditions and it can pierce through any objects. A set of radars are used to work in different directions whereas human driver look only in one direction. Obviously it is better than a human.

Figure 2. Different enabling technologies of Autonomous Vehicle

VIDEO CAMERA: These are basicallyused for reading the different signals such as brake lights of other pass by vehicles, traffic lights, the road signals; detect color of the signal, current speed limit used for detecting objects. The cameras upload footages to on board computer and the computer employs different algorithms to paint the picture of the vehicle. These processes are done at real time to draw important reading and also the movement of the car is controlled [9].

*LiDAR:*It is abbreviated as "Light Detection and Ranging", developed in 1970, an important core hardware technology of driverless car. First used at National Centre for Atmospheric Research,used to measure clouds. It is a distance Sensor and uses light signal to gauge the objects surrounding the vehicle a number of times in quick succession to generate physicalcharacteristics. The light sensor continuously encounters the laser pulses at 150,000 pulses per secondby a target object and it bounce back to another sensor thatcalculates the time takenfor the pulse return. A 3D map of the target object and its surface features will give result. The followingcopywriter picture shows the different components of LIDARSystem that work in tandem for a common goal [11]. This consists of a laser, scanner and optics and a specialized GPS receiver, are very much vital for the movement of the system.

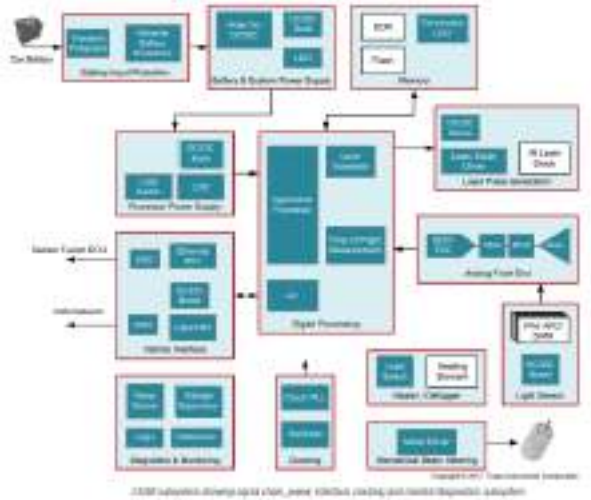

Figure 3. Components of LiDAR Sensor

Presently, there are different companies are using the LIDAR Technology, out of that Google and Uber are basic users. Google is particularly used to detect pedestrians and cyclists, traffic signs and other nearby objects.

*GPS:*These devices again very important for the navigation of un-manned vehicles. They provide HD 3D street maps and deliver large-scale of geographic terrain. Under a single-path condition, a robust GPS device would not only help in millimeter-accurate positioning and data correction, it would also mitigate the risk of spoofing and other vulnerabilities, such as radio interference and terrain-related blockages which means that malicious entities won't be able to intercept and tamper with GPS signals [12].The advances in the area of positioning and sensor technology have tremendously coined to provide reliability for self-driving vehicles. GNSS or GPS, High precision Global Navigation

Satellite system that is capable of providing decimeter-levelaccuracy to ensure a vehicle stays in its lane, or a safe distance from other vehicles [13].

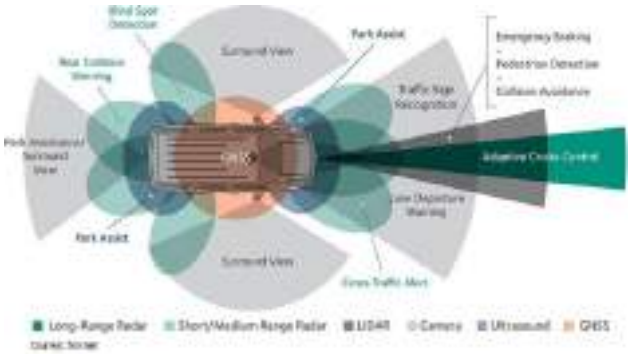

Figure 4: Shows the different technologies used and their application in the Autonomous Vehicles

POSITION ESTIMATOR: It is used to estimate how fast the vehicle is moving, and is implemented in Google car as an example on the left rear wheel and monitors the wheel motions. It is to detect the RPMs of the car, speed, which helps to know a more accurate position of the car [14].

III. PROS AND CONS OF LIDAR

As we gone through LiDAR have many merits as compared to demerits. It is used not only in automotive industry but also construction industry. This is a sensing technology gathers data very quickly and accurately as a result of positional advantage. It gives much higher surface density as compared to other methods. It has high penetrative abilities in densely forested area. Can be used at nights, no geometrical distortion, can analyze complex data automatically, very minimum human dependency, not affected by extreme weather.

On the Cons side, LiDAR, can be expensive and may be affected by heavy rain or hanging clouds, high sun angles or huge reflections. Unreliable in the areas of uneven water surfaces, huge datasets that require high degree of analysis and interpretation.Does not have a proper standards. Laser beams used by LiDAR pulses are usually powerful in some instances and these may affect the human eyes [16].

IV. CONCLUSION

Although the technology will essentially eliminate the need for humans to drivevehicles, bring ahostof new infrastructure challenges and pose wider societal questions. There is always a saying that when a new innovation comes to market it reduces the number of jobs. However, this is not going to happen because it requires lot of skilled people required and jobs will be created.

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A Novel Approach on Tech Solutions to Mitigate Big Data Security Threats

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Abstract— Big Data is the buzz word today. Numerous projects centering big data are booming. It hides in itself vital information which if unearthed would provide great insights into various areas. The growing need of this data is complicating security. Handling big data projects is a challenging task. To prevent a potentially disastrous data breach, big data security should be considered seriously. To prevent security issues, some simple steps should be implemented. It can be done with best practices and internal controls, like protecting against *NoSQL Injection* points. These points provide a way for attackers to access Big Data. This paper discusses the various big data security threats and different innovative Tech solutions to meet many of the security concerns hindering the Big Data persistence, analysis and presentation.

Keywords— *Big Data, Big data security threats, Data Security, SQL injection, NoSQL injection.*

I. INTRODUCTION

The Big data is mainly evolved from any kind of source that consists of huge volumes, velocity and various variety of data. It helps to gather, collect and store the information, manages and analyze, with vast amount of data with proper speed and right time. In terms of complex, and noisy data big data helps to handle in an efficient way. To handle such huge amount of data it has become a great challenge. The big data analytics helps the companies to analyze many types of data such as structured , unstructured in terms of streaming data and also the combination of both that is semi-structured data. Big data has made valuable changes in the industry in areas like health care, finance, banking fraud detection, credit management etc, to provide faster, proper valuable services due to which the government sectors started focusing. IT owns the raw data and business units started taking the responsibility to provide valuable ownership. To classify the information is even more critical. For big data owners always security breach will become major issue.

The paper is described as follows. Importance of bid data are discussed in section I, The important challenges are given in Section II, In section III security issues are discussed, followed with existing methods and tech solutions of big data in section IV. Finally the paper is concluded with some solutions in section V.

II. CHALLENGES IN BIG DATA SECURITY

The various important challenges related to Big data security are discussed below:

A) Big data security challenges related to characteristics:

Fig-1: Big Data security challenges

Data Volume: The Volume of Big data is increasing every nanosecond. The main source which is generating a large volume of data is social media. The data is generated from Petabytes to Zeta bytes. It is very hard to maintain such large data.

Data Variety: Since the data generated in big data includes structured, semi-structured and unstructured data (which can be in any format i.e. audio, video, text images, etc.), it increases data complexity.

Data Velocity: There is a large amount of data that is coming in and out of a system with a very high speed. There is no exact technology that can deal with this data overflow.

Regulatory requirements: It is very important that the data which is stored as big data is problem specific and goal oriented. As supervised learning requires accurate data to infer correct results, failing to which it may lead to inaccurate results.

Data Veracity: Random data, Uncertain input data and approximate modelling lead to data veracity challenge.

Application Specific Security: Many users access the same application without having proper authentication to it, causing security threat to the application.

Framework Specific security: Providing the required framework for all the data is not an easy task. As each and every task requires an independent framework

Security for data during rest, processing, presentation: Big data includes private data which has to be secured during rest, processing and presentation which is again a difficult task because of its large volume.

B)Technical Challenges

Big data in today's world combines the rapid increase usage various types of data from different sources which is characterized into many forms. Due to this privacy and security are the major problems to deal with. RDBMS will not support to handle such streaming data because it is structured. NOSQL databases gives a proper method to deal with streaming data. It also helps for storage and retrieval purpose. The NOSQL databases are characterized into four types. 1. Key-valued, 2. Document Oriented, 3.Graph oriented and 4. Column oriented databases. The companies depend upon their input data they use specific NOSQL database to provide insights for their companies. To handle such streaming data NOSQL data bases provide main feature called Scalability to provide great performance. Some of the challenges in terms of security are Integrity, availability, confidentiality are the important elements of security. Encryption is one of the important aspect of security. The NOSQL databases deals with BASE properties .The access controls and techniques such as attribute based encryption are important to protect the sensitive data. Big data must accept and support multiple layers of security in terms of the data which is at rest and in motion.

III. SECURITY ISSUES IN BIG DATA

Some unique security issues in Hadoop are encountered below:

1) Split Data:

The clusters of Big Data contain the data that represent the quality by allowing multiple copies transferring from one node to another which ensures redundancy and resiliency. The split data is available to share across multiple servers. Due to the absence of security model fragmentation leads to security issue.

2) *Distributed Computing*:

The data is distributed over the cluster of nodes. At any instant the data is available. To deal with huge amount of parallel computation the environment is complicated created with risks of attacks. These risks enable more security issues.

3) *Data Admittance*:

Majority of the companies generate sensitive information. There is a risk of unauthorized access to physical and logical systems. Access control is the important component that ensures security. At the first stage itself the data is addressed in terms of access related scenarios.

4) Communication in the large cluster:

As the data is distributed in large cluster of nodes a major concern of Hadoop occurs. They don't implement proper secure communication between node - to- node. This leads a major security issue.

5) Communication and Interaction with Client:

The client communicates with the resource manager and data nodes. There should be an efficient communication between Client and data nodes. Managing the protected nodes from clients and Name servers is difficult. There is a chance to propagate harmful data in terms of client.

6) SQL Injection

Database security is a vital aspect of protecting the information. To access companies data attackers have control over the data. The SQL injection attacks adds harmful data into the database layer through various statements. The attackers can access, alter, delete and insert all the unofficial data. The SQL injection declines over the years due to good frame works. The SQL injection also allows the attackers to take off user's identity, alter with existing data cause

Some issues such as negating transactions allow the whole data on the system. It also destroy the data to make it otherwise unavailable. It becomes main administrators of the database server.

The script below is executed on a web server. To authenticate with a username and password this script is a good example. The example database has a table named users with the following columns:


```
# Define POST variables
uname = request.POST['uname']
pwd = request.POST['pword']
# SQL query vulnerable to SQLi
sql = "SELECT id FROM users WHERE uname='" + uname + "' AND pword='" + pwd + "'"
# Execute the SQL statement
database.execute(sql)
```

These input fields are vulnerable to SQL Injection. An attacker could use SQL commands in the input in a way that would alter the SQL statement executed by the database server. For example, they could use a trick involving a single quote and set the pwd field to:

```
pword' OR 1=1
```

As a result, the database server runs the following SQL query:

```
SELECT id FROM users WHERE uname='uname' AND pword='pword' OR 1=1'
```

*7. **NOSQL Injection:***

NOSQL databases handles the streaming data. To deal with the data of this kind security is the major issue. The databases are challenged in terms of encryption, proper support and some fine grained permission. Due to this there are chances of unsafe network and attacks. There are different NOSQL databases to handle such attacks. These databases use various query languages .These are immune to injections. Security challenges are improved . Many applications and services use NOSQL databases mainly to store the user's data. The access is provided to database via driver. A driver is a protocol wrapper which gives libraries to access multiple languages. Some times the drivers itself are not secure enough to handle such data. The attackers can boat a web access request with an injection.

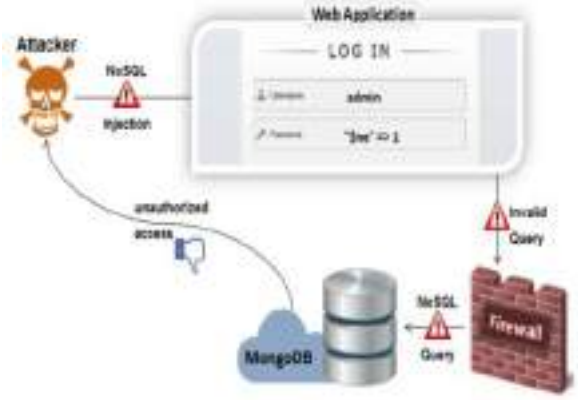

Fig-2: NoSQL Attack Vectors:

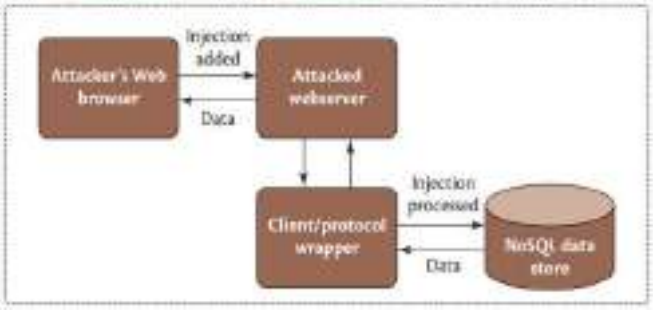

Fig-3. A Typical Web application architecture.

IV. PROPOSED SECURITY SOLUTIONS FOR BIG DATA

Huge data sets dealing with parallel computations and input data from various sources are supported by Hadoop framework . The framework supports all types of data in terms variety, velocity and volume which is aggregated as structured, unstructured and semi structured data. The enterprises should access security to data to extract maximum value in terms of analytics. To deal with such data there is high risk . The insightful data is exposed. To initiate big data and get the solution to give security of the sensitive data enables analytics for good insights. The following are some requirements for the solution:

a. To secure this data in big data systems and give access control to data protection by monitoring all the details.
b. To guard the data and to maintain for accurate analytics in its encrypted form.
c. To present mass layer encryption to progress security and to enable clusters of data to scale up accordingly.
d. To control security tools NOSQL clusters are built
e. According to business requirements the business is scaled up. The solutions are architecture to improve the growth of business.
f. The protection should be given to users from complexity of security.
g. The solutions in terms of data protection need to work independent of complex reengineering dealing with environments of IT.
h. Cloud technology is utilized to give protection of data.

4.1 *Security models:*

A) Data De-Identification Model

At initial level the data should be de-identified. Across the country many government agencies share the dataset of information to analyze the data for emerging risks. During the production itself data is protected. There should be a steady encrypt and decrypt operations. This model can counteract the data breaches by portraying the data which has no value. The important techniques used in data-identification model a tokenization, encryption and data masking.

B) Unique Approach to Security

This approach towards the security gives a method to deal with protection of the data. Where ever the data goes the protection is provided. The security is mainly focused on infrastructure elements mainly servers, networks and databases. This method handles the data at risk. In case of any breach the actual data is exposed in the event. The data centric security approach is mainly used to capture the data protection by an application making the data which is not used to attackers. This approach gives the protection at the stages of rest, motion etc. The data can be unmasked by proper users who are authorized based on their need. The access is highly controlled with proper management.

C) Walled Garden Model

This model specifies covering the security into the application.

The main purpose of this model is to place the group of systems into its own network. It is done by accessing through various techniques like firewalls and also controlled access. It gives proper security for the cluster by giving security. The demerit of this model is it does not provide the means to prevent the user credentials from misuse .The users cannot view the modified data which is stored in various systems.

D) Jujutsu Security

This security is originated from the martial art method. It represents manipulating the opposite person energy against himself instead of fighting with the enemy. The bigdata handling vast amounts of variety data relies on the capability to design and apply a specific engine which is dynamic that recommends the insightful data in the system. The Jujutsu security model helps to design Big data security in an efficient way.

4.2 Tech Solutions for the Big Data Safety & Security:

The major issue, tackled by big data analytics with respect to data protection sight is ensuring the data security and its confidentiality. Big Data analytics will provide the deep and helpful insights from the data, but its major concern in this process is protecting privacy of sensitive information against data breaches as it holds huge amount of private data. Data breaching may affect in much more critical way and lead to disturbing consequences than we expect and see usually. Thus, there is a crucial need for robust Tech solutions to protect data from all above security breaches.

Big data Security – Best Practices to avoid security issues

1. ***Vetting cloud service providers:***
   If your big data is stored in the cloud, you must assure that your provider has adequate shield mechanism in place. Ensure that the provider does periodic safety audits and agree on consequence in the situation when sufficient security principles are not met.
2. ***Safeguard your data:***
   It is very vital to guard both your data that is raw data and the upshot from analytics. To ensure no key data is seeped out, encryption should be used consequently.
3. ***Adequate access control policy:***
   Strategies should be made such that they allow access to endorsed users only. This will prevent unofficial access to data from both internal and external sources.
4. ***Network protection:***
   Sufficient security can be provided for the data getting transmitted via network to guarantee secrecy and reliability.
5. ***Real-time security control:***
   A supervised control on the data access is very much needed. Threat intelligence can be used to avoid unofficial data access.

Some of the Tech solutions are discussed below:

1. ***SQL Injection Mitigation****:*
   We can mitigate or avoid the SQL injection occurrences by using input data authentication and parameterized query statements. We should avoid the direct input in the application coding. The programmer should filter all inputs, along with web page input forms like login pages. We should remove vulnerable code elements like single quotes and etc. Fair idea is to hide visibility of DB errors. SQL Injection can make use of database bugs to gain details regarding your database.

a) SQL query statements with parameters:-- PreparedStatement object

Parameterized SQL statements can strongly mitigate the security attack. Runtime query statements fails to distinguish among program code and data. SQL statements with runtime parameters allow programmers to execute static SQL query by passing external parameters as input to the query. In this process, the SQL interpreter constantly distinguishes application code and data.

a*uthenticate()* method using a runtime parameters feature is as below:-Prepared Statement object

```
Public Boolean authenticate (String name, String pass)
{

}

PreparedStatement param;

String sql = "SELECT name FROM user WHERE name = ? AND passwd =? ";

param = this.conn.prepareStatement(sql);

param.setString(1, name);

param.setString(2, pass);

ResultSet results = param.executeQuery();

return results.first();

}
```

Fig-4: Example of PreparedStatement

Irrespective of input from the user, dynamic parameters *name* and *pass* won't influence the actions of the

sql statement. Merely using *PreparedStatement* object only can't resist SQL injection attacks. It supposed to be patched all along with parameterization aspect ("?") for all dynamic parameters. Usage of *PreparedStatement* object alone cannot serve the purpose if we are not using parameterization.

b) Stored procedures:

These well defined and stored chunks of SQL statements are triggered by the application code. Programmers design and write SQL query statements with automatic dynamic parameters. It's feasible for a programmer to write dynamic SQL query statements within stored procedures.

c) Input validation:

A usual resource for SQL injection is malicious intended external input. Off course, at all times it is an excellent coding standard to only allow permitted data input via input validations like blacklist validation technique and whitelist validation method. Blacklist validation checks the user input data with a set of recognized suspectable or intended inputs. A program enlists all possible indented data inputs, and then verifies and validates the user data input aligned with the prepared list. But, an attacker can easily escape from the Blacklist validation techniques by applying an alternative malicious data input which not part of the programmer's prepared list.

Whitelisting could be a far better technique to mitigate the SQL injection risk. Whitelist technique checks user data input against a set of well-known, authorized input. In this validation, the program knows clearly what is correct and incorrect input values. So it rejects the malicious input.

d) Principle of least privilege:

This is a typical safety measure which assists to lessen the possible loss of a triumphant attack. Program shouldn't allow or give DBA or admin grants or permission upon the DB server. Furthermore, based on requirement necessities, privileges can be allotted. For example, One need read permission are only granted read access to the table. This ensures that if an application is compromised, an attacker won't have the rights to the database through the compromised application.

2. NOSQL Injection Mitigation:

Mitigating security risks in NoSQL deployments is significant in light of the attack vectors. Let's examine a few suggestions for each of the threats:

1. Prepared statements should be used instead of building dynamic queries using string concatenation. Strong JSON structure queries
2. ***Input Validation:*** Validate inputs to detect malicious values.
3. ***Principle of least privilege:*** To minimize the potential damage of a successful injection attack, do not assign DBA or admin type access rights to your application. Similarly reduce the privileges of the operating system account that the database process runs under.

4. Security scanning to prevent injections

In order to mitigate injection attacks it is suggested to use out of the box programming tools while building queries. For JSON queries such as in MongoDB and CouchDB almost all languages have good native encoding which will finish the injection risk. It is also advised to run Dynamic Application Security Testing (DAST) and static code analysis on the application in order to find any injection vulnerabilities upon not incorporating coding guidelines. The problem is that most of the tools in the market today still lack methods for detecting NoSQL injections. DAST methodology is considered more reliable than static analysis, particularly if used in combination with some backend inspection technology that improves detection reliability, a methodology referred to as Interactive Application Security Testing (IAST).

5. Access Control and Prevention of Privilege Escalation

Earlier NoSQL did not support proper validation and role management, but today it is possible to manage proper validation and RBAC authorization on most popular NoSQL databases. Utilizing these methods is significant for two reasons. First, they allow enforcing the principle of least privilege thus preventing privilege escalation attacks by genuine users. Second, similarly to SQL injection attacks, proper privilege isolation allows to lessen the damage in case of data store exposure via the above portrayed injections.

V.CONCLUSION

Big data industry is rapidly developed. The evolution of technology and the innovation in applications are advanced with the increasing speed. With this rapid development new forms of data storage, distributed and parallel computing developed. Big data security should be considered seriously and appropriate measures must be taken to prevent a disastrous data breach. The challenges in security should be handled with well-organized tools and policies which help to protect the applications. In this paper we have enlisted all the security models to ensure the data security. Providing robust security model in dynamic big data environment is crucial and long way to go but understanding the existing security models is helpful to design secure systems. We made effort to discuss the possible best practices and tech solutions to mitigate prominent security issues like Data Admittance, SQL Injection, NOSQL Injection and etc.

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An Approach for BOT NET in Data Mining

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***Abstract*—** In this research work, we are trying to focus the need of protecting the big amount of data using BOT NET. Here data mining means extracting some important data from the information house. The data mining process results in instances and learning whereas the coal or valuable stone mining result in coal or jewel.

***Keywords*—** BOT NET, Ad Fraud, Methbot, botmaster

I. INTRODUCTION

Nowadays big data is a bandwagon theme in every IT sphere. The data developers are increasing continuously and the numbers will be effective by 2020. According to a study, 1.7 megabytes of data are acquainted to everyone every second. 94% of the Hadoop users accomplish logical data which was not done earlier. Besides, 88% of users examine data on big level and 82% of users continue with their data. There will be more content in 2020 than 2009 [1]. According to a study published by IDC Digital Universe, 1.8 zeta bytes of data was produced in 2011. In US the tweet users tweet for three times in a minute. It can also be added that 2.7 zeta Bytes of content occur in digital world till date [2]. The US library gathered 235 Terabytes of content in 2011 and $200 million was invested in the big data assignments by the administration dept. of Obama's Government. According to a study analysis of IDC, by the year 2020 the business between B-B and B-C will compute to 450 billion per day. Facebook amasses, attains and examines 30+ petabytes of data collected by the user. Walmart manages about 1 million client's exchange every hour. Besides, 5 billion users are engaged in calls, messages, tweet etc. worldwide. Earlier it used to take ten years to decode the human genome earlier but nowadays the technology enables it in a week. Approx. 20000 tera bytes was managed by Google in 2008 [3][4]. The largest AT&T record claims names which include leading volume of data in a single record and the succeeding greater statistics of line in an individual file is 1.9 trillion which constitutes AT&T's widespread named index.

II. DATA MINING

Generally, mining means extracting some important things under the ground for instance gold mining, valuable stone mining etc[5]. The Data Mining is also named as Knowledge Discovery or Knowledge Extraction. At present data extracting is employed in such locations where there is plenty of data is processed.

III. PURPOSE OF DATA MINING

Data extracting is the computation procedure of splitting the data from lines, extents etc. to important information. Information extraction can be linked to any kind of data, for instance, data warehouse, operational database, interactive information and also the World Wide Web[6].

IV. DATA MINING AS A WHOLE METHOD

The complete method of information extraction is based on the three underlying principles:

i) Data Pre-processing- It consists the changes done.
ii) Data Extraction-Outburst of the data extraction.
iii) Data Evolution-It consists results after the process.

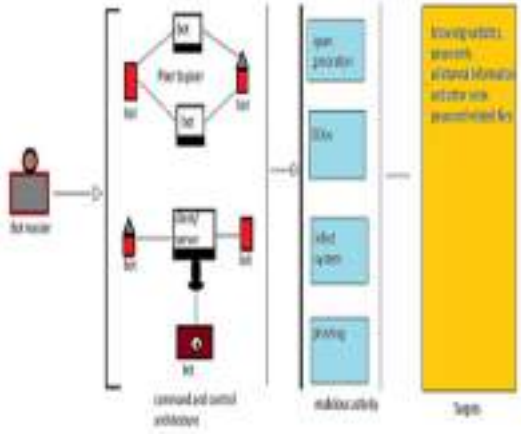

Figure 1: Basic of BOTNET

V. HOW BOTNETS WORK

The botnet malware usually seek susceptible expedients through the cyberspace, instead of pointing distinct sole, firms or businesses. To blight number of linked expedients and practice the calculating control can be the prime objective for developing a botnet and means of the machines for mechanized chores which usually continue not seen by the operators of the machines [7]. To cite an example, an invalid traffic botnet which corrupts an operator's system will affiliate the system's internet service providers to distract deceitful transit to firm web based commercial. Even though, to remain hidden, the botnet will not oversee the network users, that will alert the operator. On the other hand, the botnet may employ a lesser share of the portal's procedures, sometimes operating in the backdrop, propelling a scarcely obvious expanse of movement from the corrupted machine towards the embattled advertisements. Such information measure segments will not accord to the cyberthugs operating advertisement deceit drive [8]. Even though, botnet which links heaps of expedients will produce an immense volume of forged transit for advertisement fraudulent. On the other hand, it also evade a particular's exposure by means of mechanism. What you require to be vigilant of is the illegitimate and nasty botnets [9]. What happens is that botnets receive contact to your device through some piece of nasty coding. In some cases, your device is straightway hacked, while other times what is identified as a "spider" (a database that moves the Internet searching for holes in security to utilize) does the hacking mechanically.

VI. BOTNET ARCHITECTURE

The other method to monitoring corrupted bots includes a P2P web. Rather than employing Command and Control servers, a P2P botnet depends on a distributed method. Corrupted machines can be encoded in the form of an image for malevolent web, or as well as other machines in the similar botnet [10]. The bots later segment efficient instructions or the botnet malicious software's modern forms. The P2P method is a known method , as cyberthugs and hacker clusters attempt evading exposure in the form of cyber security dealers , regulation implementation organizations, that has applied Command-and Control transmissions by the means of screen , trace and interrupt botnet tasks.

VII. BOTNET INVASION

Apart from DDoS strikes, botmasters also use botnets for additional nasty objectives.

a. Ad Fraud
Cybercriminals can employ the collective working strength of botnets to course deceitful strategies. For instance, botmasters form ad fraud strategies by instructing number of corrupted machines to stay deceitful websites and "click" on ads marked there. For every click, the hacker then receives a share of the promoting fees.

b. Selling and Renting Botnets
Botnets can even be traded on the internet. After corrupting number of machines, botmasters search for other cybercriminals fascinated in employing them to spread malware. Botnet buyers then exhibit cyber-attacks, spread ransomware, or take away particular information. Regulations immediate botnets and cybercrime endures to develop [11]. As botnets become greater intimidations to internet infrastructure, communications systems, and electrical grids, users should confirm their machines are effectively secured from corruptness. It's likely cyber regulations will initiate to grasp operators more liable for crimes committed by their own machines [12].

c. Client-server model
The client-server botnet organization is set up like a simple system with one key server governing the communication of data from each client. The botmaster employs distinct software to start command and control (C&C) servers to transmit commands to each client machines [13]. While the client-server model functions better for captivating and sustaining control over the botnet, it has numerous sides: it's comparatively simple for regulation implementation authority to setting of the C&C server, and it has only one mechanism element. Put an end to the server, and the botnet is at rest.

d. Peer-to-peer
Rather than depending on one integrated C&C server, fresh botnets have developed to employ the other interlinked peer-to-peer (P2P) structure [14]. In a P2P botnet, each corrupted machine works as a client and a server. Individual bots have a list of other corrupted machine and will look for updation and to communicate data between them. P2P botnet organizations make it firmer for regulation implementation to trace any integrated source. The deficiency of a single C&C server also makes P2P botnets firmer to interfere. Like the mythological Hydra, cutting off the head won't kill the beast. It has many others to retain it active.

e. Methbot
Methbot drive is operated continuously about 800 to 1200 active assistants in information stores in the U.S. and the Netherlands. 6000 betrayed spheres and about 850,000 active Internet Protocol addresses can be observed in the drive's functional organization, and many of which are deceitfully listed which seem to be related to certain U.S.. based ISPs. The corrupted assistants are able to create bogus connects and mouse operations, and fabricate social media account

logins to perform genuine operators for duping traditional advertisement fake recognition methods [15].

f. Don't click on apprehensive links

Links to spiteful websites are general infection keys, so evade connecting them devoid of analysis. Drift your pointer over the hypertext and check to see where the URL really goes. Spiteful links like to stay in message boards, YouTube comments, pop up ads, and the like.

g. Get Antivirus Software

Getting antivirus software is the apt method to evade and eradicate botnets. Look for antivirus security that's planned to shield all of your machines, not just your computer. Remember, botnets go stealthily in all types of machines, so opt software which is ample in scope. With the Internet of Things increasing, so too does the prospective for botnet dimension and strength. Regulations will ultimately alter to grasp operators more accountable for the movements of their machines. Taking defensive deed now will shield your identity, data, and devices.

VIII. CONCLUSION

As botnet malicious software has turned into an intricate process and media is localized. More attention is paid to various other methods from Command and Control organizations. Recognizing and eliminating botnet malicious disrupt software at the source machines are the part of such methods. Interrupting botnet invasions has been complex due to the birth of malicious software Mirai which targets networking device like routers and IoT machines which have feeble and default password and can easily be tacked. Besides, operators may not be able to alter the passwords for many IoT devices, later it leads to expose to attacks. If the creator is unable to modernize the gadget's set of instructions programmed on hardware device, to cover them or alter their complex keys, later a factory recall of the corrupted gadgets are to be performed.

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An Approach for BOT NET in Data mining

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Ascertaining Human Emotions using Blue Eyes Technology

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***Abstract*—** Blue eyes technology aims to create computational machines which can sense and understand human feelings and emotions. It uses camera, microphone and various sensors to recognize human actions and emotions and aid disabled people. There are many researches in this area, still they have some limitations. In this paper we have proposed on architecture for blue eyes technology which can identify human emotions through facial features and sensors such as Galvanic skin response sensor, heart pulse sensor, temperature sensor. This paper explores various image processing techniques such as noise removal, segmentation, image enhancement. Supervised classification technique such as artificial neural network with back propagation is used to predict emotions. This research involves many areas like Machine learning, Image processing and IoT.

***Keywords*—**Human Computer Interaction, Facial Expression detection, Galvanic skin response sensor.

I. INTRODUCTION

Human Computer Interaction (HCI) is a vast research field that comprises of computer science and technology with human interaction. HCI incorporates multiple technologies like cognitive science, computer science and ergonomics etc., The blue eyes technology which will be discussed in this research paper is an application of human computer interaction. It is based on the facial expression identification, heart beat sensor, temperature sensor and has perceptual and sensory abilities. It helps to commutate the machines to behave and have sensory movements just like a human being. It also gives rise to the concept of brain human interaction.

Blue eyes technology recognizes the human emotion and sensory actions using few gadgets. It helps in recording the operators conscious and their brain involvement under their physiological condition to identify their action. The blue eyes technology can use the concept of image processing techniques such as image acquisition, image enhancement, image analysis and manipulations for facial expression identifications and sensory abilities to identify the human emotions. In this research paper we are trying explore the concept of blue eyes technology and the different techniques associated with this area such as machine learning, Iot, image processing, artificial intelligence etc.,. In this paper we are trying to explore the role of blue eyes technology to predict a person's present state such as whether he is in normal condition, anxiety, happy, sad or disgust.

The article is organized as follows, section I contains the introduction of blue eyes technology, section II includes architecture of emotion prediction system, Section III contains working of galvanic skin response (GSR), section IV explains Image feature extraction, Section V describes emotion prediction by Backpropogation algorithm, section VI explains the applications of blue eyes technology and Section VII concludes the research work.

II. ARCHITECTURE OF EMOTION PREDICTION STSTEM

Blue eye technology is completely dependent to identify human action and facial interaction. The computer gathers the information of the facial expression of human using some gadgets and sensors. This technology will help the doctors to check up their patients and predict the patient's health complications. This can be done by allowing the sensors to interact and understand the person's present position. We can achieve it by using temperature sensors, body movement sensors and pulse sensors.

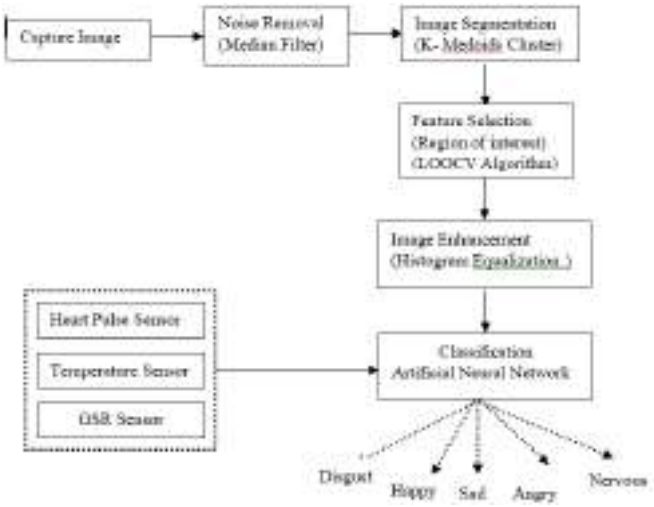

Figure 1: Architecture of Emotion Prediction System

Galvanic skin response (GSR) finds a person state by their sweat and skin moisture. GSR measures changes in sweat gland using changes in voltage. The electrodes in GSR have to be measure the changes, and need to transmit that information to the recording device. For measuring the pulse rate we can use the pulse sensor amped which is a plug and play type of device by which we know whether the person is suffering from anxiety. Heart beat sensor helps to assess the heart pulse rate. The heart beat for a normal person is 78 beats per minute. Heart beat sensor results digital signal as its output. Both sensor output and facial expressions are given as input to the classifier to predict the emotions of a person.

III. WORKING OF GSR

Galvanic Skin Response (GSR) is used to compute the continuous variations of the electrical characteristics of the skin caused due to changes in sweating in human body. Sweating is controlled by Autonomic Nervous System (ANS). The sweat gland activity increases especially when the sympathetic branch (SNS) of the ANS is induced heavily, which in turn amplifies the skin conductance and vice versa. In this way, electrical phenomenon of the skin will be active because of the human Sympathetic system responses. Such system is directly involved in the emotional behavioral regulation in human body.

The electrical skin response signal is extremely simple to record. Two electrodes need to be placed between index and middle finger of the hand, which generates a variation of a low-tension applied current in between those two electrodes. The principal behind GSR is, if sweating in human body increases, conductance of GSR also increases. The GSR sensor supplies a very less constant voltage between the electrodes. This circuit records the skin electrical phenomenon and its variation by applying Ohm's law.

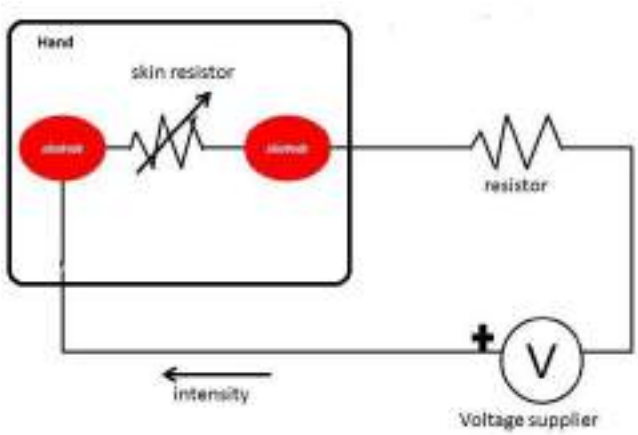

Figure 2: GSR Architecture

In figure 2, Keeping the voltage (V) as constant, the skin conductance is calculated by measuring the current flowing through the electrodes. With this setup, any fluctuation in current flow is because of changes in the electrical characteristics of the skin.

IV. FACIAL FEATURE TRACKING

Identification of facial expressions serves as a element of natural human machine interfaces. To identify facial expressions image processing techniques can be used. This section deals with feature extraction from the captured image.

a) Image preprocessing:
Image pre-processing is a technique to obtain a superior quality image by removing irrelevant parts from the images.

Resizing of the input images can be performed with the Gaussian filter which also gives the smoothness to the images. Normalization acts as a preprocessing method through which illumination can be reduced and disparity of the face images can be minimised with the median filter and to achieve an improved face image.

b) Noise removal
During image acquisition i.e., digitization and transmission noise can get into the digital image. Most of the real time scenarios, imaging sensors can be affected by environmental conditions or interferences, because of that noise are added to an image during transmission.
Let $a(x_i, y_i)$ is the actual image, $\eta(x_i, y_i)$ is the noise and $r(x_i, y_i)$ is the resultant pixel.

$$r(x_i, y_i) = a(x_i, y_i) + \eta(x_i, y_i)$$

If we can estimate the noise, we can restore the image. Median filtering may be a nonlinear technique to take away noise from images. It is extremely effective in

removing noise and protecting the edges. It is highly efficient technique to remove 'salt and pepper' sort of noise. The median filter traverses every pixel of the image, and transforms each pixel by the median of its nearest pixels. A pixel along with its neighbours is known as "window", which slides through all the pixels of the entire image.

The median of a window is calculated by arranging all the pixels belong to a window and substituting the pixel being considered with the median pixel.

c) Image Segmentation:

Image segmentation is a technique used to partition an image into many slices, where each slice has similar features. It is a critical state in image processing.

Clustering is an unsupervised learning method to group similar objects based on the principle the inter class similarity should be minimum and within the class similarity will be maximum. The similarity function is based on the distance between the pixels in the image usually Euclidian distance or Manhattan distance.

The Euclidian distance is measured using the formula,

$$d(i,j)=\sqrt{(|x_{i_1}-x_{j_1}|^2+|x_{i_2}-x_{j_2}|^2+...+|x_{i_p}-x_{j_p}|^2)}$$

K-Medoids is an unsupervised clustering method based on partitions where each cluster is denoted by one of the pixels, which work as follows.

- Partition the pixels into k-nonempty subsets.
- Compute the seed point of the cluster. Seeds / Medoids are the centrally located pixel in that cluster.
- Allocate each pixel to the cluster whose seed close to it.
- Repeat the steps until no new assignment.
- Each cluster identifies an object in the facial image.

d) Feature Selection:

The concept of forward feature choice algorithm is to assess all feature subsets that include just one input attribute.

In other words, to locate the best individual feature, m, find the Leave-One-Out Cross Validation (LOOCV) error of the subsets, $\{A_1\}$, $\{A_2\}$... $\{A_m\}$, where m is the input dimensionality.

Find all the 1-attribute LOOCVs and evaluate them, then capture the best 2 features and evaluate their LOOCV error, and repeat the same procedure until m features have been computed.

(1) Collect a training data set.
(2) Divide it into K partitions
(3) For each partition (p = 0, 1, ..., K-1)

- Let OuterTrainingset(p) = all partitions except p.
- Let OuterTestset(p) = the p'th partition
- Let Inner Training(p) = randomly selected 70% of the OuterTraining set(p).
- Let InnerTest(p) = left over 30% of the OuterTrainingset(p).
- For q = 0, 1, ..., m
  - Find for the best feature set with q components, fs_{pq}. Using leave-one-out on InnerTraining(p)
  - Let $InnerTestScore_{pq}$ = Root Mean Square score of fs_{pq} on InnerTest(p).

  End loop of (q).
- Select fs_{pq} with the top inner test score.
- Let OuterScore p = Root Mean Square score of the selected feature set on OuterTestset(p)

End loop.

4) Return mean OuterScore.

e) Image Enhancement:

The image enhancement technique is to make the digital picture more appealing to our eyes, (i.e.) making the images smooth or sharp. It helps to process the image so that the resultant image is more appropriate than the original image for a specific application.

The histogram of an image represents the frequency of pixels in an image. It shows the distribution of gray levels in the image which is extremely useful in image processing. Histogram finds a metamorphosis s=T(r) to be applied to every pixel of the input image f(x,y) such that a uniform distribution of gray levels in the entire range results for the output image g(x,y). Distributing the frequencies is a best way to improve dark or washed out images.

The discrete approximation of the transformation function for Histogram Equalization is given by

$$O_k=T(I_k) = \sum_{i=0 \text{ to } k} Pr(I_i) = \sum_{i=0 \text{ to } k} n_i / n$$

I_k - input intensity
O_k - processed intensity
k - Intensity range(e.g 0.0 – 1.0)
n_i - the frequency of intensity i
n - summation of all frequencies

V. CLASSIFICATION BY BACKPROPOGATION

Sensor input and the extracted facial features are given as input to the classification algorithm to predict human emotions. The backpropagation classification performs learning on a multilayer feed-forward neural network. It identifies weights for each connections between the nodes to predict the category of tuples iteratively. A feed-forward neural network with multiple layers has one input layer, one or more hidden layers, and one output layer.

Each layer can have multiple units. The input values to the neural network are the attributes of every training tuple. These attributes values are multiplied by a weight and sent from input layer to the next layer of "neuron like" units, known as a hidden layer. The outputs of the hidden layer units can be input to another hidden layer, and so on and finally it reaches the output layer.

Back propagation learns from the training tuple by comparing the network's calculated value for every tuple with the actual known target value ie., class labels such as anger, disgust, aversion, happy, sad, anxiety etc., For each training tuples, the weights are changed so as to decrease the mean squared error between the network's prediction and the actual target value. These modifications are propagated "backwards" direction from the output layer to first layer which is input layer through intermediate layers.
Algorithm:

- for each training tuple T in Database {
  - for each input layer node k {
    - $O_k = I_k$
    - for k = nodes in all layer except input layer
      $I_k = \Sigma w_{ik}O_i + \theta_k$
      $O_k = 1/ (1+e)^{-I_k}$
    - for k = 1,2,…. nodes in output
      $Err_k = O_k(1 - O_k)(T_k - O_k)$

    // Backpropogation
    - for k = 1,2,….all the nodes
      $Err_k = O_k(1 - O_k) \Sigma_k Err_k w_k$
    - for each w_{ik} in network
      $\Delta w_{ik} = (l)Err_k O_i$
      $w_{ik} = w_{ik} + \Delta w_{ik}$
    - for each bias θ_k in network
      $\Delta \theta_k = (l)Err_k$;
      $\theta_k = \theta_k + \Delta \theta_k$;

}}

Once the classifier is trained the unknown status of the person will be predicted from the features and sensor information.

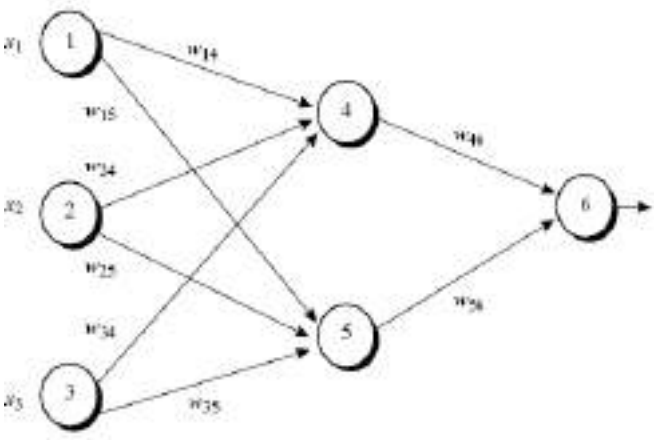

Figure 3: Artificial Neural Network

VI. APPLICATIONS OF BLUE EYES TECHNOLOGY

1. Aids disabled people.
2. Used to monitor critical patients to provide medical assistance.
3. Based on emotions in smart home system, music can be played.
4. Can be used in automatic car driving.
5. Can be used in power control station and flight monitoring.
6. In supermarket, based on the prediction of human temper, marketing of products can be done.
7. It can be used in security system.

VII. CONCLUSION

Resent researches reveals understanding the human emotions play a vital role in social networking. This paper gives an approach of creating Human Computer Interaction that has perceptual and sensory capability like human beings. The idea presented in this paper predicts human emotions such as sad, disgust, happy, tensed, etc., along with their blood pressure and temperature to suggest whether they need medical assistance.

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Big Healthcare Data Privacy Preservation –A Technological Perspective

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Abstract— In this digital world, by virtue of highly diversified data generating technologies – huge amount of data is being churned out by organizations like hospices, banks, e-commerce, retail and supply chain, etc.,. Heaps and loads of big data is being generated every minute, by humans and machines. Because of onset of big data the industries have fundamentally changes their way of handling data. The volume and velocity big data generated from the various sources can be managed and analyzed to take appropriate decisions to benefit the organization. One of the most promising fields where big data analytics can be applied is healthcare. Big healthcare data and its analytics has considerable potential to improve quality of patients' life, gain valuable insights, prevent diseases, make healthcare more affordable. Securing data of patients and ensuring its security is major concern of data analytics. Unless the privacy and security issues of Big Data are addressed in healthcare industry it cannot be too useful. Invasion of patient privacy is a growing concern in big data analytics as emerging threats and vulnerabilities continue to grow. It is necessary to ensure a secure and sound environment for big data for better future in research by repairing the available solutions. In this paper, we present the security and privacy issues in big data applicable to healthcare industry. Also, we discuss the various Anonymization and Encryption techniques to preserve the privacy of the data, comparing their strengths and limitations.

Keywords— Healthcare; Healthcare privacy; Big data security; Big data Privacy; Data Anonymization, K-anonymity, T-closeness, L-diversity;

I. INTRODUCTION

Big Data refers to the humongous amount of unstructured data generated through the various digital channels. Big data is often recognized by the 4 Vs – Volume, Velocity, Veracity and Variety. This big data is making inroads into the healthcare industry too. The big data in healthcare is often referred to as Healthcare big data. It refers to the vast quantities of data that is now available to healthcare providers. Due to digitization of health care information and increase in the care system based on values, huge data is created, also vast amounts of data come from other sources, such as wearables, mobile applications, digital marketing efforts, social media, and more. All of the above ads up to an unbelievable amount of information, inspiring health systems to adopt big data techniques and technologies to effectively collect, analyze, and take advantage of this information. How is big data benefitting the healthcare? Why is it important to healthcare?

In this context while stating the importance of benefits of big data analytics in healthcare this paper discusses the various challenges faced by healthcare industry in adopting big data and highlights the importance of privacy and security of the big healthcare data. This paper also discusses the various privacy techniques for healthcare big data. A survey of the techniques and how they can be further improved is presented in this paper. Finally, it concludes by highlighting the importance of the privacy of big data in healthcare and comparing the various techniques. Section II focuses on big data and its role in healthcare industry, Section III deal with privacy issues in big healthcare data Section IV focuses on Privacy preservation techniques in big healthcare data and their comparisons. Section V finally concludes by reiterating the importance of protecting the big health care data.

II. BIG DATA ANALYTICS IN HEALTHCARE

Big data are two words that describe large volume of data that may be structured or unstructured, that floods the businesses every day. The data itself and its volume is not as important as what does the business do with this data. How do they mine this data and get the insights is what matters. This Big data is cleaned, stored and analyzed to gain insights to help the business managers make better strategies and decisions. Big data is characterized by 4 Vs Volume,

Velocity, Veracity and Variety. Volume refers to the large amount of data generated through various channels. Velocity refers to large speed at which the data is created. Variety refers to the variety of data created i.e. text, numbers, videos, comments etc. The strategy of analyzing large volumes of data, or big data is called Big Data analytics. This big data is gathered from a wide variety of sources, including social networks, videos, digital images, sensors, and sales transaction records. The analysis of this data is aimed at uncovering hidden patterns and connections that help in providing useful insights about the users and people who created this data. Thus, the businesses try to be one step ahead of their rivals and also make some useful decisions.

Big healthcare data too has all the characteristics of big data i.e. 4 Vs. Source of healthcare big data includes Electronic healthcare records, wearables, health monitors, scan reports, surveys, etc; Health care industry is adopting big data in major way. The reasons behind it are a) Volume of data generated by the various channels in healthcare industry b) Keeping in mind the improvement of healthcare systems and the Government regulations the healthcare industry requires the data for analyzing and designing better healthcare systems. c) Customers are most valuable and the healthcare industry needs to create customized healthcare systems. Various insights are required into the customers' needs and requirements to create specialized packages. There are various benefits in adopting big data analytics by healthcare industry. Big data analytics gives a holistic view of the all the people involved- consumers, patients and doctors. Providing the patients with better and improved healthcare schemes, find the best marketing efforts to reach consumer and patients with best information, build predictive models to provide preventive car strategies, improve health care research and overall optimize the growth care, efficiency, effectiveness and personalization.

Challenges faced by the healthcare big data.

Huge amount of data leads to various challenges like sorting and prioritizing the data. Right kind of data must reach right kind of people to ensure correct and accurate analysis. Another challenge is the data being inconsistent, incomplete or noisy. Unclean data is big challenge as it is not useful to anyone.

Particular challenge faced by big healthcare data is privacy and security of data. Ensuring patient privacy is an enormous challenge.

What role does big data analytics play is healthcare in particular? Just like any industry the healthcare industry too can adopt the big data analytics. With already available large amount of clinical data and advanced tools and technologies the industry can now use big data analytics to gain useful insights and design better medical solutions and make revolutionary advances in medical research. It is imperative that the healthcare industry must incorporate big data analytics in its latest technologies for a better and bright future.

III. SECURITY AND PRIVACY ISSUES IN HEALTHCARE BIG DATA ANALYTICS

Big data analytics and medical research having real time access to patient record helps doctors to take decisions. Electronic Health Records (EHR) helped a lot in digitizing the health care system and various incentive programs motivate hospitals to create an accurate and complete EHR. At the same time, EHR having personal information of patient may lead to breach of privacy. Hence, techniques for preserving privacy are required and data need to be anonymized or encrypted before data analysis.

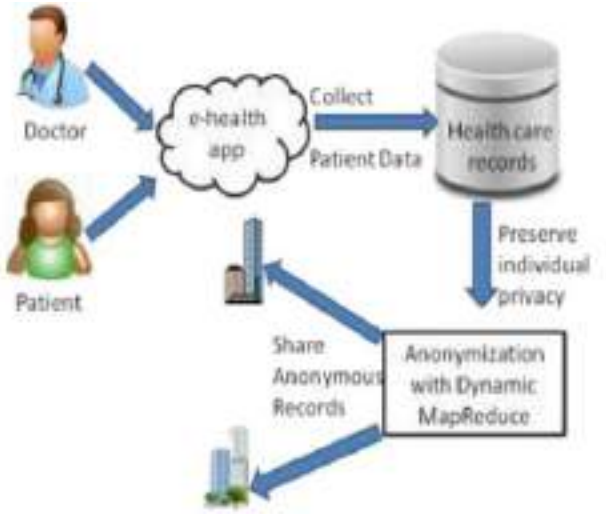

Fig-1 Privacy Preserved E-health app

Privacy vs. Security

Ability to protect the sensitive information about the patient is called privacy of data. Data privacy can be assured by ensuring there is governance of personal data that means proper means are employed and rigid policies are adhered while collecting sharing and utilizing data.

Data collected meticulously may be sometimes prone to malicious attacks and also may lead to misuse for making a profit. And protecting the data from threats like mentioned above is ensuring Security of the data. Though ensuring security is very important it is not a compromise on ensuring privacy of the patient data. Fig-2 Focuses on extra distinction between privacy and security.

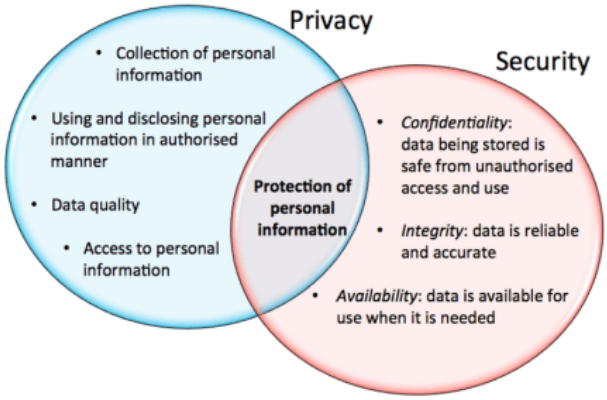

Fig-2: Privacy VS Security

Security of big healthcare data

Healthcare companies have mechanisms in place to ensure proper storage, maintenance of data and also have the ability to deal with release of voluminous amounts of data to support deliverance and care, but on flip side they lack technical support and minimal security. Among all the industries the most vulnerable industry is healthcare industry in data breaches. The malicious attackers can breach the private healthcare data and release it to public. Ensuring security is major concern and complex process. There are risks to be undertaken as the security measures become more and more complex. But it is essential and imperative that organizations ensure security and privacy of the healthcare data by designing security solutions to fulfil the healthcare goals.

Privacy of big healthcare data

The biggest fear in the big data analytics and healthcare industry is invasion of patient privacy. At the advent of new and advanced techniques to attack and steal data from information systems, this fear is real. As a result, organizations are challenged to address these diverse and critical issues. The incident where in a particular company has sent some baby related coupons to a teenage girl without her parents' knowledge has food for concern. Incidents reported like above mentioned forces everybody involved in analytics to big data privacy. Applications must strongly have in place security and privacy preservation techniques. They must also ensure that the key identifiers of private data remain private irrespective of the up gradations of the applications.

Ensuring Privacy of medical data is a vital and is critical.

Some light on the worldwide privacy protection laws in the next paragraph.

Data protection laws

To take care of the growing threat to breach of data and applicable data protection legislation, it is ever crucial that healthcare organizations are able to manage and guard personal and private information and also take care of their risks and legal related problems. Regulations concerning data protection and laws of data are different in different countries. The OECD Health Care Quality Indicators (HCQI project is accountable for measuring and comparing the quality of health services. HCQI is the quality indicators to study certain factors on the health services [20].

The General Data Protection Regulation (GDPR), decided upon by the European Parliament and Council in April 2016, will replace the Data Protection Directive 95/46/ec in Spring 2018 as the primary law controlling over how companies protect EU citizens' personal data.

Companies that are already in compliance with the directive should guarantee compliance with new needs of the GDPR [21].

Data Breaches are becoming too common

All of the regulatory necessities around data privacy, security, and preventing data breach of personally identifiable health data, are not sufficient and have become all too general across the industry. There were data breaches and thefts of medical data in the years 2015 and 2016 of around 80 million people and 11 million people respectively at Anthem and Premera. One analysis of the US Health and Human Services data breach database found a raise from 268 data breaches in 2015 to 328 separate breaches in 2016, with more than 16 million health records of American citizens being affected.

IV. PRIVACY PRESERVATION TECHNIQUES

An individual can decide which information can be shared or restrict the access to ensure his privacy which is basic requirement. If the key information is publicised then it is very vulnerable as the data is at the control of information holder. Here information holder will be websites, mobile apps, social networking application, e-commerce website, banks, hospitals etc. Guaranteeing privacy is crucial in present computing atmosphere. While not this, users feel uneasy to use and sleep in the UC atmosphere. The implementation of privacy safeguard or privacy enhancing technologies goes to be a protracted road. Recognizing the privacy preservation and possible protection techniques are useful to develop and implement the privacy preserved system. It's the responsibility of the information holder to make sure privacy of the user's data.

Various Privacy protective methods in which majority are based on Anonymization. Privacy preservation methods are as below.

1. Anonymization Technique
   - K anonymity
   - L diversity
   - T closeness

2. Randomization Technique
3. Cryptographic Technique
4. Data distribution Technique
5. Multidimensional Sensitivity Based Anonymization

1. Anonymization

Data gathering for analytics causes massive privacy issues. Person identifiable information (PII) is very tough because the information is shared too quickly. Urge to eliminate privacy issues, the conformity between the info holder and therefore the individual should be determined by policies. Users information ought to be anonymized (de-identified) and then be released to data analyser via protected channels. Before publication, the first table is altered consistent with the actual privacy needs. Anonymization is that the irreversible elimination of knowledge that would guide to a private being recognized, either on the premise of the removed info or together with different information.

The flustered information should be stripped of distinctive data, making it unworkable to realize insights on a discreet individual, even by the party that's in responsible of the anonymization. Anonymization operations used to preserve data privacy are listed below.

a. *Generalization*: It is replacing the specific Quasi-identifier (QID) values with reduced specific description with added generalization. Here we swap data values with a general value in the classification of a data attribute. An example where generalizing a designation data attribute with Employee instead of Developer or Tester. The types of generalization techniques include full domain generalization, sub tree generalization, multidimensional generalization, sibling generalization, and cell generalization.

2. ***Suppression***: Data values are swapped with some special characters like "*" in suppression operation. This way we can avoid disclosing of real data. Suppression includes record suppression, value suppression, and cell suppression.

3. ***Anatomization***: In anatomization, we dissociate the relationship between the quasi-identifiers and sensitive attributes. The data on QID and SA are released in two different data tables. One table contains quasi-identifier and the other table contains sensitive attributes which contain one attribute that is commonly referred to as GroupID. The GroupID will have same group value for the same group linked to the sensitive values.

4. ***Permutation*****:** The relationship between quasi-identifier and numerically sensitive attribute is disassociated by partitioning a set of records into groups and shuffling their sensitive values within each group in his data permutation,

5. ***Perturbation*****:** Perturbation is the way of swapping the original data values with some synthetic values, so that the statistical information computed from changed data does not differ considerably from the statistical data computed from the original data. Some examples like, adding noise, swapping data, and generating synthetic data values. The problem with perturbation is it is insignificant to the receivers as the published record is synthetic and does not have any meaning in the real world.

K-anonymity**:**

It is an interesting anonymization technique for big data privacy preservation. Here we deal with quasi identifier attributes. It is a unique approach in applying k-anonymity for QID attributes. It's a new algorithm called "*k*-anonymity without prior value of the threshold *k*". But, other many proposed *k*-anonymity algorithms the threshold *k* of *k*-anonymity has to be known before anonymizing the data set. K-anonymity is applied on the healthcare information as shown in Table 1. The table shows data before anonymization.

Table1: Original Data.

Slno	Pin	Age	Disease
1	515001	29	Diabetic
2	515275	22	Diabetic
3	500094	27	Diabetic
4	524369	43	Dermatology
5	524362	52	Diabetic
6	524333	47	Kidney
7	522365	30	Diabetic
8	522466	36	Kidney
9	522236	32	Kidney

K-anonymity technique is applied with k as 3 to ensure three identical data. K-anonymity is applied on the two attributes viz. age and Zip and is shown in Table 2.

Table2: Anonymization on age and Pin.

Slno	Pin	Age	Disease
1	515**	2*	Diabetic
2	515**	2*	Diabetic
3	500**	2*	Diabetic
4	5243*	>40	Dermatology
5	5243*	>40	Diabetic
6	5243*	>40	Kidney
7	522**	3*	Diabetic
8	522**	3*	Kidney
9	522**	3*	Kidney

In the above table, we have provided Anonymization using generalization or suppression operations. But still, if it is

known that Ram is 29 aged and residing at 515001 pin then easily we can make out that Ram is a Diabetic yet later data anonymization as shown in Table 2. This data leak is known as Homogeneity attack. In other case, if Ram is aged 36 and with little back ground knowledge that Ram does not have Kidney problem, we can easily find out that Ram must be having Diabetic problem. This is known as background knowledge attack. K-anonymity suffers with these limitations.

L-diversity is proposed to overcome the limitations of k-anonymity. This novel method is introduced to ensure privacy preservation by avoiding data attribute leak even with background knowledge. This operation "well-represent" the sensitive attributes in each group. Sensitive data attributes are varied among every quasi-identifier equivalence class. This is a K-anonymity's modification operation.

Table3: L-diversity privacy preservation technique.

Slno	pin	Salary	Age	Disease
1	515**	5k	2*	Diabetic
2	515**	6k	2*	Diabetic
3	515**	7k	2*	Diabetic
4	5243*	20k	>40	Dermatology
5	5243*	22k	>40	Diabetic
6	522*	24k	>40	Kidney

Data attribute leak cannot be ensured even when overall distribution of information is twisted into equivalence categories. For instance, if all the data rows are dispersed into 3 equality groups then semantic proximity of these data attributes could result data attribute leakage. L diversity suffers from homogeneity attack. In Table 3 it is found that if Ram is aged 29 and resides at 515001 zip is known, then definitely Ram falls in low income category as wage of all three persons in 515** pin are less compared to other data values. This is known as homogeneity attack.

T-closeness: Refinement of l-diversity by decreasing the granularity of the interpreted data is t-closeness operation. The analyser's scope of knowledge on a specific data is partial while the facts are not limited to the overall table containing the datasets. Therefore, this lessens the association between the quasi-identifier attributes and the sensitive attributes. In Table 4 it is found that Ram is aged 29, yet it is hard to guess whether Ram is Diabetic and falls under less salaried category or not. Attribute disclosure is ensured by T-closeness but sometimes, it might not provide correct allocation of data attributes.

Table 4: T-closeness technique

Slno	Pin	Salary	Age	Disease
1	515**	5k	2*	Diabetic
2	515**	16k	2*	Kidney
3	515**	9k	2*	Dermatology
4	5243*	20k	>40	Dermatology
5	5243*	42k	>40	Diabetic
6	5243*	8k	>40	Flu

2. Randomization technique:

The modification process of data values by adding noise using probability distribution is known as Randomization. It is widely implemented in surveys, sentiment analysis etc. It doesn't other records knowledge and can be implemented during data compilation and pre-processing time. Randomization technique is not applicable on large datasets because of time complication and data usefulness. For an example, we have considered and taken 20k records from a Hospital DB into Hadoop's HDFS and executed by Map Reduce.

• As data volume increased, more and more Mappers and Reducers are used.

• Significantly dissimilar results are found before and after randomization.

• Outlier records remain unchanged by randomization and are more unprotected and vulnerable for attacks.

Hence it is not an appropriate operation for the big data.

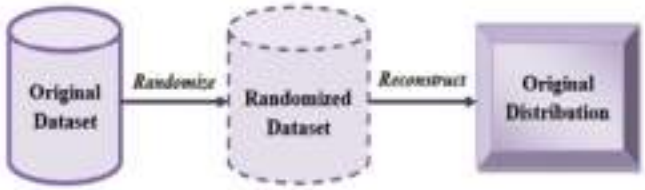

Fig-3 Randomization Technique

3. Data distribution technique

Data distribution technique is distributing the data across many sites. It is in two ways:

i. Horizontal distribution of data
ii. Vertical distribution of data

Horizontal distribution of data: In Horizontal distribution, data values are scattered among numerous sites with the equal valued identifiers. This technique can be allied on the information without really sharing the data. Here, the data values are scattered at diverse sites of various organizations. The parties help each other in noticing the data values at other ones. Here, truthful is expected among all participating sites.

Vertical distribution: Vertical distribution distributes the user's specific data in diverse nodes under control of various organizations. Here, every site stores partial set of identifiers of an individual. Data values will to be pooled from all these sites for data analytics and then, there is a possibility of privacy breach vulnerability. Ensuring privacy during data analytics of vertically distributed data is difficult as the data

values are scattered among various sites under control of various organizations.

4. Cryptographic techniques

This technique ensures privacy by encrypting sensitive. It provides proper toolset for algorithms of cryptography. We describe here results of cryptanalytic analysis that shows how different parties will together work out any function of their inputs, while not revealing the other information. Maximal privacy is achieved which hides all vital data except for the required output of the function. This technique attempts to model the world which is both realistic and common. Still there are few "real world" aspects which are not modelled; the privacy preservation and the generality of the results are quite notable. The data analyser may encode the data before discharging the equivalent for analysis. The crucial problem is encoding vast scale data using conventional encryption method is very difficult. So, it does not hold good for large databases. Also, this approach is hard to scale when more parties are involved.

5. **Multidimensional Sensitivity-Based Anonymization framework (MDSBA):**

There are three stake holders involved in Big Data analytics; they are the data owner, the service provider, and the user analyzer. MDSBA implements a bottom-up technique of k-anonymity. It is an enhanced Anonymization method implemented on huge data sets with lessen data attributes loss and predefined Qid's. This technique adapts a distinguished multi-access level for users. MAP REDUCE framework is used to handle Big data sets. The framework aims to apply a complete solution for MapReduce operations in big data. The solution basis mimics the parallel distributed processes over MapReduce nodes. This divides the single rigorous anonymization process into multi-tasks that can be distributed more than one node. Accessing data for analytics is conducted by many users with multi-level access in the big data environment. This compels a steady level of the data access and view. Users with a low-level permission are less trusted by data owners. Therefore, more restrictions are applied to a data view. Apache Pig scripting language filters are used to split data values into different bags upon likelihood allocation of the Qid's.

Apache Pig with four quasi identifiers is used in Data Anonymization. It can be safe guarded from background knowledge attack as the data is vertically distributed into various groups and when the bag holds less data identifiers. Data mapping with exterior sources to reveal any individual sensitive data is very hard in this technique.

Various features of above discussed data privacy preservation techniques are analysed and enlisted in the table as below.

Table 5: Comparison of privacy preservation techniques

Features	**Privacy preservation techniques**				
	Anonymization techniques	Cryptographic techniques	Data distribution	Randomization	MDSBA
Suitability of unstructured data	N	N	N	N	Y
Attribute preservation	N	N	N	Y	Y
Damage to data utility	N	N	Y	N	Y
Very complex to apply	N	Y	Y	Y	Y
Accuracy of data analytics results	N	Y	N	N	N

Because of Social media and IOT, major part of the data generated is unstructured in nature. But, based on outcomes and analysis of our well organized literature survey; most of the present privacy preservation techniques can handle optimally structured data. We need to think about the listed issues.

i. Design a robust technique to preserve privacy in structured as well as unstructured information.

ii. To develop Reliable, Scalable and sturdy techniques to hold huge diversified information.

iii. Health care Big data analytics can be carried out by ensuring privacy preservation by keeping the data in its native form and without data alteration.

iv. New methodologies should be designed to assure privacy upon countering key privacy threats that exemplify personal information revelation, police investigation etc.

v. Increasing information utilization for analytics by guaranteeing information privacy.

V. CONCLUSION

Abundant chances and prospects are open for health care big data to steer health care data analysis, predictions, decision making, planning strategies, data sighting, medical carefulness, and health care management. But, there are vast barriers and challenges that hamper its true possible outcome in the data healthcare analytics field, like practical issues,

privacy and security challenges and etc. These Big data safety and secrecy issues are critical obstructions for investigators in this area. Here in this paper, we have conversed how health care industry is making use of the big data analytics. Security and Privacy issues of Health care big data are discussed. Various Privacy preservation

techniques in the context of big healthcare data are discussed. But the problem ever exists. As our future scope we focus on designing optimized techniques for the privacy preservation of dynamically scaled big data healthcare privacy and security. Further we have tried to solve the problem by optimizing Anonymization using MapReduce framework.

We have analyzed and compared various Privacy preserving techniques. The knowledge of various available privacy preservations techniques will be useful to design Privacy preserved Healthcare environment.

It is very much needed to generate consciousness among the individuals about the different ways of protecting personal information against privacy and security breaches apart of these technological solutions. Lot of private data like images, contacts, mails, messages, chats and data files are accessed by lots of apps in our smart phones without our awareness. Many times, people install the apps without reading the privacy agreement statements. Therefore, here is a crucial need and necessity to instruct public to be aware of the variety of vulnerabilities which may allow private data breaches.

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Biometrics in Network Security

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Abstract— Security has been a major interest for authentication over networking. In this modern society, mobile devices have a pertained importance with hundreds and millions users. With the help of pins, passwords there are weak authentication mechanisms which allow attackers to access the stored data. By implementing various methods for key exchange cryptographic can solve the problem of security. Identity verification is a developing and mesmerizes much attention. Biometric recognition mainly relates to the automatic recognition of individuals based on their behavioral characteristics. Almost appropriate is based on vein pattern is an approach that uses the vast network of blood vessels that lie underneath a skin. Vein pattern are unique and also difficult to duplicate even twin has an unlike and unique vein structure. Biometric security devices measure unique characteristics of a person, such as voice pattern, the iris or retina pattern of the eye and finger print. In biometrics, it is very difficult for someone to break into a system. Biometric security is a mechanism which is used to prove and provide access to a facility or system based on the automatic and direct verification of a single person's physical behavior.

Keywords: Authentication, cryptography, networking.

I. INTRODUCTION

A.*Biometrics*

It is the activity and applied math analysis of people's distinctive physical and activity characteristics. .Biometrics has the capability to prove dramatically quicker, easier and safer than normal passwords; however organization got to watch out concerning the biometric information they collect. The technology is principally used for identification and access management or for distinguishing people WHO area unit underneath police work. Biometric identifiers area unit the distinctive, measurable characteristics won't to label and describe people. Biometric identifiers area unit usually classified as physiological versus activity characteristics. Physiological characteristics unit of measurement related to the shape of the body. Examples embrace, however aren't restricted to fingerprint, palm veins, face recognition, DNA, palm print, hand maths, iris recognition, animal tissue and odor/scent. Behavioral characteristics unit related to the pattern of behavior of a private, together with however not restricted to typewriting rhythm, gait, and voice. Some of the researchers have been coined the term biometrics to describe the latter class of biometrics.

Because life science will offer an inexpensive level of confidence in authenticating an individual with less friction for the user, it has the potential to dramatically improve enterprise security. Computers Associate in nursing devices will unlock mechanically once they find the fingerprints of an approved user. Server area doors will swing open once they acknowledge the faces of sure system directors. Help table systems would possibly mechanically pull up all relevant data once they acknowledge Associate in nursing employee's voice on the support line.

B.Types of biometrics

A biometric symbol is one that's associated with intrinsic human characteristics.

They fall roughly into 2 categories:

Physical identifiers and Activity identifiers.

• Fingerprints: Fingerprint scanners have found everywhere in recent years due to their widespread classification on smart phones.

Any device that may be touched, such as a phone screen, computer mouse or touchpad, or a door panel, has the ability to become an easy and convenient fingerprint scanner.

• Photo: If a tool is supplied with a camera, it can easily be used for authentication.

Facial recognition and retinal scans area unit 2 common approaches.

• Physiological recognition: biometric identification is that the second commonest style of authentication, according to Spice works, in place at 14 percent of companies.

Other image-based authentication strategies embrace hand pure mathematics recognition, used by 5 percent of companies, iris or retinal scanning, palm vein recognition, and ear recognition.

• Voice: Voice-based digital assistants and telephone-based service portals square measure already exploitation voice recognition to spot users and demonstrate customers.

• Signature: Digital signature scanners square measure already in widespread use at retail checkouts and in banks and square measure an honest selection for things wherever users and customers square measure already expecting
To have to sign their names.

• DNA: nowadays, DNA scans square measure used primarily in enforcement to spot suspects -- and within the movies.

II. APPLICATIONS OF BIOMETRICS

A. Airport Security

Making the journey through airfield terminals additional seamless for passengers could be a goal shared by airports round the world. Biometric technology to verify rider identities has been utilized in many giant international airports for variety of years and therefore the technology is quickly spreading to alternative locations across the globe.

In several airports, the highest biometric modality alternative for immigration management is iris recognition. In order to use iris recognition, travelers are initial registered by having a photograph of their iris and face captured by a camera. Then, their distinctive details are keep in a world info for quick, correct identification at ports of entry and exit that use iris recognition for somebody biometric authentication. When traveling, rather than waiting in long queues to be processed, passengers merely walk into a booth and appearance into associate degree iris camera. The camera then photographs the iris and a software program then matches the details with the information stored on the database.

Biometrics simplifies the airfield expertise for countless passengers traveling each day. Use of the technology additionally ensures the very best level of security and safety

B. Time and Attendance

Workforce management is another field wherever the employment of bioscience is on the increase. Fraudulent worker time and group action activities area unit a standard development in organizations throughout the globe. According to associate Yankee Payroll Association study, the typical worker reportedly steals roughly four and a 0.5 hours per week, that is such as six weeks' vacation if figure over a year. To solve this issue, firms area unit implementing biometric time clocks on their work sites.

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Even government organizations currently suppose bioscience for making certain timely group action of workers and correct payroll calculations.

Law Enforcement

Organizations just like the Federal Bureau of Investigations (FBI) and international law enforcement agency are mistreatment bioscience in criminal investigations for years. Today, bioscience is wide employed by enforcement agencies across the globe for the identification of criminals. In 2008, the Chinese Police adopted an ABIS solution to allow forensic fingerprint examiners the ability to cross check inmate identities for possible matches within the database.

Biometrics is additionally wide used for jail and jail management. Biometrics provides recent details of the Jail Authority, Public Safety Departments, and Governments can safely and securely manage prisoner identities.

Access Control & Single Sign On (SSO)

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III. NETWORK SECURITY

It is a broad term that covers a mess of technologies, devices and processes. In its simplest term, it is a set of rules and configurations designed to protect the integrity, confidentiality and accessibility of pc networks and knowledge victimization each software system and hardware technologies.

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Today's network architecture is complex and is faced with a threat environment that is always changing and attackers that are always trying to find and exploit vulnerabilities. These vulnerabilities can exist in a broad number of areas, including devices, data, applications, users and locations.

For this reason, there are a unit several network security management tools and applications in use these days that address individual threats and exploits and additionally restrictive non-compliance.

When simply a couple of minutes of time period will cause widespread disruption and large injury to Associate in Nursing organization's bottom line and name, it's essential that these protection measures area unit In place.

How Does Network Security Work?
There area unit several layers to survey once addressing network security across a company.

Attacks will happen at any layer within the network security layers model, therefore your network security hardware, software and policies must be designed to address each area.
Network security generally consists of 3 totally different controls: physical, technical and body.

Here is a brief description of the different types of network security and how each control works.

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Physical security controls area unit designed to forestall unauthorized personnel from gaining physical access to network elements like routers, cabling cabinets then on.
Controlled access, like locks, biometric identification and alternative devices, is essential in any organization.
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Technical security controls defend knowledge that's hold on on the network or that is in transit across, into or out of the network.

Protection is twofold; it has to defend knowledge and systems from unauthorized personnel, and it also needs to protect against malicious activities from employees.

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Administrative security managements contains security policies and processes that control user behavior, as well as to the infrastructure however users area unit, their level of access .

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A variety of popular tools that allow access to remote hosts (such as telnet, rlogin) or that provide means for file transfer (such as ftp) exchange user credentials and data in plain text. This makes them prone to eavesdropping, tampering, and spoofing attacks. Although the tools mentioned above might have conjointly been engineered upon SSL/TLS, a different protocol suite called Secure Shell (SSH) has been developed, which follows partial overlapping goals.

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● TLS does not provide the range of client authentication options that SSH does — public-key via RSA is the only option.

● Most significantly, TLS doesn't have the additional options provided by the SSH association Protocol.

Figure 1. Image database for Biometrics

V. CONCLUSION

Biometric identification management systems offer higher security, convenience, answerableness, and correct audit trails – all attributes that encourage businesses to analysis and implement the technology for his or her own use.

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Biometrics in Network Security

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Abstract— Security has been a major interest for authentication over networking. In this modern society, mobile devices have a pertained importance with hundreds and millions users. With the help of pins, passwords there are weak authentication mechanisms which allow attackers to access the stored data. By implementing various methods for key exchange cryptographic can solve the problem of security. Identity verification is a developing and mesmerizes much attention. Biometric recognition mainly relates to the automatic recognition of individuals based on their behavioral characteristics. Almost appropriate is based on vein pattern is an approach that uses the vast network of blood vessels that lie underneath a skin. Vein pattern are unique and also difficult to duplicate even twin has an unlike and unique vein structure. Biometric security devices measure unique characteristics of a person, such as voice pattern, the iris or retina pattern of the eye and finger print. In biometrics, it is very difficult for someone to break into a system. Biometric security is a mechanism which is used to prove and provide access to a facility or system based on the automatic and direct verification of a single person's physical behavior.

Keywords: Authentication, cryptography, networking.

I. INTRODUCTION

A.*Biometrics*

It is the activity and applied math analysis of people's distinctive physical and activity characteristics. .Biometrics has the capability to prove dramatically quicker, easier and safer than normal passwords; however organization got to watch out concerning the biometric information they collect. The technology is principally used for identification and access management or for distinguishing people WHO area unit underneath police work. Biometric identifiers area unit the distinctive, measurable characteristics won't to label and describe people. Biometric identifiers area unit usually classified as physiological versus activity characteristics. Physiological characteristics unit of measurement related to the shape of the body. Examples embrace, however aren't restricted to fingerprint, palm veins, face recognition, DNA, palm print, hand maths, iris recognition, animal tissue and odor/scent. Behavioral characteristics unit related to the pattern of behavior of a private, together with however not restricted to typewriting rhythm, gait, and voice. Some of the researchers have been coined the term biometrics to describe the latter class of biometrics.

Because life science will offer an inexpensive level of confidence in authenticating an individual with less friction for the user, it has the potential to dramatically improve enterprise security. Computers Associate in nursing devices will unlock mechanically once they find the fingerprints of an approved user. Server area doors will swing open once they acknowledge the faces of sure system directors. Help table systems would possibly mechanically pull up all relevant data once they acknowledge Associate in nursing employee's voice on the support line.

B.Types of biometrics

A biometric symbol is one that's associated with intrinsic human characteristics.

They fall roughly into 2 categories:

Physical identifiers and Activity identifiers.

• Fingerprints: Fingerprint scanners have found everywhere in recent years due to their widespread classification on smart phones.

Any device that may be touched, such as a phone screen, computer mouse or touchpad, or a door panel, has the ability to become an easy and convenient fingerprint scanner.

• Photo: If a tool is supplied with a camera, it can easily be used for authentication.

Facial recognition and retinal scans area unit 2 common approaches.

• Physiological recognition: biometric identification is that the second commonest style of authentication, according to Spice works, in place at 14 percent of companies.

Other image-based authentication strategies embrace hand pure mathematics recognition, used by 5 percent of companies, iris or retinal scanning, palm vein recognition, and ear recognition.

• Voice: Voice-based digital assistants and telephone-based service portals square measure already exploitation voice recognition to spot users and demonstrate customers.

• Signature: Digital signature scanners square measure already in widespread use at retail checkouts and in banks and square measure an honest selection for things wherever users and customers square measure already expecting
To have to sign their names.

• DNA: nowadays, DNA scans square measure used primarily in enforcement to spot suspects -- and within the movies.

II. APPLICATIONS OF BIOMETRICS

A. Airport Security

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***Abstract*—** Now a day's smart technology is replacing each and everything in the world. Internet of Things (IoT) has emerged powerfully as a more successful area to express new technologies. Current society is seeing a different flow in the number and domain of devices deployed and used in regular applications, including mobile phones, tablets, wearable devices, and other connected sensing devices, collectively referred to as the IoT. Internet of Things has grown into the lives of human being by allowing a communications between machines, objects and things along with people. The people, software systems and other machines are surrounded with IoT permitted objects which communicate about the present view of things. The world is becoming smarter in all aspect by using IoT technology. IoT features are provided in many of the applications like smart healthcare, smart homes, smart cities, smart energy, waste management, transportation and monitoring type. In IoT technology the physical objects are embedded with RFID, sensors and Internet protocols which allow object to communicate with each other. This paper highlights the application of IoT used in various fields and a review on the concept of IoT related technologies with the advantages and disadvantages that are encountered.

***Keywords*—** Internet of Things, IoT Applications, Smart Devices

I. INTRODUCTION

Today's world exists in the era of smart technology. In earlier days people used to handle the machines manually. After so many years many inventions came into existence where people started handling machines automatically with a single click. Then later the Internet of Things became the great advancement in creation of effective technology of which everything in association with the internet. IoT has become strong in many areas to express different kind of a new technology. In current situation IoT is familiar with various markets along with common people because of its different applications. The Internet is a system that connects the computers through networks with the help of standard Internet Protocol. The world is changing in technology to IoT because it is capable of interconnecting different objects and valuable data can be extracted from generated information. The actual term "Internet of Things" was proposed by Kevin Ashton in 1999 [1]. More and more everyday objects that have relied on manual control are expected to become smart in the future. IoT helps to access the information from any things. That helps to communicate among the things using internet. Figure 1. Show the concept of internet of things. It says that we can access internet such that anything can be able to communicate with anyone from anyplace at any time and can provide any services by any networks. IoT features are provided in many of the applications like smart healthcare, smart homes, smart cities, smart energy, waste management, transportation and monitoring type. This research paper highlights the application of IoT used in various fields with advantages and disadvantages with a review on the concept of IoT related technologies and by sharing an idea on how to automate a smart lift with the challenges that are faced in the implementation of IoT.

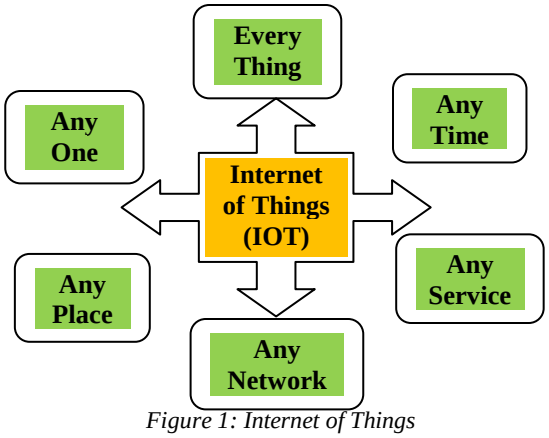

Figure 1: Internet of Things

This paper is structured as follows: Section II Related Work, Section III Applications of IoT, Section IV IoT Techniques, Section V Smart lift functionality, Section VI Advantages and Disadvantages of IoT, a brief conclusion is discussed in section VII.

II. RELATED WORK

The overview of IoT with emphasis on technologies, protocols, and application are discussed. The IoT is becoming more successful concept because of its technologies like RFID, smart sensors, communication tools [1]. Manipulation of communication tools will be done to support more services for organization with the help of applications of IoT [2].

III. APPLICATIONS OF IOT

Applications of IoT is not in single field, all most all of the areas are surrounded with applications of which broadly contains environment domain, society domain and industries domain. Each domain is different from the others but it is somewhat covering, because some applications are communal Figure 2. The application domains are transportation, smart cities, lifestyle, smart home, retail, factory, agriculture, supply chain, environment and energy, disaster, tourism, health care, user interface and culture.

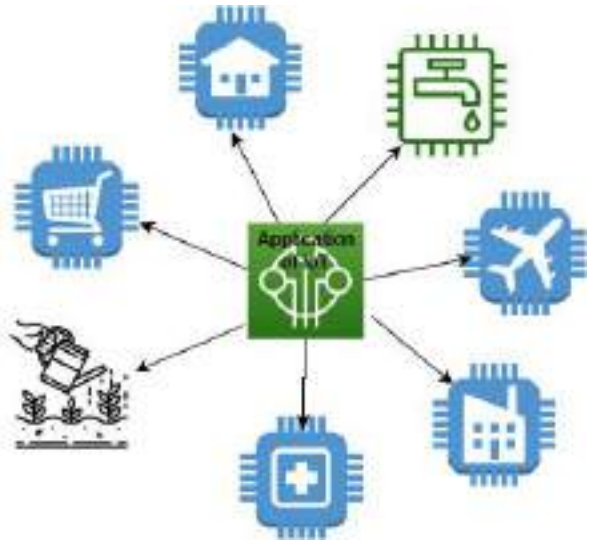

Figure 2: Applications of IoT

A. Smart Cities

Creating smart cities is possible by implementing the IoT technology in city development. By using IoT the cities can be developed in several levels by enhancing infrastructure, improving transportation and maintaining the safety of individual and traffic [3]. Smart cities connect systems like healthcare, weather noticing, transportation system. IoT support an individual by providing the internet which help to access the database of different transportation. To track and operate the information by specified protocols at any place, IoT make cities more smarter Figure 3.

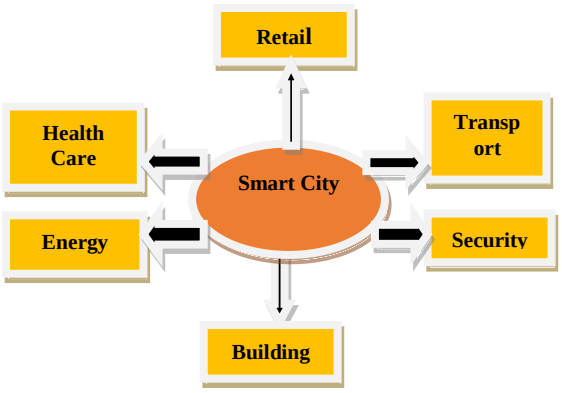

Figure 3: Smart City

B. Health Care

A basic application area of the IoT is the healthcare sector. IoT plays an important role in this field by improving service quality and reducing costs. It is possible to track health specifications, such as BP, blood glucose, body temperature and so on. IoT in healthcare also include smart beds, this encounter where patient occupied beds and a disabled individual trying to step down from the bed [4]. A smart bed itself can regulate to provide suitable support and strength which are used by the patient without human support. Another area where IoT is used in healthcare is to maintain the data and information of the patient and staff in the hospitals.

C. Smart Home and Buildings

Smart home and building are working by using Wi-Fi's technology. Internet of Things provides automation mainly used to connect electronic devices like Televisions, smart devices, mobiles and so on which are connected by Wi-Fi. Internet and Wi-Fi have become an important sector in home network, due to the enhance ration of using smart devices, and mobiles. For example a networking provides online services at home to control the function of the devices using network [5]. Mobile computing devices give guaranty to consumers by providing access to control the electronic devices. The concept of IoT can be implemented in buildings and home can allow operating more devices and objects in smarter way. Sensors, smart lighting, control of air conditioner and central heating, management of energy and

providing security are applicable in smart home and buildings using IoT Figure 4.

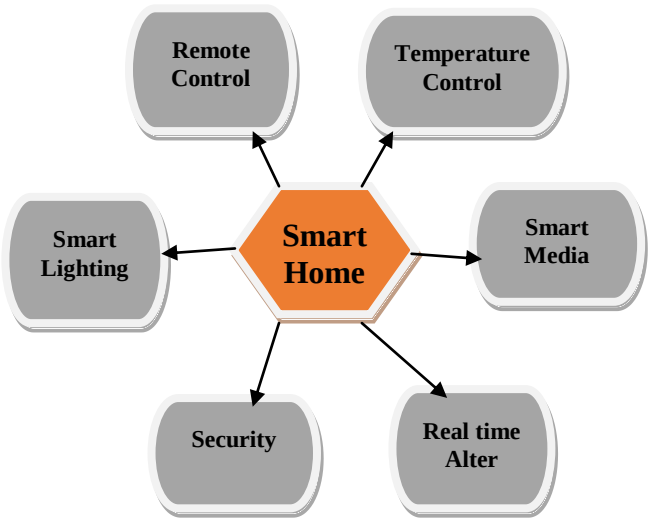

Figure 4: Smart Home

D. Smart Transportation

Country will be smart when we implement necessary effective technologies in it. Transportation is also one of the most important things to show the development of the country. Checking the road condition aware applications are mainly used in transportation applications. The process of marking identity on road map in smart devices has started by the users. The important perceptions of smart transportations are analysis of transportation, control of transportation, and connection with vehicles. Analyzing the interest expressed in advance and irregular detection represent the transportation Figure 5. Control of transportation can be done by maintaining the traffic and speed of vehicle, this is done on the basis of vehicle they are connected. Maintain of both cost and fuel by using electronic vehicle in transportation is possible by IoT [6]. Main application of IoT in mobility is to access the information and details of different travels and also can book the tickets for required transport.

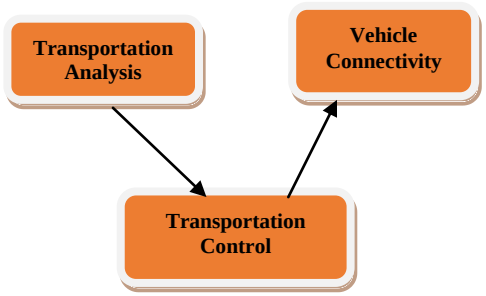

Figure 5: Smart Transport

E. Retail

Role of IoT in retail or resource sequence administration is very much useful for checking memory storage circumstances and object chasing for noticeable purposes and payment system depends on communal transportation, exercise centre, garden, etc. IoT suggests different ideas for retail shop like speed payment keys using biometrics, shopping, checking product for finding discovery of likely allergen in a given goods. The IoT approach includes characteristics of delivery circumstances, product place, storage of clash discovery, and so on.

IV. IoT TECHNIQUES

IoT mainly feats typical protocols and networking tools. The key aiding technologies of IoT are RFID, cloud computing, middleware, wireless sensor network. Technologies are the main building blocks of IoT. These technologies help to process particular functionalities that is required in an IoT [7]. IoT is like universal linkage technology which connects the different type of objects and also creates the interaction between the objects. IoT contains normal things like foodstuff, equipment, clothing, works of art, paper etc. These objects communicate with each other to reach the mutual aim.

A. RFID Technology (Radio Frequency Identification)

Radio frequency identification technology (RFID) is an instinctive tool and it can be used to recognise the things also to document the metadata radio waves. RFID technology is comprised of readers and tags. The tag can be attached to any of the objects or things through the microchip attached to tag. The RFID tag communicates with the RFID reader through radio waves. With the help of RFID technology it can be identify the objects automatically and can save the information and it also helps to lessen the cost of previously used systems. Passive RFID tags, Active RFID tags, and Semi-passive RFID tags are the different types of tags used in RFID. Passive RFID tags are able to save more information and it depends on radio frequency energy transmitted from the reader to the tag to power the tag. Active RFID tags helps to check the pressure, temperature and additional circumstances with the help of peripheral sensors. Business, hospital laboratories, and remote sensing IT asset management also use Active RFID tags. Batteries are used to power the semi-passive RFID tag microchips while interacting with the reader. Passive tags are more cost effective than Active and semi-passive RFID tags.

B. Cloud Computing

Now a day's data generated by different resources is hard to handle. IoT is also growing with vast amount of generation of information. Cloud collects data from different resources and comforts information to travel to its end.

C. Wireless Sensor Networks

Technology advances in wireless communications is to help reduce the cost and also help to reduce the use of power consumption [8]. These small sensor nodes consist of sensing units, data processing units, and interacting objects. A huge number of such nodes deployed in great areas can integrate or combine with each other.

V. SMART LIFT

The semi-automated lift is to switch ON/ OFF the light and fan manually every time when a person uses the lift is a problem. Both light and fan are switched ON during the movement of lift even if the person is not present inside and also the problem of power consumption. The solution for this is by using IOT technology to make the lift function to switch ON/OFF of light and fan which will automatically uses sensors to sense the presence of a person. The PIR (Passive Infra-Red) sensor is useful to detect the human motion. A PIR sensor observes the changes in the environment and coverts changes into electronic energy and also helps to process the infrared light scattering from objects in its area. This idea can be implemented to help in power consumption. In this research paper it is discussed that sensor can be placed in the lift for identifying the presence of a person and base on it switching on/off of light and fan can be done.

VI. ADVANTAGES AND DISADVANTAGES OF IOT

A. Advantages

- Access of data and information by sitting far from location. This is done by connecting internet to the smart things. By this a person can access any information and data by sitting anywhere in the world.
- IoT technologies help to prevent the traffic, accidents and provide safety for the people.
- We can guide home through your mobile phones, with the capability to control it. They can provide personal safe.
- IoT helps to join various objects so that greater quality and transparency can be achieved.
- Automation is the need of the hour to maintain everyday exercise without human interference [9]. Automating performances in a business help boost the quality of services and decreases the level of human interference.
- IoT can provide a personal assistance that can alarm on your everyday plan.
- The patient check can be done on a real time support without doctor's visit and allow them to decide as well as offer treatment that is evidence based [10].
- Energy and resources can be utilized by using IoT technology.

B. Disadvantages

- In the world each and every device that an individual uses are connected via internet. This increase the risk of leakage of important data. By this sharing the important data on internet is not safe.
- In everyday life data flows in any direction on the internet. So there is no assurance for security of information.
- Networks that are connecting various devices is known as IoT. If there is any effect on outlet entire system gets damaged.
- Our daily tasks are managed by using different technologies. This result an individual to be a lazy and not giving work to brains.
- IoT technologies are connected via networks and smart things the cost is more efficient.
- IoT is playing an important role in the society as many companies and different task are done by using new technology.

VII. CONCLUSION

An application of Internet of things helps to connect different type of people in different locations throughout the world. Objects or things in various fields can be identified by connecting different objects through internet. This paper focuses on the idea of automating the functionality of switching ON/OFF the light and fan in the semi-automated lift by giving the importance of implementing it. Now a day IoT is helping in almost all the fields like medical, manufacturing objects, industries, transportation system, education system, governance, mining field etc. Not only this something going to be different can happen in the field of IoT. Definitely it will create different impact on the next generation.

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Precision Agriculture Using Artificial Intelligence & Machine Learning Techniques

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***Abstract*—** Many sensors have emerged for different applications nevertheless only rare of the sensor are in use for agriculture field to identify soil type and nutrients specifications this provides a vast space in research. Numerous agricultural research centers are developed and are still on work as an equipped lab for monitoring these data for farmer's necessity. Getting soil from farmers processing in the lab and resulting in the required data is a common feature but realistic field monitoring sensors are a challenging task. This framework is to develop an easy man - handle sensor for identifying parameters such as: type of the soil, water scarcity, amount of nutrient present in the soil, type of seed for plantation, fertilizer required for the growth of crop, type of diseases that may infect, crop harvesting and cost estimation after cultivation. Classification of these substantial parameters are made using machine learning techniques and to correlate each parameter with its corresponding attributes to provide continuous field monitoring effective precision agriculture is the proposal work. This work focuses on all the parameter fixed together to a sensor listing out the production and cost estimation of any field.

***Keywords*—**Machine learning, Soil nutrients, Deep learning, Fertilizers.

I. INTRODUCTION

In early days people especially farmers had complete knowledge about agriculture field in the form of, the type of crop that can be seeded, the period of crop harvesting, prediction of weather forecasting, type of natural fertilizers that can be accommodated for plantation, water scarcity and many relational dependencies for agricultural growth. These related parameters are made to be possible with sight-seeing of experienced farmers. On the growth of a generation, these involvements and observations of field farming started to get diminished little by little. Enriching these parameters growth on the field and analyzing them by certain experience are called Field Monitoring. In order to produce better crop cultivation farmers segregated on the base of districts just as Rice – Tanjore, Coconut-Coimbatore, Maize-Tirupur and so on. A major source of agriculture is fertilizers and nutrients percent present in the soil. This percentage was very huge in the early time period due to land degradations and natural causes little by little the stage of agriculture and farming started to reduce in crop cultivation. By default, many districts in Tamil Nadu have also lost its label in producing their land makeable goods. Field Monitoring has come to a crucial stage. The role of this work is to support agriculture growth by means of field monitoring. So that crop production leads to huge growth in both production and trade comparing to other countries. Many authors on this field have reviewed with a summarization of reports. Few have product based developments on field machinery. The start of this work is to produce an application-oriented network among farmers to increase more on farming. It involves two major domains: Data Science combines various fields of work on statistics and computation in order to interpret data for the purpose of decision making, it plays a vital role in analyzing data according to field monitoring and also examines the parameter that belongs to specific field crop. Machine Learning focuses on the growth of computer programs that can access data and use it learn for themselves, itmaps the related field parameters among each other to produce flavored results. ML also has many algorithms that can assist to relate with field parameters and to its specific attributes. In brief of involvement of these two domains and various surveys are discussed much more in detail for further chapters.

II. OBJECTIVE

Generally, with the availability of the nutrients present in the soil sowing of the seed and plant growth is farmed. If the farmer is in need of getting an option of planting different varieties of plantation in the field then an additional percent

of nutrient is to be known, in order to determine the growth of any plant at any type of soil with any source of nutrients available or even to be added is the main purpose of this research. This makes the field of agriculture to a massive change in production and trade.

III. LITERATURE SURVEYS

A. Reviews of Sensors on Soil Nutrients Identification

The way to increase the crop fertilizers nutrients N (nitrogen), K (potassium) and P (phosphorus) as the same measuring out extra contents of above nutrients to get added in the soil for yielding good fertility using optical fiber sensor. Colorimetric measures for an aqueous solution in the soil are occupied through the absorption of colors. It determines the Sodium, Potassium, Phosphorus levels are high, medium, low, or none. Through signal conditioning circuits and sensor probe detection of component deficiency of the soil is determined. It is beneficial in providing only the essential quantity of fertilizers in the soil.

B. Reviews on Soil Nutrients Management and Monitoring

Soil nutrient monitoring meditation by M.H.A. Husni et.al. Suggested low-cost measurements using higher density. A simplified variable-rate nutrient is obtained from an effective mapping of nutrient variability. In order to maintain crop productivity and cost-effectiveness nutrient management by means of sensor technology potentially encourages to a large extent. Sensors like optical, Electromagnetic and electrochemical sensors helped out a lot in non – destructive quantification for spatially – variable in soil nutrients. Visual observation can outcome in a flawed diagnosis that ultimately dislocates remedial action for the artificial plant/crop. Supernatural reflectance dimensions can help to identify and select wavelengths sensitive to single plant stress. Preceding studies have found that plant stress will variate spectral reflectance design in the visible range (380-720 nm or F380-F720) and the infrared range (720-1500 nm or F720-F1500). Classically, the magnitude modification will vary at dissimilar wavelengths. Such information enables premature detection of plant stress, mostly nutrient deficiency. This method can possibly provide lower operating cost in fertilization and minimizes acute loss of productivity.

C. Reviews on Deep Learning in the Field of Smart Agriculture

Provides a summary of Deep Learning algorithms that includes the concepts, restriction, execution, training procedures, and sample codes, to assist researchers in agriculture. Deep Learning applications in agriculture are concise and analyzed as per Nanyang Zhu. Et.al suggestions Machine learning techniques have created probabilities for data-intensive science in the multi-disciplinary agricultural machinery domain. The author categorized them under crop management, holding applications on yield prediction, disease detection, weed detection, crop quality, and species recognition; livestock management, including applications on animal welfare and livestock production; (c) water management; and (d) soil management. Filtering and classification on this bid for agriculture will benefit from machine learning technologies to sensor data, farm management systems are developing into real-time artificial intelligence enabled programs that deliver rich recommendations and insights for farmer decision support and action.

IV. PROPOSED FRAMEWORK

The WET – 2 sensor produces the percent of nutrients and water scarcity available. The essence of this sensor it has a crucial role in precision horticulture, soil science research and is usable in both soils and growing substrates. It is not necessary for its ability to measure pore water conductivity (ECp), the EC of the water that is available to the plant. The sensor is easily given into substrates, composts and most soils. It takes less than 5 seconds to measure water content (%), pore water conductivity (ECp) and temperature. This analysis supports in segregating the parameters to frame its corresponding attributes for the available content of nutrients in the soil and also helps to know the additional favors of a nutrient percent to grow varieties of plant. Correlating these data with the database of seeds available one can determine the duration of the plant and can predict the maximum amount of crop harvesting. Data Science is to segregate the field based parameters into different levels of attributes ex. Soil nutrients act as a parameter which can hold Nitrogen (N), Phosphorus (P) and Potassium (K) as the essential growth of the plant in soil. Calcium (Cl), Magnesium (Mg) and Sulfur (S) as attributes. Similarly, other parameters can also be segregated into attributes according to the field representation. Deep Learning correlates these attributes and maps to its respective inter parameters like the percent of Potassium (K) in soil determines the type of seed and growth of plantation.

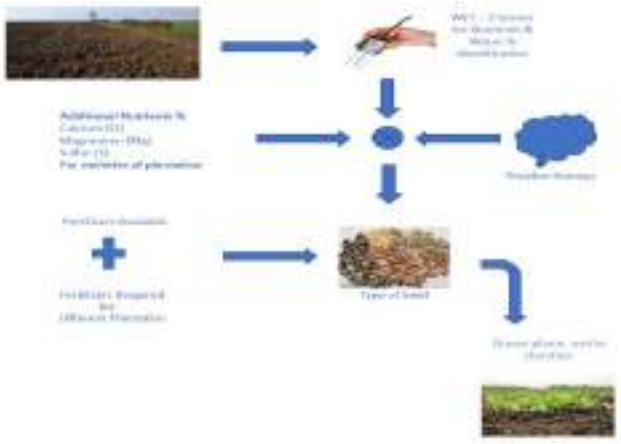

Figure 1: Proposed Architecture Framework

V. PROPOSED ALGORITHMS

A. Working Principles of WET 2(Water content Electrical conductivity Temperature) sensor

The measured value of dielectric properties is converted into Water Content up to the range, 0 – 80%, by means of calibration tables. Most common soil types and specialized calibrations are accessible as distinct cost options for a number of artificial substrates. This calculates Pore Water Conductivity, the Electrical Conductivity of the water inside the pores of the soil (ECp). Its calculation is grounded on a single formula that diminishes the properties of probe contact and soil moisture on the readings. Temperature is restrained using a miniature sensor made into the central rod. This produces a measurement of nutrients percent available in the soil.

B. Working principles of nutrients correlation

According to the base of available nutrients, the additional percentage of required nutrients is correlated with the data related to weather forecast are mapped using Principal Component Analysis (PCA). This PCA is calculated by the following stages,

1. Normalization of data.
2. Calculation of covariance matrix.
3. Calculate eigen values and eigenvectors.
4. Choosing components and forming a feature vector.

C. Working principles of prediction analysis

Nutrients and fertilizers availability helps in providing a comparison of plant growth duration mapping with the type of seeds to be sowed. This process of analysis is done by Navie Bayes algorithm which is very familiar in predicting the attributes that do not interact. The Navie Bayes holds two probabilities Class determines the frequency of instances belongs to each class divided by the total number of instances. And Conditional represents the frequency of each attribute value of given class value divided by the frequency of instances with that class value. To the initial Bayes theorem is given by,

$$P(y|X) = \frac{P(X|y)P(y)}{P(X)}$$

Here, X = 1,2…..n represents the features, i.e they can be mapped to outlook, temperature, humidity and windy

According to the values in data set the conditional probability looks like,

$$P(x_i|y) = \frac{1}{\sqrt{2\pi\sigma_y^2}} exp\left(-\frac{(x_i-\mu_y)^2}{2\sigma_y^2}\right)$$

Navie Bayes is stated in the following step based approach:

1. Collect Data
2. Summarize Data
3. Make Predictions
4. Evaluate Accuracy
5. Tie it together

VI. CONCLUSION

The purpose of this research on field monitoring through data science analysis and machine learning has an impact. Even though many algorithms and implementations on agriculture are emerging only a fewhave givena complete attraction and usage. This work focused on analyzing the farming data. Collection of soil type, fertilizer requirements, type of seed are certain huge databases involved with certain complications. Machine Learning organized these data through algorithms to a perfect structure. Implementing these data through algorithmic portfolio using Machine Learning techniques is very common but to the implementation, tothe plantation is a challenging task. This work found a source to develop precision agriculture that directly or indirectly leads to a growth of the nation. This field can grow further by implementing better Machine Learning algorithms as of new algorithms emerge by every time.

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Security Enhancement through Cryptography and Hardware Devices

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***Abstract*—** Security is being a hot topic in present digital era. The growing usage of technology for communication generates data which is available everywhere but data security is the important issue which draws the attention of all. Cryptography and security is a notion to secure the network and information transmission through wireless network. With ever progression in digital system security has been appeared as a major concern. In this era of virus and hackers of electronic bugs and electronic fraud security is primary. The concept of hardware security has been normally related with the cybersecurity and cryptography. Cyber-attacks are usually more due to lots of users connected to the internet. The basic issues in guarding the safe transmission of data through the web are concern of the security. This paper emphasizes on the key concepts of cryptography and security on critical infrastructure devices to overcome the threats of computer network security.

***Keywords*—**Cryptography, Cybersecurity, Network Security, Hardware security

I. INTRODUCTION

Cryptography is related with the procedure of converting basic script into undetectable script and vice-versa. Cryptography helps in generating codes where they allow data to be reserved private. Cryptography translates information into some form that is not readable by an unofficial user, making it to transmit without unofficial entities interpreting it back to readable form, by compromising the information. Data security has been used by cryptography on many stages. The data cannot be read without key to decode information. The data preserves its unification during transmission and while being stored back [1]. Security invoke to all the measures that are taken to protect or to ensure that only people with permission are allowed to go through the process. Computer data usually travels from one system to other, without having the protection to the data. Once the data is not under control, data hackers might modify or misuse our data for entertainment or for their advantage. Cryptography can format information in unreadable and transform our information making it secure while sending data between networks. The technology is built on the secret codes, improved by modern mathematics that secures our information in many different ways. Network security is mix of numerous layers of barriers in the Network and at the Network. Strategies and controls are actualized by each network security layer. Access to network is picked up by approved clients though vindictive performing artists are without a doubt obstructed from executing dangers and adventures. Securities are classified as network security and hardware security. Network security can be Firewall, Virtual Private Network (VPN), Web Security, and Wireless Security, etc., Hardware security is vulnerability insurance that comes as a physical gadget as opposed to programming that is introduced on hardware of the PC framework. Hardware security is concern to a device which is used to scan system network traffic. A few precedents like hardware firewalls, proxy servers, hardware security modules, where they provide cryptographic keys for remarkable functions like encryption and validity for different systems. Hardware devices can provide added security than software and can also complement an supplementary layer of security for the system. In this paper we have discussed about the cryptography and hardware device security and compared both software and hardware device security.

This paper is organized as follows: Section II Related work, Section III Introduces Cryptography, Section IV explains about Security, Section V Comparison of different security, a brief conclusion is discussed in section VI.

II. RELATED WORK

The concept of a cryptographic hardware device depict its capacities, uses and executions and the features offered by hardware security, the basics of cryptography, Public Key Infrastructure and the use of smart cards [1]. The extent of hardware security and the difficulties undertaken inside the hardware security space and to support various industries [2]. An overview of security and various techniques through

which security can be enhanced by cryptography hardware [3].

III. CRYPTOGRAPHY

Cryptography is the process of converting original information or the data into a secret code using the encryption formula or the code to secure the data from the unauthorized user or the hacker. To protect our data the security method used like firewall in the cryptography method [3]. In this different kind of technique are used to protect or to secure the data in the storage place or during transmission of data from one host to another host. In this method the information is converted into a new format and secure our information from the unauthorized persons or the hackers. It works like a drama artist because the drama artist wears the mask plays the different roles likewise in this cryptography also it hides the originality and then shows its reality only in front of the authorized user or the owner. All these tasks are performed only to protect our secrete data and our hardware system. To do this task the hardware should also support otherwise it cannot able to perform the task [5]. Cryptography does not only secure the information from malpractices, modification and it also used to find out the authorized users. Authentication is a must to access the data or the information. Cryptography is an art of protecting or securing the data of the computer or information of the user. The cryptography is also known as cryptology. The cryptography contains the pre written or the self-generated codes or the program that makes the data and the information secure. It converts the data or the information into a special format and this special format can be understood only by the cryptography and the authorized user or the owner Figure 1. Therefore, any unauthorized people cannot access, read or do any type of malpractices or to alter. If an unauthorized people want to access the data the special code should be recoded. The information security uses the cryptography on different steps or in different levels. The data or information cannot be decoded without the help of the secret code or the formula. Because of this code or the formula, it can be more secure during the time of transferring the data and during the time of storage. The cryptography protects the data like an electric fence protecting the fields. The verification method means that the data is verified before sending and after delivering the data, that means the sender and the receiver of a data can be confirmed. This verification is done by using the secret code, program or by using the secret key or the formula [6]. There are different types of processes for encryption of the data some of those commonly used algorithms are

- Secret Key Cryptography
- Public Key Cryptography
- Hash functions

A. Secret Key Cryptography

The Secret Key Cryptography is also known as SKC in short. In this type of cryptography, it uses only one formula or the secret key to encryption and decryption of the data or the information. It includes only one level of security. This type of the encryption and decryption is known as symmetric encryption.

B. Public Key Cryptography

The Public Key Cryptography is also known as PKC in short. In this type of cryptography, it uses two secret keys or the formula to encryption and decryption. These two types of secret keys are named as public key and the private key. Such types of encryptions are called as asymmetric encryption. It includes duel level of security in it. Here the private key can only access by the owner of the data or the information. The receiver will encrypt or decode the data using the public key. In this method the receiver knows who sent this data and other information.

C. Hash functions

In this method there are no keys used and it is called as one-way encryption. They are primarily used to approve or to verify that the files are not altered or accessed by unauthorized peoples.

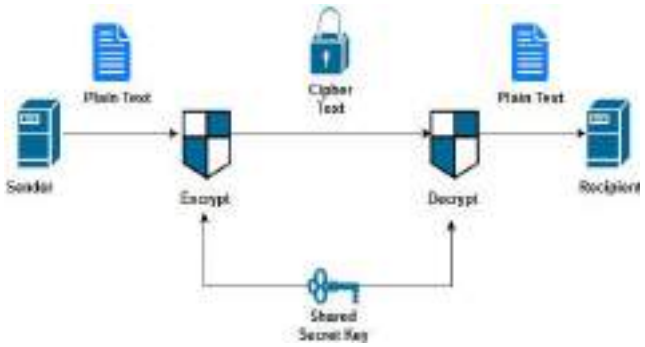

Figure 1: Cryptography

IV. SECURITY

In information technology (IT) the security means protecting or securing the data and the information from the hackers, and also from modification, alteration of data from the unauthorized persons or the hackers. Hardware security is a method derived out of cryptographic engineering hardware design. Hardware security includes the firewall and the proxy servers. It also includes the authentication of systems and it also provides another level of security to the system. Sometimes the hardware security secures the system and data from the viruses attacked from other external sources like internet, wireless networks etc. Hardware security is powerlessness assurance that comes as a external device instead of software this is introduced on the hardware of a PC framework. The hardware security module (HSM) is the

external devices connected to pc framework that protects and succeeds the digital keys for robust validation and provide crypto process [7]. These modules traditionally come either in module card or an external device that appends straightforwardly on a PC or server. A hardware firewall is a element that is connected between the system and the device for interfacing with the web. A software firewall is a program which is introduced on the PC with the Internet connections.

A. Hardware Device Security

Hardware security is susceptibility protection that will come in the form of a external device instead of software that is installed to the hardware of a computer framework. There is a dominant trend of securing critical infrastructures from cyber security attacks using software tools from the network security domain. However, when it comes to cryptography and security services there exist many attacks that a malicious entity can mount on a critical infrastructure device [8]. Using Hardware Means to secure Critical Infrastructure Devices.

a. Full Disk Encryption (FDE)

It is an encryption made at the hardware level of the computer. FDE acts automatically by translating data in the hard disk to unreadable format where unauthorized persons who don't have the key cannot undo the conversion of data to readable form. Without the correct verification key, even if hard disk is removed and added to some other pc, the data will be safe. FDE can be installed at the time of production or by installing some special software driver later stages.

b. Trusted Platform Module (TPM)

Trusted Platform Module (TPM) technology is intended to give hardware-based security. A TPM chip is a protected crypto processor that is maintained to complete cryptographic tasks. The chip incorporates various physical security systems to make it alter safe, and pernicious software is unfit to mess with the security elements of the TPM. TPM is special chip at the final stage, device that maintains RSA encryption key (EK) especially to the host pc for hardware verification. Every TPM chips contains two RSA keys called endorsement key. The key is kept inside the chip of devices and it cannot be retrieved by the software. While user acquires the ownership the new root key is formed. Then the second key is called a confirmation identity key that protects the device from unofficial access.

c. Hardware Security Module (HSM)

A hardware security module (HSM) is an external component that protects and accomplishes keys for solid verification and yield method. These modules will normally originate in the form of a plug-in card or a physical or external device that right linked to a computer. The function of HSM are locally available to protect cryptographic key generation and its storage at any rate for the top level and most sensitive keys which are regularly called master keys, key administration, use of cryptographic and sensitive data material for instance performing encryption or advanced mark capacities, It is totally combination or the mixture of the symmetric and the asymmetric cryptography verifying full software stack from consistent or physical assaults [9].

V. COMPARISON BETWEEN SOFTWARE SECURITY AND HARDWARE DEVICE SECURITY

A. Hardware Security

- Hardware security is one of the protections that come in the form of a physical device protection. It can be used in a device to scan a system or to manage monitor network traffic.
- In hardware security the program for smart cards executes basic code like the cryptographic algorithms which is attack free without physical access to chip.
- The running code in a physically protected chip like HSM or a digital card is used for protecting from software bugs. If there is a software bug in a HSM it can be broken just as any webserver, laptop and smart phone.
- Hardware based security utilizes a devoted integrated circuit (IC), or a processor with particular security hardware, explicitly intended to give cryptographic capacities and ensure against attacks. Security activities, for example, encryption/decryption and validation, happen at the IC hardware level. Sensitive data, for example, keys and basic end application parameters are ensured inside the electrical limit of crypto hardware.
- The security IC contains circuit squares, for example, a math accelerator, arbitrary number generator, non-volatile memory, tamper detection.
- Cybercriminals are deflected from attacks on hardware-based security. When attacked the security IC is fit for closing down activities and destroying sensitive information before being compromised.
- Hardware based security is compelling in all application situations particularly those where the end gear is uncovered and physically open to the trouble makers [10].

B. Software Security

- Software security is software or the computer program that is installed in a computer system.
- The software-based security can be compelling in physically secure situations, preventing unapproved access to the framework.
- When hackers know the software, they may send payloads to exploit vulnerabilities and run any arbitrary code they want remotely and destroy our data.

- A software security framework puts a heap onto a host processor. The software approach is the frail connection inside frameworks security engineering [11].

VI. CONCLUSION

The quick growth of internet technology, the network and data security have become an inevitable concern for any organization to secure the data. In this paper we have discussed the security types and compared with the different types of security. Data security can be maintained using different techniques like hardware device security and software security. Hardware devices can be built that it can identify the attacks at the application level. A hardware device includes its own OS and has embedded technology specifically designed for special-purpose processing such as cryptography. That means it's faster and more effective than software. As the hardware is built from the ground up to handle web services security, it won't be prone to hackers that can foil software such as buffer overruns. The best way is to secure the data by using hardware device-based security and the software-based security is not sufficient to protect the data whereas a more heavy-duty hardware-based solution is required.

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Shakespeare's Thematic Approach in Drama with reference to "As You Like It"

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Theme Analysis

'As You Like It' is a happy Shakespearean comedy. The main setting is a forest where people go to escape the dishonesty and politics of court life. The forest represents the purity of Mother Nature and anyone who goes near it seems to absorb this purity to some extent. Duke Senior is shown to be the better of the two Dukes. He and his supporters decide to leave the deception of the court and reside in the forest. When Rosalind is banished, she and Celia, both shown to be good people, go there as well. Lastly, Duke Frederick goes to the forest to hunt Duke Senior, and when he reaches the edge he is converted and gives up his title

As You Like It is also a love story with the end of the play showing four different couples getting married. However, unlike the times in which it was written, the main person directing the courtship is the woman, Rosalind. Dressed as Ganymede, Rosalind is able to take advantage of her disguise by helping two pastoral characters unite, and also by planning her own wedding.

Title

Allusive Technique in T.S. Eliot's The Waste Land.

Authors

Soni, Mukesh

Abstract

Thomas Stearns Eliot is a multidimensional literary persona of the twentieth century. There are two significant mentions which are valuable to comprehend what T.S. Eliot expresses by the illustration of the strife in his work. It is echoed in the central declaration in his statement in 1928 "He was a royalist in politics, an Anglo-Catholic in religion and a classicist in literature." The other is unambiguously expresses in the portrayal of T.S.Eliot by Vernon Hall as : "He is, in more than the theological sense of the word, dogmatic, and he declares in one place that the only people who can understand what he is talking about are those for whom the doctrine of original sin is very real and tremendous thing." The Waste Land, his classic poem is a finest illustration to comprehend him further as a poet with no obligatory limitations. Allusion is generally measured a literary technique, but comparatively minute care has been shown to the concept of allusion as a literary form. This article attempts to define the 'allusive form' on the ground of T.S. Eliot's Waste Land. It symbolizes distinctive features of the allusive form. These are linkage, or a reliance upon external fonts for intelligence and meaning; keen and selfconscious unnaturalness; an argumentative approach toward the viewers; elitism, based on the exclusiveness of allusions; adoption of manifold values; and universal relic. Though disposed to many lapses, the allusive form permits the formation of an exclusive discourse between artist and viewers, as well as an unwarranted concurrence of past, present, and future.

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Emerging Trend of E-Commerce in India: Some Crucial Issues, Prospects and Challenges

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Abstract:

Since 1991, after economic reforms explicitly took place in India as a result of opening-up of the economy with a view to integrate itself with the global economy, the need to facilitate international trade both through policy and procedure reforms has become the foundation stone of India's trade and fiscal policies. Electronic commerce (e-commerce) as part of the information technology revolution became widely used in the world trade in general and Indian economy in particular. With advancements in technology, there have been changes in the methodology for business transactions. India, being a rapid adaptor of technology is apace with the current scenario of electronic data exchanges and has taken to e-commerce. In view of this, this article tries to present a snapshot of the evolution of e-commerce business indicating the chronological order, category of e-commerce business, description of organizations involved in e-businesses in India, key characteristics of the firms engaged in e-commerce application, to examine the growth of e-commerce in both physical and financial terms, to evaluate the benefits obtained from e-business, to critically analyze the barriers and constraints involved in flourishing e-commerce businesses in India and finally to develop a framework for effective dissemination of e-commerce in India. The role of government should be to provide a legal framework for e-commerce so that while domestic and international trade are allowed to expand their horizons, basic rights such as privacy, intellectual property, prevention of fraud, consumer protection etc are all taken care of.

Key words: E-commerce, India, internet, online.

1. Introduction:

Electronic commerce is presently an indispensable ingredient of India's trade facilitation policy. Since 1991, after economic reforms explicitly took place in India as a result of opening of the economy with a view to integrate itself with the global economy, the need to facilitate international trade both through policy and procedure reforms has become the foundation stone of India's trade and fiscal policies. Resultantly, last few years have witnessed a technological revolution accompanied by the wide spread use of the Internet, web technologies and their applications. Electronic commerce (e-commerce) as part of the information technology revolution became widely used in the world trade in general and Indian economy in particular. As a symbol of globalization, e-commerce represents the cutting edge of success in this digital age and it has changed and is still changing the way business is conducted around the world. The commercialization of the Internet has driven electronic commerce to become one of the most capable channels for inter-organizational business processes. Consequently, Internet growth has led to a host of new developments, such as decreased margins for companies as consumers turn more and more to the internet to buy goods and demand the best prices[1]. The internet augments the traditional businesses to be transformed because 'incumbents (in markets) and large firms do not have the advantage 'just by virtue of being there first or by being of big'. The implication of perfectly competitive market as the world will observe is that market will produce an efficient allocation of resources. Internet has accurately been an effective instrument in changing the straightforward ways of doing business. In any market with no entry barriers –

the 'Net' is biggest of them, the continuous arrival of competition will, routinely, drive down the prices. In

A study on Sick Secondary Education institution.

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ABSTRACT:
Education is the most important and dominant face of human life since it empowers people. Spread and dispersion of knowledge through education can lead to the formation of developed civilisation which gives way to development in science and technological aspects, interpersonal skills and commerce. In the world of intricate, contemporary and automatedsociety's education has great social importance that remains the prime reason why the philosophers of all eras, during the olden day's sagesdedicatedtheir quality and efforts to enhance it. Values which are specific to certain occupation are inculcated through education. When one considers the system of education it completes the socialization process, magnificent task of transmitting its cultural tradition, restructuring the attitudes with all these it enables professional placement for a person along which indicates to the formation of social personality. Hence, scholars across the world are emphasizing on making human resource educated and empowered. Around the globe one considers the education system being divided into four basic parts such as elementary, primary education system, secondary education system and higher education system out of these the Secondary education system plays an important role through shaping personality of an individual. It allows to prepare adolescent learners whose age fall between 14- 18 years for entry into higher secondary education. It also becomes a door that opens up the opportunities and various benefits of financial and societal development. Organizations have a common purpose, well defined goal, commonly accepted norms and rules.It can also be formulated as a societal entity which has a combined goal which is also linked with the external environment. When one defines it through the social sciences, organizations are considered as objects which are used for the purpose of analysis towards various disciplines to name a few as towards sociology, monitory benefits, political sciences and Psychology, Management, and Organizational communication. When one has to manage to meet the needs or to follow cooperated goals, it depends on the societal group of people who are managed and structured. The force which acts behind organizational behaviour depends on the individual's common driving force. It is also known that organization is mostly a connotation or a set of people who are bound together in a recognized relationship who can achieve the respective goal in a collective manner.

Keywords: Cultural heritage in education, Reforming attitudes, Organizational Communication, Psychological Management

Introduction: EFAwhich is defined as education for all takes the effort to provide through adding momentum towards growth in the secondary education system. Taking it further global aspects and a major demand for more cultured labour force which is combined with knowledge and the basics of economics provides a scope for urgency towards highlighting demand for secondary education. In today's world, secondary education has a vital mission of preparing individuals to face challenges of current time and to provide training for the desired inclination. Achieving quality through secondary education is essential through creating bright future for individuals and nations which are alike. Hence upliftment of more and more secondary schools with highly proven quality faculties and best infrastructure become the need of the hour. Schools are here considered as an educational entities or organizations which are vital and task oriented to the society through providing basic education to the students and as well to the society. They are the social machineries generating learned citizens for the societal improvement. They play a key role in this and is executed by school organizations. On the foundation of the school and its performance they can be considered as healthy schools, average schools and sick schools. But when one considers the secondary schools which execute the plans, policies and procedures of the governmental bodies along with the long history towards providing successful citizen to the society are considered as healthy schools or schools with

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Impact of Climate Changes on Rural Livelihoods and Re-Orienting the Situation through Human Resources towards a Sustainable Society

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ABSTRACT

Climate changes have intense impact on the natural resources, economic activities, food security, health and quality of life. The rural livelihoods are threatened by frequent climate changes because the rural people depend on natural resources. The natural-resource based rural livelihoods are likely to bear an inconsistent burden of the different impacts of climate changes. If the rural livelihoods are not protected from the effect of climate changes, the social and economic balances cannot possible. The livelihoods play major role for social and economic balances, but the frequent climate changes force them to take contrary decision. The rural livelihoods are migrating to other suitable places to persist their family life. Re-orienting the "Human Being" into "Human Resources" towards "Sustainable Society" is the effective initiative for safeguarding rural livelihoods and ensures sustainable development. Sustainable society is one that can avoid the critical dynamism and protect from the negative impact of repeated climate changes so that civilization can continue its long journey towards perfection. The research work was related to the ill effect of climate changes but the right initiatives with re-orienting the situation through human resources towards a sustainable society can solve the problems. Industries are establishing in rural areas by converting the land which results the rural livelihoods like farmers, agricultural laborers, fishermen, land owners, small traders, toilers, travelers etc. reducing from generation to generation. Although Central Government introduced some rural development schemes which are not reaching to the root level because of lack of direction to human resources. This paper unfolded the impact of climate changes on rural livelihoods and re-orienting the situation through human resources towards a sustainable society and suggested the ways of transforming the human being into human resources to take initiative for sustainable development. The study is empirical in nature and is based on collection of both quantitative and qualitative data through stratified random sample and selected 200 respondents belonging to both urban and rural society. The results of the research study were indicated the impacts of climate changes on rural livelihoods like droughts, floods, global warming, destroy crops and food production and causes disease and sometimes death. The urban people with the support of local government and NGO's can take more initiative for conducting training programme, awareness camp related to the applicability of disaster management and rehabilitation process against the negative impacts of climate changes.

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1. Introduction

The certainty is staring the rural livelihoods in the form of climate changes, global warming, economic crisis, deforestation etc. This reality establishes the negative effect on rural livelihoods that forced them to migrate another places especially in cities. The rural people think that their next generation should not suffer as like them. They realize the value of professional education and training for future survival. When the educated people stalled in cities and not returns to their villages, the remain villagers' loss their confidence and they also take initiative to move other suitable place that results insecure of rural livelihoods time to time.

Information and Communication Technology in Sustainable Reporting towards paradigm shift in Business

Suplab Kanti Podder
Assistant Professor, Dayananda Sagar College of Arts, Science and Commerce, Bengaluru, Karnataka.

Abstract

Information and Communication Technology is the combination of Information Technology and Communication Technology that are used to handle the telecommunication, intelligent management systems and monitoring for processing and presenting data. Sustainable reporting is the digital reporting mechanism with utmost accountability, transparency and authenticity to overcome major challenges of scrutiny, consistency of information in the corporate world. The survey was deployed to assess the abundant Information and Communication Technology in sustainable reporting towards paradigm shift in business. The paradigm shift is a major change in how some process is accomplished. A paradigm shift can happen when new technology is introduced that radically alters the production process of a good. Taking these inputs and purposeful contemplation on the part of the researcher the constructs necessary for the questionnaire were formulated. The respondents were asked to rate the level of importance of each question on five-point Likert scales. The study helped to identify the recent trends, requirements and challenges faced by professionals especially in Indian Corporate Sectors when interacting with the ICT in Sustainable Reporting and attract wider stakeholder groups.

Key Words: Information Technology, Communication Technology, Information and Communication Technology, Sustainable Reporting and Paradigm shift in Business

1. INTRODUCTION

A paradigm shift occurs whenever there's a significant change in the way an individual or a group perceives something and the old paradigm is replaced by a new way of thinking, or a new belief. Individuals have their own personal paradigms or lenses through which they view the world. Corporations and other organizations have corporate paradigms regarding the methods by which they believe their goals will best be accomplished. The narrative in the beginning of the lesson about your favorite fruit is a simple example of a personal paradigm shift. Sustainable Reporting has become an important part of Corporate Sustainability. The international management experts identified the deficiency of transparency in the existing business practices for corporate sustainable reporting. But maintaining transparency in corporate reporting is the route of building ingenuous relationship among stakeholders. In the present situation, corporate sectors maintain corporate governance that ensures maximum transparency in corporate reporting regarding environmental performance, social performance

Level of Green Computing based Management Practices for Digital Revolution and New India

Suplab Kanti Podder, Debabrata Samanta

Abstract: ***The reality is staring us in the form of global warming, climate changes and air-quality degradation. This reality constitutes an increasing zone on the strategic front. These strategic changes need necessarily to be responded through employees of an organization. Against this backdrop, the Green Information Technology and Green HRM have emerged as a sequel to rapid degradation of our planet due to human activities. Therefore, incorporating the environmentally friendly practices through IT practices, recruitment, training and performance management functions constitute important components of Green IT and HRM. Green information technology is the revolutionary initiatives especially for human resources management practices that lead to digital life towards sustainable society. Keeping this practical and emergent context in view, the present study makes an attempt to develop a framework for assessing the level of green HRM practices actually prevailing in Indian organizations. The requisite data were collected from original sources and clarified with existing sources. The results of the study led to the inference that Information Technology and HRM practices of promoting individual performance needs fine-tuning because any green initiative has necessarily to be a collective exercise by all concerned.***

Key Words: Green Information Technology, Green Human Resources Management, Protection of Environment, Green IT and HRM Practices

I. INTRODUCTION

Green human resources management is the sustainable practice towards sustainable development that reduces the human involvement and paper works. The regular HRM activities can be done through green information technology that reduces the use of carbon footprints. The infrequent and innovative activities can be performed by productive human resources that ensure the sustainable development of an organization. The large segment of young population in India with the ability of green IT and HRM practices can take initiatives of digital revolution and become the role model of other countries. Green Information Technology in the combination of Information Technology and Environmental Concern. The green information technology and HRM practices results the eco-friendly outcomes with the productive initiatives of Refuse, Reduce, Recycle and Reuse. With the consideration of reality constitutes an increasing zone on the strategic front. These strategic changes need to be responded through employees of an organization. Against this backdrop, the initiatives have the sequel to rapid degradation of our planet due to human activities. Therefore, incorporating the environmentally friendly practices through information technology activities, recruitment, training and performance management functions constitute important components of Green IT and HRM practices.

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Debabrata Samanta, Assistant Professor, Department of Computer Science, CHRIST (Deemed to be University) , Bangalore, India. (E-mail: Debabrata.samanta369@gmail.com)

II. LITERATURE REVIEW

Benz and Frey (2012). clarified in the research paper titled "Impact of Information Technology towards HRM practices and environmental concern", that the information technology plays important role for reducing human efforts and repeated functions in an organization. Green HRM practices like reduce, reuse and recycle are the Green IT initiatives that ensure the environmental concerns.

Kee-hung and Ramus (2015). Explained in the research article "Empirical study on Information Technology and Environmental Concern", that the information technology and applications reduce the paper works and human efforts especially for the regular HRM functions. The green IT practices response the environmental concerns.

Lado and Wilson (2013). described in the research paper "Sustainable development and green HR practices", that the organization practices the green human resources management initiatives, become sustainable comparable to others in the related sector. Information technology gives the extra power and inspiration towards the green HRM practices with less carbon footprints and repeated operations.

Opatha and Arulrajah (2016). deliberated in the article titled "The policies and practices of Green Human Resources Management Functions", that the human resources management functions especially recruitment, orientation programme, training and development activities can be performed through green IT initiatives ensure the environmental concerns and leads to sustainable development.

III. RATIONALE OF THE STUDY

The present study was undertaken due to following reasons:

Factors that influence Sustainable Education with respect to Innovation and Statistical Science

Mahua Biswas, Suplab Kanti Podder, Shalini R, Debabrata Samanta

Abstract*: Education is a systematic and collective process of acquiring knowledge and skills to develop the members of the executive or administration of an organization for managing and controlling the professional requirements of individuals, organizations and society at large. This research paper unfolded the contribution from Innovation and Statistical Science in Sustainable Management Education that can ensure the managerial Skills up gradation, Technical acquisition, Skilled employment, Direct Link to Productive Industries, Advanced technological knowledge and Discovering various fields of environmental scenario. The study is empirical in nature and the requisite data was collected both from primary and secondary sources. Total 800 respondents were considers from divers background of Teachers, Decision-makers and Students and the semi-structured interview schedules of randomly selected 120 stakeholders were employed and make an attempt to assess the contribution from Innovation and Statistical Science in Sustainable Management Education. Data so collected was carefully collated and analyzed for hidden patterns. Based on the results, suggestions and recommendations were listed.

Index Terms: Sustainable Management Education, Innovation, Statistical Science, managerial or administrative skills and advanced technological knowledge

I. INTRODUCTION

The future in uncertain and challenging in terms of employability and survive long journey towards perfection. Social responsibility, expectation of high standards, imparts practical knowledge and shift in the attitudes of the management education institutes to profit maximization are the major issues towards perfection. A systematic and collective process of acquiring knowledge and skills to develop the members of the executive or administration of an organization for managing and controlling the professional requirements of individuals, organizations and society at large ensure a balance between future demand and supply and build a sustainable society. All Organizations are now trying for the best of the best managers, well trained and highly resourceful persons are needed to handle the critical business matters, meet the standards to achieve successful human resource management and development of information technology. Sustainable management education is one that can ensure the development and up gradation of managerial or

administrative skills and knowledge to protect from the negative impact of repeated changes of business and environmental scenario so that civilization can continue its long journey towards perfection.

II. REVIEW OF LITERATURE

The several authors and scholars have given their own view related to Management Education, Sustainable Management Education, Innovation, Statistical Science, managerial or administrative skills and advanced technological knowledge. The review of literature contains the details about few research papers and articles. Maryam Alavi and Douglas R. (2017) describes in the research article "Using Information Technology to Add Value to Management Education" that the design and delivery of a graduate-level course in management at two universities via advanced information technology, which was used to enable collaborative learning, teaching with transcontinental student teams and multiple instructors, and integration of external expertise. This partnership enriched student learning and expedited faculty and institutional development. M.E. Mogee, Mogee Res. and Anal. S (1993) defines in the research article "Educating innovation managers: strategic issues for business and higher education" that the Successful commercialization of new technology presents companies with a series of difficult and complex management challenges that require special understanding, skills, and techniques. These management challenges in turn translate into an educational challenge and how institutions of higher education can help prepare managers who can recognize technological opportunities and successfully match them with customer needs.

Cheryl Kerr and Cathryn Lloyd (2008).Designates in the article "Pedagogical learning's for management education: Developing creativity and innovation" that the management education needs to consider a trend in learning design which advances creative learning through an alliance with art-based pedagogical processes. A shift is required from skills training to facilitating transformational learning through experiences that expand human potential, facilitated by artistic processes. This creative learning focus stems from a qualitative and quantitative analysis of an arts-based intervention for management development. Porter, Lyman W. and McKibbin (1999), analyzes in the research paper titled "Management Education and Development: Drift or Thrust into the 21st Century" that the evaluation of management education generated internally by the profession. It surveys management education as traditionally provided by colleges and universities and also as delivered by other systems such as corporations and third-party providers. The degree programs in management education, including discussions of the evolution of the curriculum, students and graduates, faculty, teaching, scholarship and research.

Information and Communication Technology in Sustainable Reporting towards paradigm shift in Business

Suplab Kanti Podder
Assistant Professor, Dayananda Sagar College of Arts, Science and Commerce, Bengaluru, Karnataka.

Abstract

Information and Communication Technology is the combination of Information Technology and Communication Technology that are used to handle the telecommunication, intelligent management systems and monitoring for processing and presenting data. Sustainable reporting is the digital reporting mechanism with utmost accountability, transparency and authenticity to overcome major challenges of scrutiny, consistency of information in the corporate world. The survey was deployed to assess the abundant Information and Communication Technology in sustainable reporting towards paradigm shift in business. The paradigm shift is a major change in how some process is accomplished. A paradigm shift can happen when new technology is introduced that radically alters the production process of a good. Taking these inputs and purposeful contemplation on the part of the researcher the constructs necessary for the questionnaire were formulated. The respondents were asked to rate the level of importance of each question on five-point Likert scales. The study helped to identify the recent trends, requirements and challenges faced by professionals especially in Indian Corporate Sectors when interacting with the ICT in Sustainable Reporting and attract wider stakeholder groups.

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1. INTRODUCTION

A paradigm shift occurs whenever there's a significant change in the way an individual or a group perceives something and the old paradigm is replaced by a new way of thinking, or a new belief. Individuals have their own personal paradigms or lenses through which they view the world. Corporations and other organizations have corporate paradigms regarding the methods by which they believe their goals will best be accomplished. The narrative in the beginning of the lesson about your favorite fruit is a simple example of a personal paradigm shift. Sustainable Reporting has become an important part of Corporate Sustainability. The international management experts identified the deficiency of transparency in the existing business practices for corporate sustainable reporting. But maintaining transparency in corporate reporting is the route of building ingenuous relationship among stakeholders. In the present situation, corporate sectors maintain corporate governance that ensures maximum transparency in corporate reporting regarding environmental performance, social performance

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Challenges in Meeting Healthcare Needs of Urban Aging Population: A Case Study of Bangalore

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Abstract

'Grey Tsunami' term making rounds in world. Increasing size of geriatric population and contrary decreasing size of younger population is causing imbalance in social structure. This phenomenon has given a shift in economical, social and psychological insecurity for elderly population. A serious risk and its impact on elderly urban population is experienced and anticipated. These risk factors pose challenges in meeting the healthcare need. These situation prompts research to have insight into challenges faced by urban elderly population in meeting the healthcare needs. This is empirical study conducted in Bangalore with sample size of 500 respondents above the age group of 55 years. Challenges are broadly clustered into three segments namely: Economic, social and psychological. Finding reveals larger sample population is facing social and psychological challenges in meeting healthcare need, however, economic challenges were not found any impact.

(Keywords: Geriatric population, urban, challenges, Healthcare need, healthy aging)

Introduction

Given the inevitable quantum jump in the elderly population in the coming years, in what is being termed as the 'Grey Tsunami', our preparedness as a country is inadequate rather to say it is the least [1]. Rising life expectancy of Indian population is prompting social, economical, and psychological problems for geriatric segment creating challenges for their graceful aging process. The anticipated increase in life expectancy [2] further might lead to serious situation if proper measures are not initiated well in advance. Cause and impact will drown in case we fail to address the forthcoming healthcare challenges of elderly population.

Medical care is the major challenge for elderly, due to changing socio-economic condition and psychological situation meeting required timely medical care is missing in our society. Absence of frequent, immediate medical intervention might result into fatal consequences. Literature is evident that inadequate care process and structure are unable to meet complex healthcare needs of the elderly population across the globe [3]. Such situations can be avoided by continuous monitoring physiological parameters and activities [4] [5]. To provide specialized care for this segment necessary change in

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Behavioral Challenges of Technology Adoption among Bank Employees: A TAM perspective

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Abstract: Technology transition is norms for any business survival and growth. Across the globe business environment doesn't permit any leverage on technology adoption. The recent pandemic further made it mandatory for every organization to transform into technology enabled business operation. Many sectors were forced to adopt faster technology change to keep pace of business. Banking sector is no exception for this. After merging under single umbrella SBI has initiated technology transition and attempting to offer technology at fingertips both for its employees and customers. In recent press release SBI announced adoption of automation, AI and Machine learning in most of its back-end jobs for operational efficiency and cost advantage. These initiatives cannot be deployed in isolation, it has to have human interface to complete business process. And natural human response for any change is resistance. This is not easier transition rather this is continuous process with many challenges. The major issues are employees' adoptability to the changing technology in the job performance. Individual perception and intentions are major determinant factors for any technology adoption. Technology Adoption Model elaborately explains human behavioral responses to new technology. Perceived usefulness and Perceived ease of use are two major attributes to the behavior intentions. This study attempts to test these attributes among bank employees with respect to implementation of information technology in banking service. Resistance for any change is human nature, but preparedness to overcome this resistance is need of hour for organizational and employee survival.

Keywords: Technology, Technology Adoption Model, Banking, Employees, Technology adoption)

INTRODUCTION

Every business is under the pressure to minimize the operational cost and enhance the customer value offerings. Digitization across globe has compelled Indian banks towards technology enforcement into its operation with hope to reduce the operational cost and provide the banking services at finger tips of customers. Digitization of banking services aim at frictionless banking services, 'anybank, anywhere, anytime'. Few ambitious projects like, 'Central Banking Depository' (CBD), 'Universal Bank Account' (UBA) (Sanghai, 2020) etc. are in pipeline. Any banking services digitized cannotfunction in isolation there is need for human interface to develop and complete these transactions. This process of technology transition results employees working with machine/bots. Change process hinge upon the people involved in the system. Organizational culture, interaction of people supports the change. Shared values, beliefs, assumptions and expectations determine the behavioral intentions towards any change. The natural behavioral response for any technology change will be resistance. It's important at this point of time to study the challenges faces by bank employees in the process of digitization, so as to address and bring in required solution to facilitate present and future course of digitization.

The present pandemic laid down new norms of operation and fear of getting infected injected uneasy environment(Deloitte, 2020) on the other hand banks are anticipating huge losses due to economic slowdown (McKinsey, 2021). Banks are getting struck in between these complex situations. In addition, the pressure to retain consumers with their changing needs, and operational efficiency to maintain the profitability adds spices to the problems.

TAM overview

Several research studies have been propounded to define acceptance of technology and information system (Ajzen, 1991; Davis, 1989, Davis et al., 1989; Taylore and Todd, 1995; Moore, 1987). Among all Technology Acceptance Model is widely tested and cited model in information technology adoption behavior (Davis and Venkatesh, 1989; Venkatesh and Davis, 1989). Davis (1989) proposed two major determinant factors for technology adoption as; 'Perceived ease of use' and 'Perceived usefulness'. Theory of reasoned Action by Ajzen and Fishbein (1980) refers to determinant of conscious intended behaviors. Theory of Reasoned Action exhibits direct relationship between 'beliefs' and 'attitudes' which result into 'Action'. However, TAM also assumes

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Need and scope for revival of Indian banking and insurance sector in post covid-19 period: A conceptual study

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Abstract: Covid-19 widely known as (Corona Virus) had its fair share in disrupting the overall economic activities across the globe and so is in India. Banking and insurance sector largely regulate economic activities. In India, most of the economic activities are backed by the diversified small, medium, and big monetary institutions. As the economic witnessed standstill during lockdown, corporate and retail clients had posed credit risk for banks. Information technology and digitalized payment options supported in smooth transition and aided business continuity. Insurance as a commodity has gained prominence during and aftermath of the pandemic. Prior to the healthcare crisis, only 10 percent of people in India bought health insurance, now 71 percent and above people consider health insurance is necessary weapon to fight against the unforeseen pandemics like Covid-19. At this stage, it is important to understand the impact of such emergencies on banking and insurance sector to enable appropriate revival strategies to assure required economic support for business and country at large. This conceptual paper attempts to review and analyze the need for and revival strategies adopted in the banking and insurance sector. Framework for the study is built based on online and off-line literature review and the corporate white papers published. Further this study proposes strategies to fill the gap between economic need and operational functioning of the sectors. The scope of this paper would be to throw some light on the challenges faced by banking in the form of credit risk, NPA's and Insurance sector in India and the measures for sustainable future.

Keywords: Covid-19, Indian Economy, Banking, Insurance, Revival Strategies.

INTRODUCTION

India along with other countries across the globe witnessed the severity of pandemic (Covid-19) which caused an imbalance in the routine functioning of all sectors of our economy. Measures taken at initial stages to control the widespread of virus by the Indian Government by imposing complete lockdown except for the essential services had a dark shadow on economy resulting in financial crisis for small time vendors, business establishments and organizations. This was/is a challenge for any developed or developing countries, a healthcare crisis with such magnitude was never witnessed in the recent past. Economies across the globe witnessed steep contractions from the second quarter of 2020 while Indian GDP was at 23.9 percent, an all-time low figure as stated by RBI "historic technical recession" (Mukhopadhyay, 2021)

Banks hand had tremendous pressure in delivering financial services and ensure there is no fund crunch across the country. It was challenging task for banks to ensure flow of money in economy to ensure day to day requirements of people (Lumbare, Nitesh, 2914). There was need for innovative thinking, technology enabled services (Ashish and Devang, 2020) to reach people at their door-steps/finger tips. On the other hand, slower economic activities were mounting 'Non-PerformingAssets'.There were operational and service delivery issues due to lockdown regulation. To address all these problems several initiatives have been floated. An execution of plans discovered several challenges. Revival of banking strategies are the only way out to the present crises

As the healthcare crisis posed threat for survival of the individuals, Health insurance gained popularity. Insurance service providers have played a pivotal role in displaying their purpose driven, resilient and adaptable approach during the health care crisis in the country. Sudden awareness and compulsion of health insurance floated greater business opportunities. Mapping these opportunities with possible risk/claim liability defiantly was matter to be seriously calculated for sustainability.

RESEARCH OBJECTIVE

The ideology behind this research is to highlight the challenges faced by the commercial banks and the Insurance sector due to the pandemic. The scope and need of measures taken by these sectors in stabilizing the overall processes and transition involved in overcoming the unforeseen hurdles. The following are the primary objectives of the research paper

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Assessing Behavioral Factors Affecting Precision Technology Adoption among Indian Farmers with special reference to Raichure district

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OR
Dr Virupaksha Goud G, Associate Professor
Acharya Institute of Technology,
Bangalore, Karnataka

Abstract

Even with the promising benefits, precision agriculture initiatives have not generated desired adoptability among Indian farming community due to greater resistance to adopt technology. This scenario needs to change to bring socio-economic development. Smooth technology transition requires effective strategies designed after careful assessment of its determinant factors. This study aims at assessing the individual behavioral factors affecting precision technology adoption. This study attempts to link between individual perceptual factors with intention to adopt the technology. Study is conducted at Raichure district of Karnataka clustered into dry zone with less irrigated land and huge cultivable waste land (which represent largely Indian agriculture demography). Various individual perceptual factors influence the technology are considered for the study. Study reveals link between behavioral factors with intention to adopt. Based on data analysis strategic are suggested to enhance precision farming adoption in Indian Agriculture which can pave way for socio-economic development into Indian farming society.

(Key words: Agriculture productivity, Farmers' perception, Precision technology adoption, Government Strategies, Socio- economic Development)

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Precision Agriculture Adoption: Challenges of Indian Agriculture

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ABSTRACT: World demand for food is anticipated to increase by 70 percent contrary to this agriculture input equation is changing in the form of decline in the agriculture labour, shrinking agriculture productive land, raising temperature, shifting weather patterns and land degradations challenging every stake holder in agriculture sector in meeting food requirement of future. Precision farming can bring in some solution with its integrated technology-communication- management approach to several needful decisions in agriculture production cycle. Socio-economic environment is pushing hard this technology adoption due to its massive benefit in agriculture productivity. However, its required to study is Indian agriculture sector is ready for precision technology adoption? Which are the challenges creating obstacles? Any technology transition is possible only when we understand and addresses these challenges. This study is aims at addressing these research questions.

***Key Words:** Precision agriculture, technology adoption, challenges, strategies*

Introduction:

United Nations' 17 Sustainable Development Goals took effect at the beginning of 2016, launching the countdown to achieve inclusive sustainable development and economic growth by 2030(GAP Report 2016). Many goals are aimed at enhancing agricultural and forestry development and growth. The Sustainable Development Goal -2 calls the world community to "end hunger", achieve food security and improve nutrition and promote sustainable agriculture (GAP Report2016).

By 2050, world population will be 9.7 billion; food consumption is anticipated to increase by 70 percent (FAO). Contrary to this, agriculture input equation is changing in the form of decline in the agriculture labour, shrinking agriculture productive land, rising temperature, and shifting weather patterns, Poor land management leads to land degradation, further reducing the soil fertility and water productivity (Hakkim, Joseph, Gokul and Mufeedha, 2016).

With these challenges accelerating agriculture productivity to feed world can be achieved through regenerative system of agriculture and food production. Agricultural process should adopt and practice modern technology and information sciences for effective utilization of agriculture inputs, 'precision agriculture' initiative by US government in the year 1983 can provide solution to these complex challenges (Lowenerg 2015). It rules out the hypothetic approach and adopts the site-specific management approach with suitable micro management practices (Hakkin et al 2016). Precision farming is combination of ICT, satellite technology, mechanization, and effective management of all these agriculture resources for greater productivity (Shukar ABD).

Precision farming is changing the way people do farming as it offers benefit of profitability, productivity, sustainability, crop quality, environmental protection and rural economic development (Linghat and Balasundram 2010),(Fountas, Pedersen and Blackmore, 2004), (Anue et al, 2017) (Singh).

India being second largest populated and agri dominated country has greater responsibility towards meeting the need for global agriculture produced. The present age-old farming practices are no more suitable and favorable for farmers and economy as whole. The ICT adoption into agriculture sector have indicated favorable (may not be as anticipated but has defiantly made change in the attitude of farmers towards technology adoption) results. Precision farming can change the Indian agriculture productivity if systematic phase wise collective efforts are taken by different stake holders of agriculture sector towards its adoption. Time and situation demand for embracing the precision farming for the benefit of all.

Technology adopted in precision farming and its benefit offerings

1. Yield Monitor- yield monitors are becoming more common in North America. During harvest crop yield information is recorded on grid basis. Yield differences are analyzed through computer technology; this information is used for fine tuning the variable rate of application of agriculture inputs to various grids. Study conducted by Taylor (2016) on commercial grape yield monitor reflects

A Study on Food Loss in Agricultural Supply Chain and Measures to Mitigate with Special Reference to Indian Agricultural Sector

Venkata Krishna Prasad
Dayananda Sagar College of Arts, Science and Commerce, Bangalore, India

Abstract

India is an agricultural country; its economy is mainly based on agriculture. Despite growing manufacturing as well as service sector, advances in agriculture continue to affect the economic growth of the country. Two-thirds of the population depends on agriculture for their livelihood. India is the largest producer of milk, jute, tea, spices, pulses, and cashew. And India ranks second in the world in the production of agricultural commodities such as rice, wheat, cereals, peanuts, fruits, vegetables and sugar cane. But India faces many problems in agriculture like lack of proper minimum support pricing mechanism for agri-output, food loss (failure in the handling and connecting of food produced to consumption points), rising prices of agri-inputs, rising wages of agricultural labor, lack of timely credit for the farmer, irregular rainfall, government negligence, etc., are the major causative factors for the decline of agricultural as source is livelihood, leading to loan defaults and suicides in large numbers. Millions of families in rural India are on the verge of collapse, and the rural system will eventually collapse. The FAO of the UN, state that globally 1.3 billion tonnes of food incurs loss and waste, with the highest share in case of fruits, vegetables and tuber crops. According to a FICCI study conducted on SLCM's systems and processes "AGRI REACH", using scientific processes for managing storage and agri-logistics in existing structures can reduce storage

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Management

KEY WORDS:

DO INVESTORS REALLY REGRET?

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ABSTRACT

"There are only a few people who claim to have no regrets in life and finances". Retail investors are no exception. Investment is a natural process wherein, an individual wants every rupee to earn even more rupees. Eventually, investors get too excited at times about returns and certainly land up in regret zone. Though, behavioral finance has emerged as interdisciplinary, complimentary science to explain stock market phenomenon and regret analysis is one thrust area where much research is sporadic, especially in India. To explore the likelihood of regret and its impact on retail investor behavior in portfolio investments, the present study is conducted. Unfolding the regrets of retail investors while lack of adequate knowledge about portfolio management and peer effect as major reasons for such regrets. However, investors did exhibit regrets in big way as they perceive the stock market to be volatile and risky. Further, there are is wide scope for more studies viz., analysis of variance in regrets among different groups of investors and studies against different demographic factors etc.,

INTRODUCTION

Economic man is very unlike a real man (Edwards, 1954). The decision making process and factors influencing it have a drastic effect on the decision outcomes. Specifically in the investment decisions, there are two significant reasons, why investors do not behave, as we expect them to viz., Improper or substandard financial management would have a direct impact on investor well-being and also investor behavior likely affects the events in the stock markets.

The theory of rational investors has been opposed by neo-classical economic theory which opposes that every investor has limited access to information and an individual is bounded by external constraints as well as one's own behavioral aspects(Somil,2007). Hence, the decision making process is not a strictly rational one, where all relevant information is collected and objectively evaluated, rather, the decision maker makes mental shortcuts in the process(Tversky and kahneman (1974).

The behavioral finance asserted that investor market behavior derives from psychological principles of decision making to explain- why people buy or sell the stock (Al-Tamimi, 2005).

Behavioral Finance Defined....

Behavioral finance is the study of the influence of psychology on the behavior of financial practitioners and the subsequent effect on markets (Sewell, 2005).

Why is behavioral finance necessary?

For a while, theoretical and empirical evidence suggested that CAPM, EMH and other rational financial theories did a respectable job of predicting and explaining certain events, However, as time went on, academics in both finance and economics started to find anomalies and behaviors that couldn't be explained by theories available at the time. While these theories could explain certain "idealized" events, the real world proved to be a very messy place in which market participants often behaved very unpredictably.

Homo Economicus

One of the most rudimentary assumptions that conventional economics and finance makes is that people are rational "wealth maximizers" who seek to increase their own well-being. According to conventional economics, emotions and other extraneous factors do not influence people when it comes to making economic choices.

The anomalies prompted academics to look to cognitive psychology to account for the irrational and illogical behaviors that modern finance had failed to explain. Behavioral finance seeks to explain our actions, whereas modern finance seeks to explain the actions of the "economic man" (*Homo economicus*).

CONCEPTS OF REGRET THEORY

What is "Regret"?

Regret is the negative emotion experienced when learning that an alternative course of action would have resulted in a more favorable outcome.

DEFINITION of Regret Theory

The theory of **regret aversion or anticipated regret** proposes that when facing a decision, individuals may anticipate the possibility of feeling regret after the uncertainty is resolved and thus incorporate in their choice their desire to eliminate or reduce this possibility.

Regret theory models choice under uncertainty taking into account the effect of anticipated regret. It was originally developed simultaneously by Graham Loomes and Robert Sugden David E. Bell and Peter C. Fishburn and subsequently improved upon by several other authors.

In general, these models incorporate a regret term to the utility function that depends negatively on the realized outcome and positively on the best alternative outcome given the uncertainty resolution.

Herd Behavior

There are a couple of reasons why herd behavior happens. The first is the social pressure of conformity. This is because most people are very sociable and have a natural desire to be accepted by a group, rather than be branded as an outcast. Therefore, following the group is an ideal way of becoming a member.

The second reason is the common rationale that it's unlikely that such a large group could be wrong. After all, even if you are convinced that a particular idea or course or action is irrational or incorrect, you might still follow the herd, believing they know something that you don't.

RESEARCH METHODOLOGY

Objectives of the Study:

- To find out the existence of regret behavior among retail investors

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"Impact of Student Demographics on Student Attitude towards classroom learning: An Empirical study of Relational demography of MBA students in Bangalore city"

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Abstract:

It is important to realize whether or not an individual student's demographic similarity with other students shape his or her attitude. Relational demography on the other hand identifies the degree to which an individual student's demographic characteristics are shared by other student's within social units such as a classroom. As per the study conducted by Tsui (1992) and Tajfel (1978), relational demography is closely related to Social identity and Self-identity. Turner (1987), proposed the self-categorization theory wherein individuals classify themselves and others into social units based on demographic characteristics.

The purpose of this paper is to understand the significant demographic characteristics which motivate students to become part of a social unit and the extent to which these demographic characteristics have an impact on the student attitudes.

Keywords: *social units, social identity, self-identity, demographics, student attitudes*

Objectives:

To understand & analyze the variables which motivate students to become a part of a social unit and the role played demographics in shaping their attitudes. It has been found from the literature that people evaluate self-defining categories positively and are motivated to maintain such evaluations.

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An Empirical Study On Diversified Large Cap Mutual Funds Schemes And It's Performance Evaluation

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Abstract:

Financial planning and investment is an important decision various political and economic conditions in the world. Various factors like inflation, age income, purchasing, risk, , power has a major role in investment choice of an individual. One of the most prevalent modes of investment is in the method of mutual funds with passing time mutual fund industry in India has been steadily increasing tremendously awareness has to be improved at risk taking abilities of investors. After GLP of Indian policies there is much more increasing investments by foreign individuals and companies in way of FDI and FII, thus invite fundamental study for better future and growth aspects to be studied and to understand. This paper aims to know how the performance of mutual funds is evaluated and ranked after examining the NAV and their relevant returns so as to measure investment avenues. For the purpose eight public and private sector large cap equity diversified growth schemes over a period of three year viz.20015-18 have been taken through judgment sampling and Yield on 10 yr. govt. bond has been taken for the risk free rate of return viz.7.56% p.a. First portion of paper includes a necessary understanding about the mutual fund. The second portion includes of economic analysis. It's an empirical study affirming the ranking & assessment of funds based on two ratios namely, Treynor's& Sharpe's. The study shaped sufficient information of risk and return a complied with fund and their rank depending on their performance.

Key words: Financial, performance, planning, investment, NAV, schemes, mutual fund.

Behavioural Biases in Investing – Concepts, Categorization, Indicators and Remedial Measures

Mrs. A.Sumera*
Prof. M.Srinivasa Reddy**

Abstract

Investment decisions are not only complex but also reflexive most of the times. There have been several studies to explain these complex decisions of investors. The theory of rationality was not amply successful in explaining the investment behaviour and it intrigued researchers to explore other influencing factors like behavioural aspects. Behavioural finance is a interdisciplinary science that provides supporting evidences to certain erratic behaviours of investors. At this juncture, to bring together the concepts, categorization, indicators and remedial measures to behavioural biases becomes very fetching. The paper attempts to present a vivid description of various behavioural biases, followed by their categorization as cognitive and emotional biases.

In the present study, the behavioural biases of investors are categorized based on market conditions (bull and bear) and volatility as well, to provide an insight and stay conscious about them. An investor should be preferably more ready about biases, a few indicators of the biases and remedial measures to handle the biases forms the essence of the paper. Few tests like Myers Briggs Test etc., identified at the end of the paper can prove to be very handy while handling the behavioural biases in investing in stock markets.

Key Words: *Bear and Bull Markets, Behavioural Biases, Investments, Remedies, Securities Markets, Volatility*

Introduction:

Decision making is a complex activity, and so are investment decisions. The key objective of investment activity is to deploy money to earn in return more sum of money. For decades, investment decisions had been taken on the basis of stock market performance, share price movements and trend forecasting. Eventually, studies revealed that the conventional way of analysing investment decisions has left an unidentified a gap between estimated and real gains/losses. This proved to be an evidence for fundamental mistakes in the decision making.

Although, in the past researchers have explored the behavioural anomalies serving as psychological drivers for these errors, according to Glaser et al (2004) Behavioural Finance emerged as significant extension of behavioural economics, incorporating key insights from disciplines like psychology and sociology.

Literature Review:

Luo Thi Bich Ngoc, Ho Chi Minh(2013), This study explored the influence of the behavioral variables on the individual investors' decisions. **Dr.Mandeep Kaur & Tina Vohra(2014),** Individual investor behavior was driven by various psychological factors such as precautions, under confidence, conservatism, under optimism and information inferiority complex. **Sunitha Kumaran(2013),** study has been undertaken to investigate whether locus of control predicts hot-come effect and its converse gambler's fallacy, when making personal investment decisions. The current state of research from the efficient market and behavioral perspectives therefore suggest that an inclusive and diverse approach in the choice of theoretical explanations of the behavior of financial markets will be the pragmatic response to the inconclusive results on either side of the debate. **A.Sarath Babu & R.Ramesh Kumar(2015),** applied fuzzy logic to understand the underpinning relationship between national sentiments, investor sentiments and their impact on stock market activities. Facebook Gross National Happiness Index (FGNHI) and Volatility Index of India (VIX) which is a fear gauge of investors are used. The study applied Adaptive Neuro Fuzzy Inference System, a non-linear method, to understand the relationship between the sentiment score and NSE index return & compares the performance of ANFIS and VAR, a linear model. "Greed dominates in bullish markets" "Panic

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An Empirical Study on Forecasting Price Movements Using Technical Indicators with Selected Equity Stock in Indian Stock Market

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Abstract

In these days stock trading has become a profession and day by day many people are entering into stock trading. In stock trading there is always a risk of losing the money. So, investors use fundamental analysis and technical analysis in order to forecast price moments of shares and to maximize risk. This study is mainly focused on various technical indicators used in technical analysis of stock market. Technical analysis is more reliable in forecasting short term price moments, not long-term price. In technical analysis future price of shares are predicted based on historic data like price moment, trade volume, buy/sell patterns of investors. There are four major type of technical indicators trend, momentum, volume and volatility. For the purpose of the study we have selected Indiabulls housing finance stock. In this study we try to understand functioning of various indicators used in analyzing the stock market and also try to find out up to what extent an investor can rely on technical analysis.

Introduction

Technical analysis has started back in 18th century when a person called Munehisa Homma, very successful business men from japan, started recording high price volatility and trading patterns with images that evolved into today's candlestick charts. The trading with the well planned with ground work with technical indicators with forecasting future price based on historic data. Technical analysis is the study of various forces in the market and their effect on the share prices.

Experts of equity market, technical indicator analysis like study price charts for price patterns and use different technical indicators to forecast future price movements. Using these various indicators one can take a good decide when to enter or exit the investment/market. Technical analysis is a broad field and the list of technical indicators is almost infinite, so the technical indicators are labelled under four categories, each indicator is different from one another in forecasting the price moments. Simple Moving Average, MACD are the technical indicators that reflects trend in the market. RSI, Stochastic Oscillator are the indicators that shows momentum in the market. Bollinger Band, Standard Deviation, Average True Range shows volatility in the market and Chaikin Money Flow, On Balance Volume (OBV) indicates volumes.

Although the technical analysis is a study of charts graphs and historic data related to price, volume of a share which should be implicit that technical understanding is entirely based on price and does not include balance sheet and P&L accounts of a company. Naturally in the study the researcher has based assumptions that made the market are efficient and all possible price sensitive information are built into price graph of a security/index. it been discussed on major technical indicator which are broadly used and also study functionality of the different indicators.

Review of literature

A) J. Sharmila Vaiz, M. Ramaswami. (December 2016)

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Impact of Financial Risks on the Profitability of Commercial Banks in India

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Abstract

The Indian banking sector is exposed to various types of risks which arise from both the external and internal environments. Banks long-term sustainability and financial feasibility are vulnerable financial risk. Credit risk, operationalrisk, marketrisk, and liquidity risk stances a major challenge despite growth in the banking system. This study examines the relationship between profitability and financial risks of 43 Indian commercial banks for the period of 11 years (2008 to 2018). The quantitative research design was adopted in this study and the profitability measures that have been used in this study are the Return on Assets (ROA) and Return on Equity (ROE) while the financial risks are Interest Rate Risk (IRR) and Foreign Exchange Risk (FER). In this study, Time- Series Cross-Sectional secondary balanced panel data regression analysis of fixed effect and random effect model have been implemented. The findings of the study indicated that the relationship between ROE and IRR were found to be weakly significant, and on ROA the effect of IRR is significant for all the commercial banks. On both profitability measures, the FER was found to have an insignificant impact. The study concludes that there exists an inverse relationship between banks profitability and financial risk. Hence, the commercial banks in India together with the bank supervisors should make a trade-off between profitability and financial risk.

Keywords: Interest Rate Risk, Foreign Exchange Risk, Financial Derivatives, Return on Equity, Return on Asset, Off Balance Sheet.

Introduction

Profitability is the ultimate test I for the effectiveness I of risk management. It is the bottom-line of any financial institutions. After knowing the financial risk impact on the bank's profitability, it would be the most crucial aspect for all the banks as it would give heads-up to the bank to mitigate those risk effectively. Likewise, a profitable and healthy banking systempromote comprehensive financial firmness and perceive to raise the economy's pliability to adverse macroeconomic surprises. Between risk and return the tradeoff is well recognized - the higher return comes with higher risk and viz versa. Therefore, in order to expand business and to increase profitability, financial institutions should be aware of the risk factors which have a major impact on profitability measures. Moreover, it's a known fact that the amount of risk faced by financial institutions is a great concern and is of a significant nature to the policymakers. The Basel committee report also highlights the importance of studying bank risks (BCBS-BIS 2001) [1] and the Central bank's ongoing and consistent effort to record it in the capital adequacy guide lines (Shukla 2013).

1 BCBS-BIS. (2001). Basel Committee on Banking Supervision, (May)

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Vinish P (India), Prakash Pinto (India), Iqbal Thonse Hawaldar (Bahrain), Slima Pinto (India)

IMPULSE BUYING BEHAVIOR AMONG FEMALE SHOPPERS: EXPLORING THE EFFECTS OF SELECTED STORE ENVIRONMENT ELEMENTS

Abstract

This paper intends to analyze the impact of store layout, ambient factors, and employees on impulsive decision-making among female customers visiting the apparel outlets. The responses were collected through a single-stage mall intercept survey method using a structured questionnaire from 385 respondents in leading apparel stores in selected Tier I and Tier II cities in the state of Karnataka, India. The responses were analyzed using multiple regression analysis. Constructs such as store layout, ambience and employees were found to be significantly positively correlated with impulse buying behavior. The variables largely explain the variation in impulse buying under store ambience. Except 'attention to the window display' and 'friendly staff' all other twelve variables considered in the study were found to have significant impact on the impulse buying behavior. Though store ambiance, well-structured layout, and pleasant shopping experience are essential determinants of customer satisfaction, the study results imply that the number of store staff and sales skills are critical aspects of impulse buying in the apparel business and true assets to the retail organization. Additionally, poor customer interaction, staff shortage, and high employee attrition could discourage the store's revenue generation.

Keywords impulse buying, apparel retailing, store layout, store ambiance, employees, shopping, India

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INTRODUCTION

Impulse buying is a widely acknowledged phenomenon in retail research (Stern, 1962; Bellenger et al., 1978; Hoch & Loewenstein, 1991; Mattila & Wirtz, 2008; Badgaiyan & Verma, 2014; Cakanlar & Nguyen, 2019). A considerable amount of money is spent on marketing activities at retail stores to increase product familiarity, trail, and eventually increase the market share (Zhou & Wong, 2003). Men and women are equally susceptible to impulsive buying, but women are more subjected to post-purchase dissonance (Pandey, 2018). Previous research indicates that women and men distinctly relate to their material possessions (Dittmar, Beattie, & Friese, 1995). Men favor the objects that are of functional importance and denote personal accomplishments, while women tend to articulate social ties and value symbolic possessions (Adler, Csikszentmihalyi, & Rochberg-Halton, 1983; Wallendorf & Arnould, 1988).

The literature on impulse buying denoted the effect of situational factors in various shopping situations (Amos, Holmes, & Keneson, 2014; Badgaiyan & Verma, 2015). Store attributes such as lighting (Summers & Hebert, 2001), music (Dube & Morin, 2001; Chang et al., 2014), and

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Factors that influence Sustainable Education with respect to Innovation and Statistical Science

Mahua Biswas, Suplab Kanti Podder, Shalini R, Debabrata Samanta

Abstract: Education is a systematic and collective process of acquiring knowledge and skills to develop the members of the executive or administration of an organization for managing and controlling the professional requirements of individuals, organizations and society at large. This research paper unfolded the contribution from Innovation and Statistical Science in Sustainable Management Education that can ensure the managerial Skills up gradation, Technical acquisition, Skilled employment, Direct Link to Productive Industries, Advanced technological knowledge and Discovering various fields of environmental scenario. The study is empirical in nature and the requisite data was collected both from primary and secondary sources. Total 800 respondents were considers from divers background of Teachers, Decision-makers and Students and the semi-structured interview schedules of randomly selected 120 stakeholders were employed and make an attempt to assess the contributions from Innovation and Statistical Science in Sustainable Management Education. Data so collected was carefully collated and analyzed for hidden patterns. Based on the results, suggestions and recommendations were listed.

Index Terms: Sustainable Management Education, Innovation, Statistical Science, managerial or administrative skills and advanced technological knowledge

I. INTRODUCTION

The future in uncertain and challenging in terms of employability and survive long journey towards perfection. Social responsibility, expectation of high standards, imparts practical knowledge and shift in the attitudes of the management education institutes to profit maximization are the major issues towards perfection. A systematic and collective process of acquiring knowledge and skills to develop the members of the executive or administration of an organization for managing and controlling the professional requirements of individuals, organizations and society at large ensure a balance between future demand and supply and build a sustainable society. All Organizations are now trying for the best of the best managers, well trained and highly resourceful persons are needed to handle the critical business matters, meet the standards to achieve successful human resource management and development of information technology. Sustainable management education is one that can ensure the development and up gradation of managerial or

administrative skills and knowledge to protect from the negative impact of repeated changes of business and environmental scenario so that civilization can continue its long journey towards perfection.

II. REVIEW OF LITERATURE

The several authors and scholars have given their own view related to Management Education, Sustainable Management Education, Innovation, Statistical Science, managerial or administrative skills and advanced technological knowledge. The review of literature contains the details about few research papers and articles. Maryam Alavi and Douglas E. (2017) describes in the research article "Using Information Technology to Add Value to Management Education" that the design and delivery of a graduate-level course in management at two universities via advanced information technology, which was used to enable collaborative learning, teaching with transcontinental student teams and multiple instructors, and integration of external expertise. This partnership enriched student learning and expedited faculty and institutional development. M.E. Mogee, Mogee Res. and Anal. S (1993) defines in the research article "Educating innovation managers: strategic issues for business and higher education" that the Successful commercialization of new technology presents companies with a series of difficult and complex management challenges that require special understanding, skills, and techniques. These management challenges in turn translate into an educational challenge and how institutions of higher education can help prepare managers who can recognize technological opportunities and successfully match them with customer needs.

Cheryl Kerr and Cathryn Lloyd (2008),Designates in the article "Pedagogical learning's for management education: Developing creativity and innovation" that the management education needs to consider a trend in learning design which advances creative learning through an alliance with art-based pedagogical processes. A shift is required from skills training to facilitating transformational learning through experiences that expand human potential, facilitated by artistic processes. This creative learning focus stems from a qualitative and quantitative analysis of an arts-based intervention for management development. Porter, Lyman W. and McKibbin (1999), analyzes in the research paper titled "Management Education and Development: Drift or Thrust into the 21st Century" that the evaluation of management education generated internally by the profession. It surveys management education as traditionally provided by colleges and universities and also as delivered by other systems such as corporations and third-party providers. The degree programs in management education, including discussions of the evolution of the curriculum, students and graduates, faculty, teaching, scholarship and research.

International Journal of Recent Technology and Engineering (IJRTE)
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Capital Structure Determinants of S&P BSE 500: A Panel Data Research

Shalini R, Mahua Biswas

Abstract: The paper identifies the most important factors specific to companies which impacts on the capital structure of 416 companies belonging to 14 industrial sectors listed in S&P BSE 500 for a duration of 19 years which is from 2000 to 2018. Multi regression model is used to understand the influence of select variables on capital structure. The study finds that 4 explanatory variables like firm size, tax paid, depreciation to total assets ratio and profitability ratio are statistically significant capital structure determinants.

Index Terms: Capital structure, financial leverage, firm size, tax paid, profitability
JEL classification: G32

I. INTRODUCTION

Capital structure is a combination of various securities known as debt equity ratio in a corporate firm. The decision regarding the composition of debt and equity are considered to be one of the most crucial decisions of a company as it has a direct bearing on the success or failure of the company. A number of theories have been proposed and lot of research has been done in the past five decades on the capital structure decisions and the factors which influence them. This topic gained special importance due to subsequent publication of seminal papers by Modigliani and Miller (1959, 1961). It has been more than five decades that neither the research nor the theory has been able offer acceptable answer as to which factors influence the capital structure decisions (Brealey and Myers 1991).

Extensive research has been conducted on developed markets whereas emerging economies is still deficient of such meticulous investigation. There have been quite a few noteworthy papers conducted on country-to-country comparisons (Jong& Kabir 2008; Rajan and Zingales, 1995) Researchers like Bhaduri (2002), Harvey et al (2004) etc have focused on a few European and Asian countries. Bhadori has conducted research specific to India with highly noteworthy results but chose a few number of variables and small sample due to limitation of data. Due to the uniqueness of India as a country, it becomes important to understand the behaviour of the firms by studying the nation individually.

There is also some degree of work done specific to India related to capital structure theories and determinants (Booth (2001), Bhaduri (2002); Singh and Kumar (2008); Farhat et al (2009). India as an emerging economy is based on common law with comfortable external debt environment. It has the potential for enormous expansion and the economy has been growing significantly in recent years. So, it becomes important for us to understand the significance of capital structure decisions at the micro and macro level of financing (Joy Pathak). So it becomes extremely important for finance policy-makers at the firm or comprehensive level to understand what drives corporate financing. S&P BSE 500 companies are considered to be the most liquid stocks. This index nearly covers 93% of the total market capitalization of Bombay Stock Exchange. It considers all the major industrial sectors of the country. Hence this study is taken up to find out the factors that determine the capital structure of all BSE 500 companies excluding financial companies.

II. LITERATURE REVIEW

Lot of research has been done in the area of the determinants of capital structure in several countries across the world.

A. International evidences

Rajan & Zingales (1995) find growth, tangibility, profitability and size as the important variables in their study. Similar results have been witnessed in Shelankova (2014) where size, profitability, asset structure and liquidity influence the capital structure. Alzomaia (2014) shows the relationship which is positive between profitability, size, and leverage. Joshua Abor (2008) indicates that size, earnings, age, risk, tangibility and managerial ownership are significant in impacting the capital structure of Ghanian firms. Coetex & Sunsento (2012) reveal that profitability, and tangibility ratio are statistically impactful. Frank & Goyal (2007) shows that the most reliable factors are tangibility, profits, log of assets, market to book ratio and expected inflation.

B. Indian evidences

Pathak (1997) studies six determinants influencing the leverage of select firm. Baral (2004) indicates that rate of growth, size and rate of earnings are significant variables of capital structure of companies which listed in the exchange. Shalini & Biswas (2017) finds that factors specific to oil companies which influence the capital structure are liquidity, size of investment, fixed assets assets to total assets ratio and earnings. Rasoolpur (2014) shows interesting result wherein ratio of selling expenses to sales and current ratio are the important factors determining of capital structure. Shalini & Biswas (2019), studies the capital structure of FMCG companies using panel data analysis, it is found that growth opportunity, business risk are earnings are significant. Riyazahmed (2012) finds that

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An Empirical Study on Problems and Prospects of Micro Small and Medium Enterprises in Bengaluru, Karnataka

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Abstract

The Unemployment Rate of India is climbing high year on year, end of March 2018 the unemployment rate of the country has gone up to 4.1% and the number of unemployed persons is at 6.7 million. The job market of India is mostly conducive for skilled and educated. Micro Small and Medium Enterprises (MSMEs) play an important role in plugging this problem of India. They not only provide employment for unemployed but also motivate low skilled labor to start up his own enterprise. MSMEs are nurseries for entrepreneurship and innovation. Despite their tremendous potential, the MSMEs faces several difficulties, there have been high cost of traditional credit, restricted access to equity capital, raw materials at a competitive cost, unsuitable infrastructure, low technology levels, dearth of skilled manpower and lack of resources for marketing and competency, lack of access to global markets. Karnataka is one of the most progressive and industrialized states in the country and is leading States in driving India's economic growth. The State Government has taken various measures to safeguard the interest of these micro, small and medium enterprises. The study analyses the problem and prospects of MSMEs in Bengaluru.

Key words: MSME, Employment, Entreprenеurship, Karnataka

1. INTRODUCTION

India is the fourth largest economy in the world (in PPP terms) and the second largest in developing Asia. By 2032, it is expected to overtake Japan to become the third-largest economy in the world. By the end of the year India accounts for 17 per cent of World's GDP [as per PWC report], 17.74 per cent of world population [21]and 32.5 per cent of potential workforce in developing Asia.[23]While declaring the vision for India , Mr. Pranab Mukherjee stated that "India being the oldest civilization is going to be younger" in coming years with the largest number of skilled young working professionals and India has to provide leadership to the world".

The world aging population is estimated to be close to 360 million older people who will no longer be working. In two years, 13 countries, and 34 by 2030, will be "super-aged" - with more than 20% of their population over 65.[22]It is also estimated that due to India's demographic dividends majority of the supply to the global labor force will come from India, with 50 % of its population under the age of 25 and more than 65% below the age of 35.

But India being a developing country faces many difficulties. "Unemployment" is one of that kind. The Unemployment Rate of India is climbing a new high as the time passes. End of March 2018 the unemployment rate of the country has gone up to 4.1% and the number of unemployed persons is estimated at 6.7 million. Moreover, the job market of India is mostly conducive for skilled, educated and urban.

Micro Small and Medium Enterprises (MSMEs) play an important role in plugging this problem of India. This sector has the ability of reduction of regional disparity through income generation, creates employment opportunities, reduce poverty and above all induce regional development. Apart from creating

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Capital Structure Determinants of S&P BSE 500: A Panel Data Research

Shalini R, Mahua Biswas

Abstract: The paper identifies the most important factors specific to companies which impacts on the capital structures of 416 companies belonging to 14 industrial sectors listed in S&P BSE 500 for a duration of 19 years which is from 2000 to 2018. Multi regression model is used to understand the influence of select variables on capital structure. The study finds that 3 explanatory variables like firm size, tax paid, depreciation to total assets ratio and profitability ratio are statistically significant capital structure determinants.

Index Terms: Capital structure, financial leverage, firm size, tax paid, profitability
JEL classification: G32

I. INTRODUCTION

Capital structure is a combination of various securities known as debt equity ratio in a corporate firm. The decision regarding the composition of debt and equity are considered to be one of the most crucial decisions of a company as it has a direct bearing on the success or failure of the company. A number of theories have been proposed and lot of research has been done in the past five decades on the capital structure decisions and the factors which influence them. This topic gained special importance due to subsequent publication of seminal papers by Modigliani and Miller (1958, 1963). It has been more than five decades that neither the research nor the theory has been able offer acceptable answer as to which factors influence the capital structure decisions (Brealey and Myers 1991).

Extensive research has been conducted on developed markets whereas emerging economies is still deficient of such meticulous investigation. There have been quite a few noteworthy papers conducted on country-to-country comparisons (Jong& Kabir 2008, Rajan and Zingales, 1995). Researchers like Bhaduri (2002), Harvey et al (2004) etc have focused on a few European and Asian countries. Bhaduri has conducted research specific to India with highly noteworthy results but chose a few number of variables and small sample due to limitation of data. Due to the uniqueness of India as a country, it becomes important to understand the behaviour of the firms by studying the nation individually.

There is also some degree of work done specific to India related to capital structure theories and determinants (Booth (2001), Bhaduri (2002); Singh and Kumar (2008); Farhat et al (2009). India as an emerging economy is based on common law with comfortable external debt environment. It has the potential for enormous expansion and the economy has been growing significantly in recent years. So, it becomes important for us to understand the significance of capital structure decisions at the micro and macro level of financing. (Jay Pathak) So it becomes extremely important for finance policy-makers at the firm or comprehensive level to understand what drives corporate financing. S&P BSE 500 companies are considered to be the most liquid stocks. This index nearly covers 93% of the total market capitalization of Bombay Stock Exchange. It considers all the major industrial sectors of the country. Hence this study is taken up to find out the factors that determine the capital structure of all BSE 500 companies excluding financial companies.

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II. LITERATURE REVIEW

Lot of research has been done in the area of the determinants of capital structure in several countries across the world.

A. International evidences

Rajan & Zingales (1995) find growth, tangibility, profitability and size as the important variables in their study. Similar results have been witnessed in Shehartkova (2014) where size, profitability, asset structure and liquidity influence the capital structure. Akeeosis (2014) shows the relationship which is positive between profitability, size, and leverage. Joshua Abor (2008) indicates that size, earnings, age, risk, tangibility and managerial ownership are significant in impacting the capital structure of Ghanian firms. Cortes & Susanto (2012) reveal that profitability, and tangibility ratio are statistically impactful. Frank & Goyal (2007) shows that the most reliable factors are tangibility, profits, log of assets, market to book ratio and expected inflation.

B. Indian evidences

Pathak (1997) studies six determinants influencing the leverage of select firm. Baral (2004) indicates that rate of growth, size and rate of earnings are significant variables of capital structure of companies which listed in the exchange. Shalini & Biswas (2017) finds that factors specific to oil companies which influence the capital structure are liquidity, size of investment, fixed assets assets to total assets ratio and earnings. Rasoolpur (2014) shows interesting result wherein ratio of selling expenses to sales and current ratio are the important factors determining of capital structure. Shalini & Biswas (2019), studies the capital structure of FMCG companies using panel data analysis, it is found that growth opportunity, business risk are earnings are significant Riyazahmed (2012) finds that

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Dr. Mahua Biswas

Smart City Mission- An Urban Landscape

Authors Dr. Mahua Biswas Harshitha G Rashitha gowda

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CHALLENGES OF ROBOTIC PROCESS AUTOMATION ADOPTION IN BANKING AND FINANCIAL SERVICES

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ABSTRACT-
Banking and Financial industry players are facing significant internal and external challenges. To survive; they must focus their efforts on creating value for customer by focusing on operational efficiency and cost benefit. In present business and technology environment, Automation is only hope towards achieving this goal. Many organizations have claimed economic and operational benefits it offers; however, few have expressed difficulty in embracing this technology transition due to challenges it poses. However, due to security and safety of customer information, technology transition becomes more complex and challenging. A careful situation analysis is most important for successful technology transition. This study aims at understanding challenges of automation adoption in banking and financial services. Further the attempt is made to develop RPA adoption model for banking and financial services business process automation.

(Keywords: Banking and financial services, Automation, Technology adoption, smooth transition)

INTRODUCTION-

Banking and Financial industry players are facing significant internal and external challenges. To survive, they must focus their efforts on creating value for customer by focusing on operational efficiency and cost benefit (Deloitte) (IBM 2016) (TCS). The present IT systems which do always interact/integrate with each other bring into advantage but have its own economic and time-consuming challenges. Further making IT system smarter involves either massive IT transformation or extensive business process improvement (Deloitte 2016). Alternative to IT is to rely on third parties to improve process execution through business process out-sourcing and off-shoring. However even these initiatives are complex, time consuming, expensive and come up with its own fair amount of risks (Deloitte 2016)

Looking at these challenges, organizations need to transform their mode of business operations so as to ensure reliable, consistent, economic mechanism to achieve customer satisfaction. Automation assures these all benefits, which is why the industry is looking ahead with aggressive automation transformation.

Automation is slowly gearing up its momentum, banking and financial organizations leading the automation adoption. Basically, there are two facilitating factors which enable this sector for automation adoption, first, business process involves systematic repetitive procedures and second one is set of statutory and regulatory

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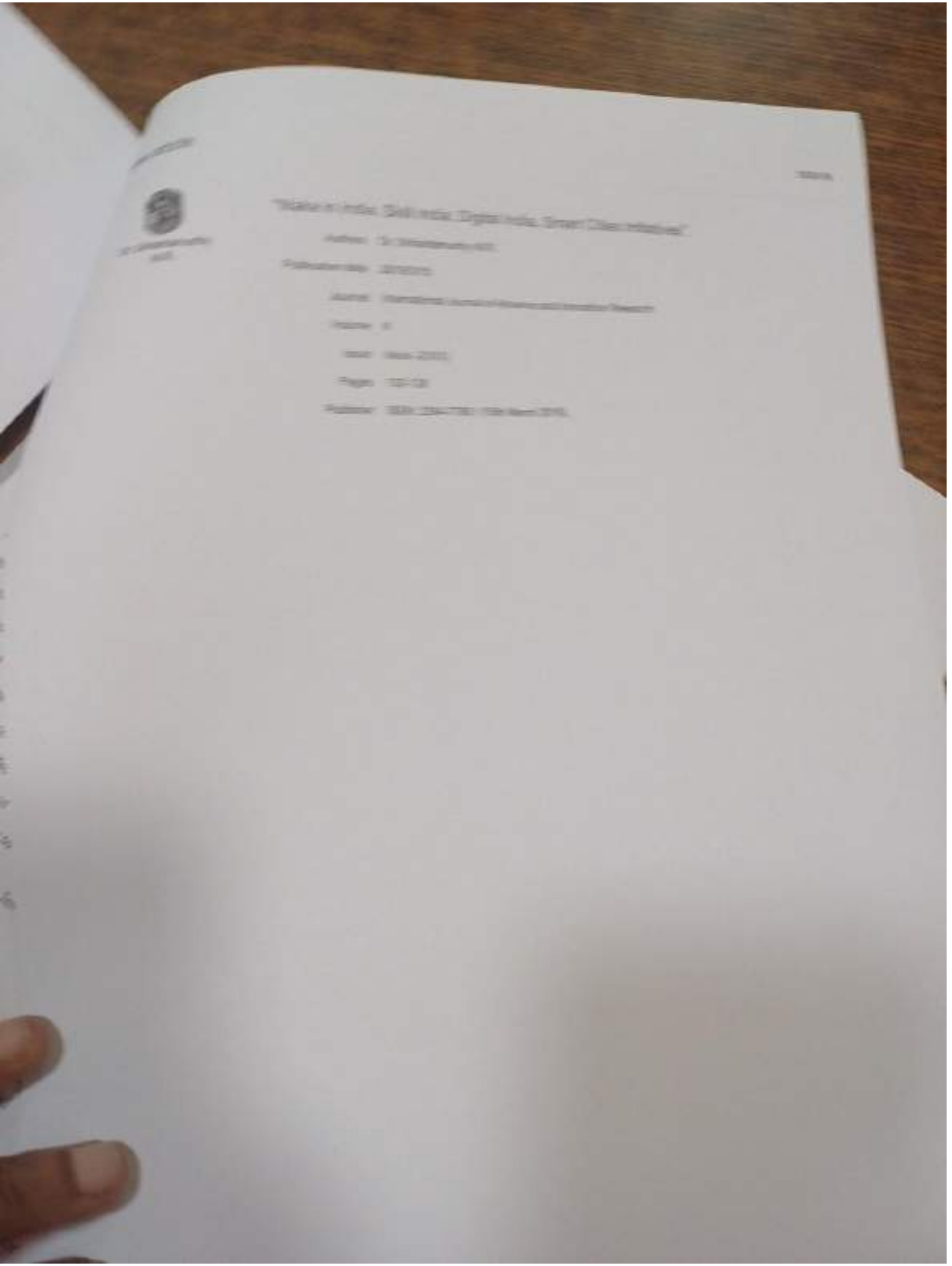

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Behavioural Biases in Investing - Concepts, Categorization, Indicators and Remedial Measures

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Abstract

Investment decisions are not only complex but also reflexive most of the times. There have been several studies to explain these complex decisions of investors. The theory of rationality was not amply successful in explaining the investment behaviour and it intrigued researchers to explore other influencing factors like behavioural aspects. Behavioural finance is a interdisciplinary science that provides supporting evidences to certain erratic behaviours of investors. At this juncture, to bring together the concepts, categorization, indicators and remedial measures to behavioural biases becomes very fetching. The paper attempts to present a vivid description of various behavioural biases, followed by their categorization as cognitive and emotional biases.

In the present study, the behavioural biases of investors are categorized based on market conditions (bull and bear) and volatility as well, to provide an insight and stay conscious about them. An investor should be preferably more ready about biases, a few indicators of the biases and remedial measures to handle the biases forms the essence of the paper. Few tests like Myers Briggs Test etc., identified at the end of the paper can prove to be very handy while handling the behavioural biases in investing in stock markets.

Author Keywords

Bear and Bull Markets, Behavioural Biases, Investments, Remedies, Securities Markets, Volatility

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INFLUENCE OF INVESTOR SENTIMENT MARKET FLUCTUATIONS

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ABSTRACT - Market volatility is a result of a plethora of influencing factors. One such factor is investor sentiment. In general, investors have certain perception and understanding of the macro-economic environment and its impact on stock markets. This cognition leads to investors in the market to trade in certain manner and as result contribute to market movement. The study first aims at identifying the bubbles in the stock market for which recursive unit root test was conducted. The results of the Augmented Dickey Fuller Test indicate that the stock index data is non-stationary and shows bubbles. These bubbles fall close to CPI. To further validate this, two indices viz., Consumer Price Index and Consumer Confidence Index were used as proxies for investor sentiments about the macro economic conditions and were studied alongside with BSE Index Values. Regression Analysis was done to evaluate the relationship between the Market Index and the investor sentiment variables CPI and CCI. It could be statistically established that there is a significant relationship between CPI and BSE Index, whereas the CCI was mildly contributing to the BSE market index. Hence, CPI can be effective indicator of stock market fluctuations and need to be used to understand the existence of bubbles and necessary precautions to avoid losses.

Key Words: Behavioural Finance,Investor Sentiment, CPI,CCI, Stock Market Bubbles

INTRODUCTION

"Investors are rational" is the proposition underlying almost all the traditional theories. The theory of rational investors as opposed by neo-classical economists with their proposition that every investor has limited access to information and an individual is bounded by external constraints as well as one's own behavioral aspects(Somil,2007). Hence, the decision making process is not a strictly rational one, where all relevant information is collected and objectively evaluated, rather, the decision maker makes mental shortcuts in the process(Tversky and kahneman,1974).

The behavioral finance asserted that investor market behavior derives from psychological principles of decision making to explain why people buy or sell the stock (Al-Tamimi, 2005).

Investor Sentiments:

The mood of the investors in general is referred as investor sentiments. It is the prevailing attitude of investors towards a financial market or individual security. Also referred as market sentiment, it develops over time, and usually determined on the basis of huge information pool which is inclusive of both fundamental as well as technical factors. Market sentiment is a common mindset towards a financial market or individual security that drives its value in a given direction. The most common examples of this attitude include a bullish sentiment, which drives prices upward, and a bearish sentiment, which drives prices down.

Generally, investor sentiment is a long standing phenomenon which evolves over time as participants assimilate the available performance information. While there are a number of ways to measure market sentiment, the most common metric is the number of advancing versus declining stocks.

As it describes the outlook of investors in a market, investor sentiment is most evident in overall price trends. It is significant for investors as the nature of market psychology suggests that any given trend may

Prediction and Analysis of Water Resources using Machine Learning Algorithm

Sarakutty T. K., Ravikumar K., Hanumanthappa M.

Abstract: Water demand prediction plays an important role in urban and environmental planning, ecological development, decision-making processes and optimum utilization of water resources. A precise water demand prediction has a key job in the forecasting, design, process, and organisation of water resources frameworks. The under stress natural resources and the ever increasing population size makes it dominant to accurately and efficiently forecast water demand in the urban area which is possible by applying data mining techniques on the huge volumes of available water data. This paper focuses on building precise predictive models for water demand prediction using support vector machine which takes care of the nonlinear changeability of water demand at diverse levels for optimal operations.

Keywords: Data Mining, Machine Learning, Support Vector Machine.

I. INTRODUCTION

Ecological organization of water resources is very important since the economic development of several countries depend on it. Water demand prediction is a crucial factor in ecological water resource forecasting and organization which helps in finding novel water resources. There is an expanded requirement for water demand prediction in light of the fact that it can give a simulated perspective on future and recognize reasonable administration choices to adjust water supply and demand. Accurate water demand prediction is important due to the increase in population growth rates and increase in development growth in urban areas [1]. Exact family unit level figures might be utilized for accurately foreseeing future interest and in distinguishing families that are anticipated to utilize huge amounts of water later on as potential focuses for productivity checking. In any case, making these exact prescient models for utilities information can be trying because of the huge amount of information present [2].

Numerous methods are presented for predicting urban demand for water. The choice of a particular method is based on the available data. In order to predict urban water demand various methodologies like econometric prediction, end-use prediction and time series prediction are available. Deterministic or probabilistic models are the models used for prediction. Deterministic models are extensively used for water prediction.

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Accomplishing the ideal expectation exactness is a difficult assignment in light of the fact that the prediction model should at the same time think about an assortment of dominant features like explanatory variables which influence water request. These incorporate socioeconomic constraints like housing density, population density, occupation, income and water levy; climate information like precipitation and temperature; protection measures and social factors like customer inclinations and propensities. While uncertainties occur during prediction; probabilistic model can be used, wherein the quantifiable uncertainties are identified by allocating probability distribution functions to all explanatory variables inside the prediction model [3]. Water consumption usage data can be collected with at most accuracy using technologies, like smart meter and level sensors. The forthcoming water demand can be modeled better with prediction techniques. The short time prediction of water demand helps in future water demand predictions, optimization of the water system operations and models the water allocation system [4].

The objective of this paper is to develop a prediction model which helps in anticipating the future water demand which is mostly hooked on uncertain parameters. This paper discusses about Support Vector Machine (SVM) used for forecasting water demand which helps in optimal and effective water demand management [5]. The paper is structured as follows. Section 2 deliberates on the research works that has used prediction methods on organization of water resources. The brief overview of the methodology used is explained in section 3. Section 4 elaborates the dataset used in the study. Finally section 5 and section 6 contains the outcomes and the conclusions.

II. RELATED WORK

Data mining techniques helps in extracting hidden intelligent data from a huge collection of data. Different water demand predicting techniques have been suggested with various features linked to precise goals, data availability, forecast horizons, and used variables. To analyse the performance in forecasting water demand, prediction techniques like artificial neural network, support vector machine, deep neural network, Gaussian process regression, multiple regression and random forest can be used. This section provides an outline of the different methods used in predicting water demand. Predictive modeling technique like Regression analysis was used in water demand prediction due to its simplicity and reliability. Artificial neural networks which is a self-adaptive model that captures nonlinearities in data,

A Review of 5G Wireless Technology and its impact on Cloud Computing

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Abstract: We all are aware of the upcoming and trending technology in probably few years which is 5G. This paper discusses about the different generations of mobile network communication, and 5G's effect on Cloud Computing. A detailed review and comparison of different 5G networks presented in the paper.

Keywords: Mobile communication,5G, Cloud Computing, Cellular networks

I. INTRODUCTION

Mobile communication is one of the modern domains with cutting-edge techniques. It is emerging in enormously fast pace currently and deals with all the arenas of mobile and wireless communications. It is also broadly established that Cloud Computing (CC) [1] is a key empowering technologies for the fifth generation (5G) [2] communication networks. 5G is the new experiment in the labs today. It was started before 4G took its hand around the globe. Researchers are really working hard on this project. There are many new technologies emerging with 5G. In fact experts say that with emergence of 5G many new technologies are going to step in of which we have not heard off. Section II discusses generations first four of cellular networks. Section II elaborates.

II. GENERATIONS OF CELLULAR NETWORKS (1G to 4G)

First generation (1G) was introduced in late 1980's. Truly speaking it was not 1G as it was given its name after evolution of 2G. 1G signals are analog signals. 1G was launched by Nippon Telegraph and Telephone (NTT) in Tokyo in around 1979. By the end of the year 1984 it got rolled out in the whole of Japan and in 1983 US approved the first 1G operations and the Motorola's DynaTAC became the first mobile phone. 1G is modulated to higher frequency, typically 150 MHz and up. Three standards, TZ-801, TZ-802, and TZ-803 were developed by NTT (Nippon Telegraph and Telephone Corporation), while a competing system operated by Daini Denden Planning, Inc. (DDI) used the Japan Total Access Communications System (JTACS) standard. The major disadvantage of 1G network was that it was analog network not digital this gave a spark in evolution of 2G [3].

2G is short form of second generation cellular network. These cellular networks were launched on the GSM standard in Finland by Radiolinja in 1991. 2G cellular network became more efficient than 1G with the use of radio frequency spectrum enabling more users per frequency band with[4]. Now GSM became the predominant 2G technology that swept all over the world. 2G networks run on 900MHz frequency and this frequency was used for both 1G and 2G but to make space for 2G, 1G systems were shut down. 2G was able to deliver mobile network. In

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Secured containerization for enhanced security and isolation in collaborative research cloud

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***Abstract*—Cloud services are widely embraced by research institutions to facilitate the collaborative efforts. Although cloud computing enables easy access to the research resources as an alternate to conventional, discrete data management and sharing frameworks, there are several challenges concerning to the security and confidentiality of sensitive research data and applications, shared among researchers. This paper has discussed the security vulnerabilities of cloud environments, security requirements in collaborative research cloud and elaborates approach towards the augmentation of security and isolation of the shared resources in cloud environments. The enhanced access control model presented in the paper ensures the confidentiality of the shared data and tools through containerization and the containers are further secured by applying Linux security modules.**

***Keywords*—Cloud computing, collaborative research, containerization, security, flow control**

I. INTRODUCTION

Due to the breach of security and lack of control on the shared resources, researchers are concerned to share data, tools, and inferences in collaborative research environments. Cloud based reproducible research enables the replication of computational environment deployed by the original researcher to perform inventive analysis using specific application or tool which greatly reduces the time and efforts. Numerous approaches have been suggested for sharing of applications or tools, data, along with complete compute environment among researchers. For example, workflow software, virtual machines and containers are utilized for sharing of applications bundled with all its dependencies. But, the original research owner may lose control over the proprietary tools and applications that get disseminated among multiple researchers.

Although many solutions have been proposed in literatures, to address secure data sharing in collaborative research environments and data owner's access control problem [1] [2], considerable work does not exist on secured sharing and access control of application or tools. Secure sharing of the sensitive research data and applications across such publically hosted collaboration platforms calls for a robust access control approach that assures confidentiality and authorized access.

II. BACKGROUND

Thangapandiyan et al. [3] have proposed a trust management model as service for the providers as well as users and delivers privacy, trust and security from adversaries.

Thilakanathan et al [2] have presented a detailed review about the concerns in sharing of information and importance of retaining privacy and secrecy of shared data in various domains like healthcare, government etc. Authors have illustrated the type of attacks, cloud systems are susceptible to and the major reasons that make the cloud environments prone to these attacks.

Danan Thilakanathan et al. [4] have familiarized an approach for safe sharing of information in collaborative environments based on cloud. Data owner insist on the access policies using XACML policy language. The Policy definition points (PDP) in the object infers the policies and policy enforcement point (PEP) enforces the policy.

Chen et al. [5] have proposed architecture built on software and hardware that bundles data and policies for access control and provides it to authentic users and applications to render a better access control. The solution assigns the policies as hardware tags to the data.

Bacon et al. [6] have inspected the practicability of positioning IFC embodied in the cloud framework itself. Authors have noted the suitability and potential of decentralized IFC models for academic research ventures. The paper has explained various aspects of cloud security with respect to data and reviewed existing as well as proposed work on Information flows control...

Pasquier et al. [7] have conversed regarding the isolation provided by container technology and hypervisor based virtual machines. The proposed IFC empowered cloud model offers secured and elastic data sharing. The paper also brings off a comparison on container isolation and suggested IFC-enabled operating system model.

III. PROBLEM IDENTIFICATION

Even though the utilization of cloud services in collaborative research has manifold benefits, there are numerous challenges with respect to security and confidentiality of sensitive research data and applications,

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A Study on Anomaly Detection for Keystroke Biometrics Using Classification Technique

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ABSTRACT

Anomaly detection is having prominent role in the current era. It is mainly used in the identification of data points, items, observations or events that do not conform to the expected pattern of a given group,as it ends in threat such as cyber intrusions or fraud. The anamoly detection will translate to the problem like a structural defect, medical problems or errors in a text or fraud in banking systems. In our research paper we have discussed about the various stages of data processing such as preprocessing to the classification. We have also compared the results obtained from the various algorithms to choose the best method to use for anomaly detection. K-Means clustering algorithm given the best result in 0.02 seconds time complexity.

1. Introduction

Anomalies generally known as noise, outliers,expectations or deviations. It is mainly applied in business area of research, finding strange patterns in network traffic which causes a data hack, health monitoring, fraud detection etc. The anamoly detection is classified as collective, contextual and point anamoly.In the first case, if one person is copying the information from the remote machine is meant to collective. In the second case of anamoly detection, time-series data of network will be used.In the point anamoly, some data will be guessed from inputs given. Weka is a collection of **machine learning** algorithms for data mining tasks. It is having the algorithms for d. a pre-processing, classification, regression, clustering, association rules, and visualization.

2. Literature Survey

A comparative study of enabling technologies for autonomous Vehicles

Authors	Sharon Gurunath, Bhavyashree
Publication date	2019
Journal	International Journal of computer science and Engineering
Volume	7
Issue	9
Pages	9-11
Publisher	IJCSE

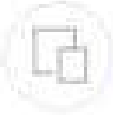
Article

A Statistical Preprocessing based on Ant Colony Optimization (ACO) for Water Data

December 2018
December 2018

Authors:

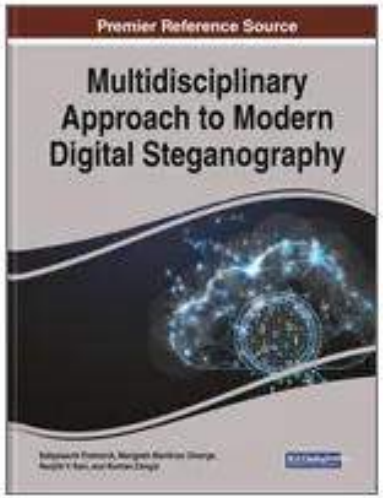
Sara Kutty
Dayananda Sagar Institutions



Hanumanthappa M

Abstract

The existing study advances a modest collaborative united water division model, which can support the managers and pronouncement producers in best distribution of partial water from a stowage basin to diverse employer segments, allowing for socio-economic, environmental and technical facets. Basin/river structures study models are usually employed in the design and assessment of substitute strategies for answering to water linked issues and requirements. One of the key issues is the water resources division and the cost related with impelling, if required. Taking the suitable resolution is measured as an optimal value for preprocessing. The case study expressed in this paper includes a multifarious structure of one dam, two pumping stations and two digression edifices all helping domestic users output unit. The factors cast-off were concentrated to a warmth study to measure their comparative impression on the firm strategy.



Advances in Text Steganography Theory and Research: A Critical Review and Gaps

Gurunath R., Debabrata Samanta

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DOI: 10.4018/978-1-7998-7160-6.ch003

Abstract

There is an immense advancement in science and technology, and computing systems with the highest degree of security are the present hot topic; however, the domination of hackers and espionage in terms of disclosing the sensitive information are steadily increasing. This chapter presents a theoretical view and critical examination of the few text steganography methods in the contemporary world. It tells the direction in which research has developed over the past few years. Cryptography, the encipherment to a certain extent, protects the data by making it unreadable but not safe. Improvisation of the same can be done using another layer of protection that is steganography in which the secret embedded inside the cover text will not be revealed.

An implementation of differential evolution algorithm for optimal water allocation problem

January 2019
January 2019 - 7(5):382-386

Authors:

Sara Kutty
Dayananda Sagar Institutions

M. Hanumanthappa

References (12)

Abstract

Differential evolution algorithm is an optimization technique which is very efficient and simple for global optimization over continuous spaces. This paper applies differential evolution algorithm in water resource allocation and distribution problems in order to allocate water resources in an optimal way. The algorithm considers the optimal allocation as a simulated biological evolution process. The main aim of this paper is to implement differential evolution algorithm, to allocate water resources optimally and to check its efficiency through a case study. The objective is to meet the water demand of the users by minimizing the total water supply from public water source and to encourage the use of other water sources especially rain water harvesting. An optimal water allocation model is considered and the results show that it is simple, accurate in producing the results, adaptable and reliable.

Automatic Segmentation based Graphical Interface for Recognition of Tomography Image Analysis of Damage cell

Publisher: IEEE

K Rajesh Rao ; Debabrata Samanta ; M. T. Somashekara ; R Gurunath ; Abhishek Paul All Authors

Abstract:

The recent improvement in Medical picture development has facilitated Computed Tomography Image study by Automatic division of impaired cell. Automatic division of impaired cell will provide the required information, cross correlation and log value. The contrast between ordinary and impaired cell will provide a correct notion about the impaired cell. Employing the GUI technique, the operator can distinct the provided two image characteristics and accomplish the appropriate examination of the medical image. The benefits of this suggested technique are inexpensive, less time consuming and simple to operate. The operator can easily insert and speculate the values.

Published in: 2019 Third International Conference on Inventive Systems and Control (ICISC)

Date of Conference: 10-11 January 2019

DOI: 10.1109/ICISC44355.2019.9036343

Date Added to IEEE *Xplore*: 16 March 2020

Publisher: IEEE

ISBN Information:

Conference Location: Coimbatore, India

I. Introduction

In today's context, Medical Image Development and analysis has expressed a great part. Examining without image development is not easy. Many techniques and approaches are employed to examine the medical images and they help to investigate the kinds of diseases and its stages. Many Medical Images are examined by GUI using MATLAB. The MATLAB provides the exact digital data about the images. Enormous medical [illegible] examined. The related information is drafted for image administration and image information processing [illegible] and timely answer from the image

GUI-Based Percentage Analysis for Curing Breast Cancer Survivors

Conference paper | First Online: 04 October 2019

pp 319–327 | Cite this conference paper

Deblina Sarkhel, Dhanashree Deka, Debabrata Samanta, M. V. Kumudavalli & Dac-Nhuong Le

Part of the book series: Advances in Intelligent Systems and Computing ((AISC,volume 1013))

Abstract

The modeling approach is increasing the intensity of research in all the domains. The present paper deals with predictive modeling and probabilities. Data analysis is a technique used to transform, reconstruct, and revise some information that is an essential step to achieve the goal or the end result. The present study involves the usage of logistic regression technique for data analysis. Various domain-specific methods pertaining to science, business, etc., are available for data analysis which plays a key role in decision-making and model building. The significance of this analysis is to get the percentage of the survival of patients with advanced breast cancer.

Studies on encrypted secret data storage techniques analogous to steganogra

Authors R Gurunath, Debabrata Samanta

Publication date 2020/1

Journal International Journal of Advanced Science and Technology

Volume 29

Issue 2

Pages 3705-3711

Total citations Cited by 7

Scholar articles Studies on encrypted secret data storage techniques analogous to steganography
R Gurunath, D Samanta - International Journal of Advanced Science and ..., 2020
Cited by 7 Related articles

Role of CSR initiatives on E-learning during and after COVID -19

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Abstract

The concept of e-learning has great potential from the educational perspective that ensure systematic, real time educational facilities for all categories of learners. Even though there was the existence of E-learning for a long time, it has got greater importance due to the COVID-19 pandemic which results in a shift from classroom learning to E-learning. The objectives of this study was to find the CSR initiatives taken by corporate sectors in India and to find out the positive impact of CSR initiatives towards E-learning in rural India. The result shows that few Indian corporate sectors initiated for encouraging the E-learning system in rural areas with CSR fund and there is a huge gap between the expectation and contribution of CSR fund for effective E-learning in rural India. There is a scope of doing more research on CSR initiatives on E-learning and convey the same to the government and corporate sector for contributing adequate CSR funds for effective E-learning system.

Keywords: *E-learning, Corporate Social Responsibility, COVID -19, E-content, Smart classroom, E-platform.*

INTRODUCTION

During 1840's Isaac Pitman, a qualified teacher he was sent completed assignment by mail. In 1954 a Harvard professor, BF Skinner invented the teaching machine which were used by schools to administer instructions to the students. In 1960 the first Computer Based Training was introduced (CBT Program). It was in the year 1999 Elliott Masie was the first person to use the word E-learning at his TechLearn conference at Disneyworld. When the word E learning was first utilized other terms like 'Virtual Learning' and 'Online Learning' were also used during the search of accurate description of E learning. Several schools were set up in early 90's to deliver online courses by using internet and reaching out to learners who were unable to attend colleges.

Driving Decarbonisation through Mobility Transformation

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Abstract

India's unprecedented rise in urbanization, population, and income over the last few decades has had a marked impact on its citizens' mobility. Since1980, India's transport demand has risen by nearly eight times, more than almost any other Asian economy. In many areas, this growth has been good, including the development of the booming automobile industry and associated economic growth. India has a chance to reshape personal mobility and to set other nations an example. It is now crucial for the subject of mobility to be addressed holistically in this growth-driven journey. There are, however, several issues that need tackling. Considering the above stated, this paper aims at- addressing and acknowledging the efforts made so far in the mobility sector, to highlight utilizing more fuel less vehicle and how India can bring about mobility transformation to drive decarbonization and attain environmental sustainability. The paper also aims at providing suitable suggestions to citizens as to what they could do and the role they can play to help India realize its mobility vision.

Keywords: *Mobility as a Service (MaaS), Shared Mobility, Mobility Transformation, E-Vehicles, Environment Sustainability, Citizen Social Responsibility.*

Introduction

Pre – Covid Scenario

India, the world's second populated nation, is a place for 1.3 billion people. With a rapidly growing urban population (2.35% CAGR – Compound Annual Growth Rate between 2011 and 2031), increasing rate of motorization (12.7% CAGR between 2010 and 2025), vital levels of road congestion, rising number of road fatality, insufficient tracking of mobility, declining air quality and

Contribution towards Personal and Social causes using donation-based Crowd funding platforms working in India.

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Abstract:

CSR activities and donation-based Crowd funding is emerging trends and generates financial needs. In simple both are the same coin with different faces which generates financial funds to achieve the target at a specified time towards the social and economic welfare of the society through raising the funds through the Indian based platforms is more competitive and challenging. CSR will create a wide range of opportunities to generate funds through the large number across the country using crowd funding as sources in another way, crowd funding can be used to create a micro fund many personal and social causes and different activities with a company's CSR goals. The study aims at knowing the relationship among fundraisers through a donation-based model in crowd funding using Indian based platforms that have the potential to become CSR activities. Lesser the minimum contribution more the success rate, so it is advisable to minimize the minimum contribution level so many contributors can contribute towards the campaigns. It can helps the needy people which as social and economic impact towards the Indian economy.

Keywords: *Contribution, Donation-Based Crowdfunding, Indian platforms, personal and social causes*

ऋङ्मन्त्रेषु जीवनमौल्याधानम्

- नवीनः भट्टः

सर्वेषां जनानां हितमेव काङ्क्षयन्, सर्वानपि जनान् सन्मार्गे प्रवर्तयन् दुष्टमार्गात् च निवर्तयन् अस्ति वेदः। स्तुतिरूपार्थवादवाक्यैः सत्कार्यं कर्तुं स्व आस्तिकान् जनान् चोदयति, तथा निन्दारूपार्थवादवाक्यैः दुष्टकार्यात् आस्तिकान् जनान् निवर्तयति । अतः विध्यर्थवाक्येन प्रवर्तको भवति, निषेधवाक्येन निवर्तकोऽपि भवति वेदः । अतः वेदस्य व्युत्पत्तिं विद्वांसः एवं दर्शितवन्तः :-"विद्यन्ते ज्ञायन्ते लभ्यन्ते वा एभिः धर्मादिपुरुषार्थाः इति वेदाः" इति विद्-धातुनिष्पन्नत्वात् वेदस्य ज्ञानार्थत्वं, लाभार्थत्वं च दर्शितं ऋग्वेदप्रातिशख्ये । वेदभाष्यकारेण सायणाचार्येणापि अयमेवाभिप्रायः प्रकटितः स्वीयायाम् ऋग्वेदभाष्यभूमिकायाम् – 'इष्टप्राप्त्यनिष्टपरिहारयोः अलौकिकमुपायं यो ग्रन्थो वेदयति स वेदः' इति । वेदस्य स्वरूपविचारे बहवः विचाराः प्रकटिताः विद्वद्भिः, सर्वप्रथमं बौधायन-आपस्तम्बप्रभृतिभिः सूत्रकारैः "मन्त्रब्राह्मणयोः वेदनामधेयम्" इति मन्त्रब्राह्मणात्मकं स्वरूपं वेदस्य इति निर्धारितम् ।

जनान् सन्मार्गे एव प्रवर्तयितुकामाः संस्कारावपनम् एव इच्छन्तः ऋषयः अनेकान् मन्त्रान् जीवनमौल्यपरान् दृष्टवन्तः । तत्र प्राधान्येन संवादसूक्तानि, अक्षसूक्तानि, मण्डूकसूक्तम्, विवाहसूक्तम् इत्यादीनि सन्ति । अत्र कांश्चन विचारान् वयं पश्यामः ।

अस्माकं जीवने दानम् अत्यन्तं प्रमुखं पात्रं वहति । उक्तं "त्रयोधर्मस्कन्धाः" इत्यत्र दानमपि अन्यतमम् । ऋङ्मन्त्रोक्तान् अंशान् पश्यामः – "उच्चा दिवि दक्षिणावन्तो अस्थुर्ये अश्वदाः सहते सूर्येण । हिरण्यदा अमृतत्त्वं भजन्ते वासोदाः सोमप्रतिरन्त आयुः"[1] अर्थात् ये अश्व-हिरण्य-दक्षिणादानादि कर्म कुर्वन्ति ते अमृतत्वं प्राप्य उत्तमलोके विराजन्ते इति । अस्माकं परम्परायां प्राचीनकालादपि विद्वांसःधर्मान्तर्गतत्वेन दानं स्तुन्वन्ति स्म । ऋषयः वेदे दानमेवं स्तुन्वन्ति – दानमिति सर्वाणि भूतानि प्रशंसन्ति दानान्नाति दुश्चरं तस्माद्दाने रमन्ते ___दानं यज्ञानां वरूथं दक्षिणा लोके दातारं सर्वभूतान्युपजीवन्ति दानेनारातीरपानुदन्त दानेन द्विषन्तो मित्रा भवन्ति दाने सर्वं प्रतिष्ठितं तस्माद्दानं परमं वदन्ति । एवं दानेन समाजः सुस्थितौ भवति, अस्मान् द्विषन्तः जनाः अपि मित्रा भवन्ति, दानेन कर्ता सद्गतिमपि प्राप्नोति इति ।

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[1] ऋग् - १०/१०७/२

Reality And Obstacles of Applying and Application of BSC Approach In Indian Banks

Rashmi Akshay Yadav[1], Dr. U. Bhojanna[2]

[1]*Research Scholar, University of Mysore Assistant Professor of Commerce and Management, Dayananda Sagar College of Arts Science and Commerce, Bengaluru.*

[2]*Professor and Head, Department of Management, RNS Institute of Technology, Bengaluru*

Keywords: Financial Dimension, Customer Dimension, Internal Processes Dimension, Learning and Growth Dimension

Abstract

The research aimed to recognize the reality of the application of the Balanced Scorecard (BSC) Approach and the Obstacles applied in Indian Banking System. The researchers have designed a questionnaire composed of two dimensions, then the questionnaire was distributed to male and female employees in Public Sector banks operating in Bangalore City of Karnataka State. Data were statistically analyzed by the SPSS program. The study concluded that the reality of the application of Balanced Scorecard Approach in banks was High in general on all dimensions of the study, and that the most important obstacles to the application of the Balanced Scorecard (BSC)Approach in these banks are the lack of knowledge of these banks and the benefits of the application of this approach. In addition to the high cost of implementation and the lack of qualified personnel to implement it, the study recommended the need for attention and increase banks in focusing on the application of this approach because of its advantages which are Indian banks should work to intensify its efforts to develop and improve banking services to keep up with developments in the world.

INTRODUCTION

The idea of "What can be measured can be managed" has been discussed among administrative professionals. This statement was the first beginnings of the concept of institutional measurement, on which institutions rely on the evaluation of their overall strategy and used many measures (Abu Fadda, 2006). In the 1980s, a set of administrative concepts emerged to monitor processes in

Driving Decarbonisation through Mobility Transformation

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Abstract

India's unprecedented rise in urbanization, population, and income over the last few decades has had a marked impact on its citizens' mobility. Since1980, India's transport demand has risen by nearly eight times, more than almost any other Asian economy. In many areas, this growth has been good, including the development of the booming automobile industry and associated economic growth. India has a chance to reshape personal mobility and to set other nations an example. It is now crucial for the subject of mobility to be addressed holistically in this growth-driven journey. There are, however, several issues that need tackling. Considering the above stated, this paper aims at- addressing and acknowledging the efforts made so far in the mobility sector, to highlight utilizing more fuel less vehicle and how India can bring about mobility transformation to drive decarbonization and attain environmental sustainability. The paper also aims at providing suitable suggestions to citizens as to what they could do and the role they can play to help India realize its mobility vision.

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View article

Sneha Ranganath

SECURITY THREATS IN MOBILE PAYMENT

Authors DIKSHITHA GUJARKAR SNEHA R, PRERANA SHANKAR

Publication date 2020/2

Journal OUR HERITAGE JOURNAL

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Impact of Business Analytics for Smart Education System and Management Functions

| Conference paper | First Online: 03 January 2020

| pp 479–488 | Cite this conference paper

Advances in Computing and Intelligent Systems

Suplab Kanti Podder ✉, Debabrata Samanta & R. Gurunath

Part of the book series: Algorithms for Intelligent Systems ((AIS))

Abstract

Business analytics is the advanced technology-driven system with combined efforts of performing various marketing, finance, human resource management, production and operations management functions and maintaining records, classifying, analyzing the data, and preparing report for managerial decision-making. Smart education system is indicated by the education that builds character and ensures the independent working ability. This calls for creating a learning environment wherein all stakeholders are encouraged to improve their knowledge and ability. Sustainable development is one that

ऋङ्मन्त्रेषु जीवनमौल्याधानम्

- नवीनः भट्टः

सर्वेषां जनानां हितमेव काङ्क्षयन्, सर्वानपि जनान् सन्मार्गे प्रवर्तयन् दुष्टमार्गात् च निवर्तयन् अस्ति वेदः। स्तुतिरूपार्थवादवाक्यैः सत्कार्यं कर्तुं स्व आस्तिकान् जनान् चोदयति, तथा निन्दारूपार्थबादवाक्यैः दुष्टकार्यात् आस्तिकान् जनान् निवर्तयति। अतः विध्यर्थवाक्येन प्रवर्तको भवति, निषेधवाक्येन निवर्तकोऽपि भवति वेदः। अतः वेदस्य व्युत्पत्तिं विद्वांसः एवं दर्शितवन्तः :-"विद्यन्ते ज्ञायन्ते लभ्यन्ते वा एभिः धर्मादिपुरुषार्थाः इति वेदाः" इति विद्-धातुनिष्पन्नत्वात् वेदस्य ज्ञानार्थत्वं, लाभार्थत्वं च दर्शितं ऋग्वेदप्रातिशख्ये। वेदभाष्यकारेण सायणाचार्येणापि अयमेवाभिप्रायः प्रकटितः स्वीयायाम् ऋग्वेदभाष्यभूमिकायाम् – 'इष्टप्राप्त्यनिष्टपरिहारयोः अलौकिकमुपायं यो ग्रन्थो वेदयति स वेदः' इति। वेदस्य स्वरूपविचारे बहवः विचाराः प्रकटिताः विद्वद्भिः, सर्वप्रथमं बौधायन-आपस्तम्बप्रभृतिभिः सूत्रकारैः "मन्त्रब्राह्मणयोः वेदनामधेयम्" इति मन्त्रब्राह्मणात्मकं स्वरूपं वेदस्य इति निर्धारितम्।

जनान् सन्मार्गे एव प्रवर्तयितुकामाः संस्कारावपनम् एव इच्छन्तः ऋषयः अनेकान् मन्त्रान् जीवनमौल्यपरान् दृष्टवन्तः। तत्र प्राधान्येन संवादसूक्तानि, अक्षसूक्तानि, मण्डूकसूक्तम्, विवाहसूक्तम् इत्यादीनि सन्ति। अत्र कांश्चन विचारान् वयं पश्यामः।

अस्माकं जीवने दानम् अत्यन्तं प्रमुखं पात्रं वहति। उक्तं "त्रयोधर्मस्कन्धाः" इत्यत्र दानमपि अन्यतमम्। ऋङ्मन्त्रोक्तान् अंशान् पश्यामः – "उज्जा दिवि दक्षिणावन्तो अस्थुर्ये अश्वदाः सहते सूर्येण। हिरण्यदा अमृतत्त्वं भजन्ते वासोदाः सोमप्रतिरन्त आयुः"[1] अर्थात् ये अश्व-हिरण्य-दक्षिणादानादि कर्म कुर्वन्ति ते अमृतत्वं प्राप्य उत्तमलोके विराजन्ते इति। अस्माकं परम्परायां प्राचीनकालादपि विद्वांसःधर्मान्तर्गतत्वेन दानं स्तुन्वन्ति स्म। ऋषयः वेदे दानमेवं स्तुन्वन्ति – दानमिति सर्वाणि भूतानि प्रशंसन्ति दानान्नाति दुश्चरं तस्माद्दाने रमन्ते ___दानं यज्ञानां वरूथं दक्षिणा लोके दातारं सर्वभूतान्युपजीवन्ति दानेनारातीरपानुदन्त दानेन द्विषन्तो मित्रा भवन्ति दाने सर्वं प्रतिष्ठितं तस्माद्दानं परमं वदन्ति। एवं दानेन समाजः सुस्थितौ भवति, अस्मान् द्विषन्तः जनाः अपि मित्रा भवन्ति, दानेन कर्ता सद्गतिमपि प्राप्नोति इति।

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[1] ऋग् - १०/१०७/२

The śāstramañjūṣā, Peer Reviewed Research papers on Indology 11th Issue / Vol.VI – December, 2020
https://sites.google.com/site/pranchiprajnaa/sastramanjusa

- "य आध्राय चकमानाय पित्वः अन्नवान् सन् रफिताय उजजग्मुषे ।स्थिरं मनः कृणुते सेवते पुरोतो चित्स मर्डितारं न विन्दते" ॥"स इद्भोजो यो गृहवे ददाति अन्नकामाय चरते कृशाय"।
- मोघमन्नं विन्दते अप्रचेताः सत्यं ब्रवीमि वध इत्सतस्य । नार्यमणं पुष्यति नो सख्यायं केवलाघो भवति केवलादी ॥
- कृपन् इत्फालः अशितं कृणोति यन् अध्वानं अपवृङ्क्ते चरित्रैः । वदन् ब्रह्मा वदतः वनीयान् पृणन्नापिः अपृणन्तमभिष्यात् ॥

अत्र केचन मन्त्राः दानमेव मुख्यविषयत्वेन स्वीकृत्य तदन्तर्गतत्वेन अन्नस्य (कृषेः) प्रामुख्यं कथयन्ति, यथा अन्नवान्, अन्नकामाय चरते इत्यादिरूपेण अन्नवतः पुरुषान् श्लाघयन्, मोघमन्नं विन्दते, केवलाघो भवति केवलादी इत्यादिरूपेण यः पुरुषः विद्यमानमपि अन्येभ्यः न वितरति तं निन्दति श्रुतिः ।अत्र मन्त्रे कृषकस्यापि निर्देशं करोति श्रुतिः 'कृपन् इत्फालः अशितं कृणोति' इति, अर्थात् यः कृषकः सर्वदा कृषिकार्यं कुर्वन् इतरान् जनान् पालयति तं सर्वदा देवता अन्नवन्तं करोति इति ।

सूची पदानि (कूटशब्दाः)–

- वेदस्य संक्षिप्तपरिचयः
- दानस्तुतिः
- संस्काराधानम्
- समाजे सन्तुलितस्थितिपरिपालनम्

अस्मिन् प्रपञ्चे अत्यन्तप्राचीनतमः वाङ्मयः वेदः इति श्रूयते । ऋषयश्च अस्य द्रष्टारः न तु कर्तारः सन्ति । यतः वेदोऽयं अनादिः इति उच्यते । वेदस्य अनादित्वे ऋषीणां द्रष्टृत्वे च श्लोकोऽयं प्रमाणीभूतः वर्तते यत् –"युगान्तेन्तर्हितान् वेदान् सेतिहासान् महर्षयः । लेभिरे तपसा पूर्वं अनुज्ञाता स्वयम्भुवा"।[2] इति ।अस्य समस्तज्ञानाकराणां ग्रन्थानाम् आधारभूतत्वात् चराचरवस्तुहितार्थत्वाच्च भारतीयपरम्परायां प्रामाण्यं सर्वैःआस्तिकैः समानरूपेण अभ्युपगतं वर्तते । उक्तं च मनुना :- "वेदोऽखिलो धर्ममूलं स्मृतिशीले च तद्विदाम् । आचारश्चैव साधूनां आत्मनस्तुष्टिरेव च ॥[3]चातुर्वर्ण्यं त्रयो लोकाश्चत्वारश्चाश्रमाः पृथक् । भूतं भव्यं भविष्यं च सर्वं वेदात् प्रसिद्ध्यति ॥[4] भगवता कृष्णद्वैपायनेनापि महाभारते भणितं –

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[2] महाभारतम्

[3] मनु-२-६,६

[4] मनु-१२-९७

Impact of Business Analytics for Smart Education System and Management Functions

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| pp 479–488 | Cite this conference paper

Advances in Computing and Intelligent Systems

Suplab Kanti Podder, Debabrata Samanta & R. Gurunath

Part of the book series: Algorithms for Intelligent Systems ((AIS))

Abstract

Business analytics is the advanced technology-driven system with combined efforts of performing various marketing, finance, human resource management, production and operations management functions and maintaining records, classifying, analyzing the data, and preparing report for managerial decision-making. Smart education system is indicated by the education that builds character and ensures the independent working ability. This calls for creating a learning environment wherein all stakeholders are encouraged to improve their knowledge and ability. Sustainable development is one that

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A STUDY ON WOMEN EMPOWERMENT THROUGH ENTREPRENEURSHIP - ISSUES AND GOVERNMENT INITIATIVES

Dr. Savita Trivedi[1]

Abstract

In India, many institutions are supporting women entrepreneurship. Many institutions have been established for the development of women, such as, National Bank for Agriculture and Rural Development (NABARD) District Financial Institutions (DFIs), National Institute for Entrepreneurship and Small Business Development (NIESBUD), Entrepreneurship Development Institute of India (EDII,) Small Industries Development Bank of India (SIDBI), Federation of Indian Women Entrepreneur (FASME), Self Employment Women Association (SEVA) Association of Women Entrepreneurs of Karnataka(AWAKE) and World Assembly of Small and Medium Entrepreneur (WASME) etc. It is required to understand their potential that encourages other women to start their ventures. On one hand they can look after of their family and on the other hand they can use their intelligence at workplace for psychological satisfaction. This paper focuses on the challenges faced by the women entrepreneurs and the initiatives taken by the goverament to empower the women.

Key words:-
Women empowerment, women entrepreneurship, issues, government initiatives etc.

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ROLE OF MICROFINANCE INDUSTRIES IN POVERTY ALLEVIATION IN INDIA

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ABSTRACT

Microfinance is considered a key to inclusive growth.In the past few years microfinance sector has seen promising growth on the back of the rapidly growing Indian economy. The aim is to develop deep domestic financial markets with sound and healthy financial institutions that serve the majority of the pooe population. This sector has been instrumental in offering formal credit to underserved low-income households and micro, small and medium enterprises (MSMEs), thereby increasing the contribution of these segments to India's overall GDP. Microfinance includes all the initiatives taken by different agencies irrespective of legal forms and models. MFIs and SHGs were there, recently banks are showing interest and mostly operate by Business Correspondence model partnering with MFIs. This paper focuses on the role of microfinance industries in reducing the poverty in India.

Keywords: Microfinance, self help groups, NBFCs and NBFC- MFIs, achievements, etc.

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Consumer Awareness And Perception Towards Green Marketing: An Empirical Study In Bangalore City

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Abstract

Green marketing refers to the process of selling the products and services based on their interest and environmental benefits to the society. Green marketing is typically practiced by many environmental companies that are committed to environmental and social responsibility. Green marketing is a new strategy to protect society and environment. The main thrust of the study is to measure the relationship among consumer awareness and perception toward green marketing with reference to Indian Tobacco Company (ITC) Limited. Study finds that there is positive association between gender and annual income of ITC consumers in Bangalore city and concluded that there is relationship between consumer awareness, consumer perception, environmental concerns, and consumer buying decision of green marketing products of ITC cosumers in Bangalore city.

Keywords: Green Marketing, Consumer awareness, Environment, Perception.

Introduction

Green marketing is one of the strategies that can help to the companies selling their products and services achieve their primary goals of the business **(Papadas, K. K et al, 2019)**. These types of strategies focuses on create on sustainable environmental benefits. Green marketing is processes by which individuals and groups and environmental groups fulfill their demand and objectives through a strategic approach that minimize the effects of negative environmental impact **(Chung, K. C, 2020)**. In this manner, Green marketing has scope of exercises of showing which incorporates different items, creation of new items, measures, building cycle and promoting. Because of environmental quick changes, a significant worry for the environmentalist and individuals are to protect the mother of earth **(Sharma, A. P. 2021)**. The biggest challenge for green marketing product companies is how to create environmental friendly marketing communication with mix platforms that is mandatory for green marketing activities by various companies **(Nandish, J et.al 2021)**. Consumers demand new eco-friendly green products by assessing features like quality, price, labeling and durability etc. and similarly green products companies also taking initiative

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Assessing Behavioral Factors Affecting Precision Technology Adoption among Indian Farmers with special reference to Raichure district

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Abstract

Even with the promising benefits, precision agriculture initiatives have not generated desired adoptability among Indian farming community due to greater resistance to adopt technology. This scenario needs to change to bring socio-economic development. Smooth technology transition requires effective strategies designed after careful assessment of its determinant factors. This study aims at assessing the individual behavioral factors affecting precision technology adoption. This study attempts to link between individual perceptual factors with intention to adopt the technology. Study is conducted at Raichure district of Karnataka clustered into dry zone with less irrigated land and huge cultivable waste land (which represent largely Indian agriculture demography). Various individual perceptual factors influence the technology are considered for the study. Study reveals link between behavioral factors with intention to adopt. Based on data analysis strategic are suggested to enhance precision farming adoption in Indian Agriculture which can pave way for socio-economic development into Indian farming society.

(Key words: Agriculture productivity, Farmers' perception, Precision technology adoption, Government Strategies, Socio- economic Development)

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MAIZE FUTURES AS A RISK MANAGEMENT AND PRICE DISCOVERY TOOL AND THEIR CESSATION FROM MARKET. -AN ANALYSIS WITH REFERENCE TO MAIZE GROWING DISTRICTS OF KARNATAKA, ANDHRA PRADESH AND TELANGANA

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Abstract

Commodity derivatives are risk management tools and are contracts built on commodities which will have a transaction on the same day and settlement in the future. Futures are one among the derivative products which does the role of hedging and helps in the price discovery of the underlying commodity. If the futures price of a commodity has to converge to the spot price in order to discover the price, information that affects the demand and supply factors leading to convergence need to be focused. Past research posted the establishment of organized futures exchanges, their role in price discovery with respect to some commodities as well as commodity indices. But the evidences are neither comprehensive nor conclusive in any manner. Empirical research on the subject over the last decade showed that the introduction of derivatives contracts improved the liquidity and reduced informational asymmetries in the market to some extent. Researchers attempted to find the impact of price information dissemination on price discovery and hence the benefits to market participants, both producers and consumers.

In this study authors attempted to evaluate the problem of information dissemination across market players in Karnataka, Andhra Pradesh and Telangana states with special reference to maize. Maize the 'queen of cereals', is the hope of

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Consumer Awareness And Perception Towards Green Marketing: An Empirical Study In Bangalore City

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Abstract

Green marketing refers to the process of selling the products and services based on their interest and environmental benefits to the society. Green marketing is typically practiced by many environmental companies that are committed to environmental and social responsibility. Green marketing is a new strategy to protect society and environment. The main thrust of the study is to measure the relationship among consumer awareness and perception toward green marketing with reference to Indian Tobacco Company (ITC) Limited. Study finds that there is positive association between gender and annual income of ITC consumers in Bangalore city and concluded that there is relationship between consumer awareness, consumer perception, environmental concerns, and consumer buying decision of green marketing products of ITC cosumers in Bangalore city.

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Examining the role of Organizational Justice and Perception of Politics on Job Performance of Faculty members in Higher Education

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ABSTRACT

The behaviour of people in organizations is mainly influenced by their perceptions towards the various aspects of the organization. Organizations should ensure that the employees perceive fairness in terms of rewards, various processes and treating the employees with respect and dignity in determining various outcomes. Perception of organizational justice tends to enhance the positive work related behaviours among employees resulting in trust, commitment and job performance and reduces the counter-productive work related behaviours such as absenteeism, turnover and lack of productivity. The purpose of this investigation was to find out the role of Organizational Justice (OJ) and Perception of Politics (POP) on faculty Job Performance (JP) in higher educational institutions (HEIs) in the Indian context. 273 faculty members with more than two years of experience were chosen for the present investigation. The hypotheses were tested using statistical techniques such as one-way ANOVA, Pearson correlation and Multiple Regression analysis. The results showed that faculty experienced a high level of Organizational Justice and moderate level of Politics in their workplace, and high levels of Job Performance. Organizational justice influenced Job Performance of faculty. However, perception of politics did not influence their Job performance. The findings of the study add to the theoretical literature and also contribute in suggesting ways to build a truly inspired workforce.

KEYWORDS

Higher Education, Organizational Justice, Perception of Politics, Job Performance, Organizational Behaviour

INTRODUCTION

Colleges and universities are game changers in determining and shaping the future and career of students. In order to make the students employable and industry ready, these HEIs have modified their curriculum as per the requirements of the industry. Hence, there is a lot of pressure on the faculty members to deliver world-class knowledge to their students. This requires the faculty of HEIs to be highly engaged and deliver a superior performance. Hence, it is imperative to study about the organizational difficulties faced by teachers in HEIs (Suganya, 2017).

Higher education is a means of obtaining a successful and sustainable life resulting in financial security and a splendid career (Kyllonen, 2012). It is through higher education that the nationwide progress can be attained (Tsai, 2012). Over the years the education sector has become comparable to any other commercialized and business organizations and concepts such as organizational justice, perception of politics, work engagement and job performance have become equally relevant and significant for this sector too.

There have been several studies revolving around power and politics over the last many centuries. No organization which involves people is free from politics and educational institutions such as colleges and universities are no different from this. People tend to bond in every workplace on basis of certain common grounds and in order to stay influential or to exert some kind of influence on others in the organization.

Workplace politics can be healthy only up to a certain extent, beyond which it becomes detestable. There is no denying the fact that organisational politics is an inseparable part of all places of work and every employee experiences it at multiple levels throughout his/her career. However, organisational politics as a concept is not to be neglected as it is capable of

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Consumer Awareness and Consumer Perception towards Green Buying Decisions: An Empirical Study in Bangalore

Harshith Babu V S, Vijaya Kumar J, Venkatesh B R

Abstract: Green marketing refers to the process of selling the products and services based on their environmental benefits. Green marketing is typically practiced by companies that are committed to sustainable development and corporate social responsibility. The obvious assumptions of green marketing are that potential consumers will view a product or service's "greenness" as a benefit and base their buying decision accordingly. The main purpose of the study is to measure the relationship among consumer awareness, consumer perception and consumer buying decision with regard to green marketing practices carried out by ITC LIMITED. The findings reveal that there is a positive relationship between consumer awareness, consumer perception and consumer buying decision with regard to green marketing.

Keywords: Consumer awareness, Consumer perception, Green Marketing.

I. INTRODUCTION

In early 1980's, there have been natural issues, for example, a dangerous atmospheric deviation, the nursery impact, contamination and atmosphere changes which are straightforwardly identified with mechanical assembling and this will keep on influencing human's exercises. Henceforth Green promoting developed so as to save the earth while fulfilling customers, inclinations so long haul benefits can be made in organizations. Green promoting is additionally named as natural showcasing or environmental advertising. As indicated by American affiliation, promoting of items which should be earth safe is called as green advertising. In this manner, wide scope of exercises is secured under green showcasing which incorporates item changes, creation measure, bundling cycle and promoting. Because of the quick changing environment, a significant worry for the individuals is to protect the mother earth. To have a feasible, contamination free condition, it is incomparable to execute the idea of green promoting. Green advertising is developing as a mainstream limited time, methodology inferable from expanded customer mindfulness and concerns. The conspicuous supposition of green showcasing is that potential customers will see an item or administration's "greenness" as an advantage and base their purchasing choice in like manner. The not really evident supposition that will be that purchasers will pay more for green items than they would for a less green practically identical elective item. ITC ltd is one among the best ten organizations in India rehearsing green promoting. It was set up in 1910. It has five expanded organizations which are quick moving customer merchandise, lodgings, paper pontoons and forte papers, bundling, Agri-business and data advances. ITC's attention is on being a carbon-positive, water-positive, zero-strong garbage removal association drives it to continually create methods of decreasing, reusing and reusing.

II. REVIEW OF LITERATURE

Shuba.N (2019) found that underlined that in India green marketing is in initial stages. Consumers are not aware of green initiatives undertaken by various government and non-government agencies signifying need for more efforts from organization in this regard. Green marketing should be pursued with greater vigor as it has environmental and social impact. Green marketing should help protect environment for future generation.

Prof. Jaya Tiwari discusses that green marketing is still in the stage of childhood in the Indian companies. It will come with drastic change in the world of business if all nations will make strict rules because green marketing is essential to save the world from pollution. Indian market customers too are ready to pay premium price for green products. There is a need for green marketing and a need for a shift in the consumers' behaviour and attitude towards more environment friendly life style.

Ravinder Kaur (2017) has explained that Eco-label will be considered as a major tool for Environmental marketing. The government, the organizations and the customers have to put hands together in creating awareness of eco-friendly products. Marketing was to think how to make more consumption and green marketing is when we think how to consume less.

Harendra Pal Singh Chauhan and Dr. Ramesh Chaturvedi (2015) found that the earlier perception of industry towards green marketing was that the pressure for marketing was that the pressure for making business environment and behaving in a more responsible manner especially comes from government and its legislations. Now perception is changing globally as studies performed on consumers reflect that in most countries' consumers are becoming more aware and willing to act on environmental concerns.

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INVESTMENT DECISION IN MERGED COMPANIES AND FORECASTING PRICE MOVEMENTS USING TECHNICAL INDICATORS WITH SELECTED EQUITY STOCK IN INDIAN STOCK MARKET

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ABSTRACT: Of late stock trading has become a key profession and day by day many people are showing interest to enter into stock trading. In stock trading there is always a risk of losing the money. So, the investors use fundamental analysis and technical analysis in order to forecast price movements of shares and understand risk minimization. This current study is mainly focused on various technical indicators used in technical analysis of stock market. Technical analysis is more reliable in forecasting short term price movements, and not the long-term price. In technical analysis future prices of shares are predicted based on the historic data like price movements, trade volumes, and buy or sell patterns of investors. In general, there are four major types of technical indicators namely trend, momentum, volume and volatility. For the purpose of this study we have selected SBI and Bank of Baroda stock. In this study we try to understand functioning of various indicators used in analyzing the stock market and also try to figure out the range up to what extent an investor can rely on technical analysis.
Key words: Stock market, technical, indicator, Investment, Price movements, Stock trading.

I. INTRODUCTION

Technical analysis has started back in 18th century when a person called Munehisa Homma, highly successful business men from Japan, started recording high price volatility and trading patterns with the images that evolved into today's candlestick charts. The trading study should be well planned with a proper ground work and the technical indicators forecasting future price based on historic data. The analysis is clear where we the study of various forces in the market and their effect on the share prices through technical analysis. So, all the parameters should be factored in for conducting technical analysis on the stock trading. In the past, experts of equity market performed technical indicator analysis to understand and to reflect on price charts for price movements registered at the market and we have use various technical indicators to asses and to foresee the future price fluctuations. Using these technical indicators one can essentially take a good investment decision for short and medium term, and also determine one can enter or exit the financial market.

Technical analysis here is a broad field and the technical indicators are labelled fewer than four categories, with each indicator different from another in forecasting the price moments. The SMA (Simple Moving Average) and (Moving Average Convergence Divergence) MACD are the technical indicators that reflect the trend in the market. RSI (Relative Strength Index) and Stochastic Oscillator are the indicators that indicate the momentum in the market. Bollinger Band, Standard Deviation, and Average True Range show volatility in the market. Finally, Chaikin Money Flow and (On Balance Volume) OBV indicate volumes in the market. Although the technical analysis is a study of charts, graphs and historic data related to price and volume of a share, it is to be noted that technical understanding is entirely based on price and does not include B/S (balance sheet) and P&L (profit and loss) accounts of a company. In this study certain assumptions were taken which made the market "efficient" and all possible "price sensitive" information is included in price graph of a "security/index". Besides, major technical indicators which are broadly used in literature are studied along with their functionalities.

II. LITERATURE REVIEW

In the research work conducted by J. Sharmila et al [1] on "Forecasting Stock Trend Using Technical Indicators", the author tried to study the different technical indicators effectiveness and its forecasting ability on the selected share price. Study was carried out on 22 technical indicators and it was concluded that in order to effectively execute the trade plan, it is necessary to understand the technical indicators. It was also demonstrated that technical indicators help investor to take crucial decisions primarily like the enter or exit strategy in the market at the right price / time thereby resulting in increasing the profitability proportion. In one of his research works titled "Forecasting the Equity Risk Premium: The Role of Technical Indicators",

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Behavioral Challenges of Technology Adoption among Bank Employees: A TAM perspective

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Abstract: Technology transition is surest for any business survival and growth. Across the globe business environment doesn't permit any leverage on technology adoption. The recent pandemic further made it mandatory for every organization to transform into technology enabled business operation. Many sectors were forced to adopt faster technology change to keep pace of business. Banking sector is no exception for this. After merging under single umbrella SBI has initiated technology transition and attempting to offer technology at fingertips both for its employees and customers. In recent press release SBI announced adoption of automation, AI and Machine learning in most of its back-end jobs for operational efficiency and cost advantage. These initiatives cannot be deployed in isolation; it has to have human interface to complete business process. And natural human response for any change is resistance. This is not easier transition rather this is continuous process with many challenges. The major issues are employees' adoptability to the changing technology in the job performance. Individual perception and intentions are major determinant factors for any technology adoption. Technology Adoption Model elaborately explains human behavioral responses to new technology. Perceived usefulness and Perceived ease of use are two major attributes to the behavior intentions. This study attempts to test these attributes among bank employees with respect to implementation of information technology in banking service. Resistance for any change is human nature, but preparedness to overcome this resistance is need of hour for organizational and employee survival.

Keywords: Technology, Technology Adoption Model, Banking, Employees, Technology adoption)

INTRODUCTION

Every business is under the pressure to minimize the operational cost and enhance the customer value offerings. Digitization across globe has compelled Indian banks towards technology enforcement into its operation with hope to reduce the operational cost and provide the banking services at finger tips of customers. Digitization of banking services aim at frictionless banking services, 'anybank, anywhere, anytime'. Few ambitious projects like; 'Central Banking Depository' (CBD), 'Universal Bank Account' (UBA) (Sanghai, 2020) etc. are in pipeline. Any banking services digitized cannotfunction in isolation there is need for human interface to develop and complete these transactions. This process of technology transition results employees working with machine/bots. Change process hinge upon the people involved in the system. Organizational culture, interaction of people supports the change. Shared values, beliefs, assumptions and expectations determine the behavioral intentions towards any change. The natural behavioral response for any technology change will be resistance. It's important at this point of time to study the challenges faces by bank employees in the process of digitization, so as to address and bring in required solution to facilitate present and future course of digitization.

The present pandemic laid down new norms of operation and fear of getting infected injected uneasy environment(Deloitte, 2020) on the other hand banks are anticipating huge losses due to economic slowdown (McKinsey, 2021). Banks are getting struck in between these complex situations. In addition, the pressure to retain consumers with their changing needs, and operational efficiency to maintain the profitability adds spices to the problems.

TAM overview

Several research studies have been propounded to define acceptance of technology and information system (Ajzen, 1991; Davis, 1989, Davis et al., 1989, Taylore and Todd, 1995 Moore, 1987). Among all Technology Acceptance Model is widely tested and cited model in information technology adoption behavior (Davis and Venkatesh, 1989, Venkatesh and Davis, 1989). Davis (1989) proposed two major determinant factors for technology adoption as, 'Perceived ease of use' and 'Perceived usefulness'. Theory of reasoned Action by Ajzen and Fishbein (1980) refers to determinant of conscious intended behaviors. Theory of Reasoned Action exhibits direct relationship between 'beliefs' and 'attitudes' which result into 'Action'. However, TAM also assumes

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Need and scope for revival of Indian banking and insurance sector in post covid-19 period: A conceptual study

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Abstract: Covid-19 widely known as (Corona Virus) had its fair share in disrupting the overall economic activities across the globe and so is in India. Banking and insurance sector largely regulate economic activities. In India, most of the economic activities are backed by the diversified small, medium, and big monetary institutions. As the economic witnessed standstill during lockdown, corporate and retail clients had posed credit risk for banks. Information technology and digitalized payment options supported in smooth transition and aided business continuity. Insurance as a commodity has gained prominence during and aftermath of the pandemic. Prior to the healthcare crisis, only 10 percent of people in India bought health insurance, now 71 percent and above people consider health insurance is necessary weapon to fight against the unforeseen pandemics like Covid-19. At this stage, it is important to understand the impact of such emergencies on banking and insurance sector to enable appropriate revival strategies to assure required economic support for business and country at large. This conceptual paper attempts to review and analyze the need for and revival strategies adopted in the banking and insurance sector. Framework for the study is built based on online and off-line literature review and the corporate white papers published. Further this study proposes strategies to fill the gap between economic need and operational functioning of the sectors. The scope of this paper would be to throw some light on the challenges faced by banking in the form of credit risk, NPA's and Insurance sector in India and the measures for sustainable future.

Keywords: Covid-19, Indian Economy, Banking, Insurance, Revival Strategies.

INTRODUCTION

India along with other countries across the globe witnessed the severity of pandemic (Covid-19) which caused an imbalance in the routine functioning of all sectors of our economy.Measures taken at initial stages to control the widespread of virus by the Indian Government by imposing complete lockdown except for the essential services had a dark shadow on economy resulting in financial crisis for small time vendors, busines establishments and organizations.This was/is a challenge for any developed or developing countries, a healthcare crisis with such magnitude was never witnessed in the recent past. Economies across the globe witnessed steep contractions from the second quarter of 2020 while Indian GDP was at 23.9 percent, an all-time low figure as stated by RBI "historic technical recession"(Mukhopadhyay, 2021).

Banks hand had tremendous pressure in delivering financial services and ensure there is no fund crunch across the country. It was challenging task for banks to ensure flow of money in economy to ensure day to day requirements of people (Limbare, Nitesh, 2014). There was need for innovative thinking, technology enabled services (Ashish and Devang, 2020) to reach people at their door-steps/finger tips. On the other hand, slower economic activities were mounting 'Non-PerformingAssets'.There were operational and service delivery issues due to lockdown regulation. To address all these problems several initiatives have been floated. An execution of plans discovered several challenges. Revival of banking strategies are the only way out to the present crises.

As the healthcare crisis posed threat for survival of the individuals, Health insurance gained popularity. Insurance service providers have played a pivotal role in displaying their purpose driven, resilient and adaptable approach during the health care crisis in the country. Sudden awareness and compulsion of health insurance floated greater business opportunities. Mapping these opportunities with possible risk/claim liability defiantly was matter to be seriously calculated for sustainability.

RESEARCH OBJECTIVE

The ideology behind this research is to highlight the challenges faced by the commercial banks and the Insurance sector due to the pandemic. The scope and need of measures taken by these sectors in stabilizing the overall processes and transition involved in overcoming the unforeseen hurdles. The following are the primary objectives of the research paper

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INDIAN MANAGEMENT EDUCATION CURRICULUM & INDUSTRY EXPECTATIONS - DIAGNOSING AND FILLING THE GAP

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2. Associate Professor and Deputy Director-Research, ISBR Business School, Electronic City, Bangalore-560100, Karnataka, India.

ABSTRACT

The management education in India took practical shape during early sixties with establishment of institutions like Indian Institutes of Management (IIMs) to train young minds in the art &science of management. Since then many universities have started Faculty of Management Studies and various other management institutions have also come up to cater to the growing demand of managers, both locally and globally. However, LPG (liberalization, privatization and globalization) have made a ground for popping up of hundreds of private, commercialized management courses and institutes. Changing economic conditions and intensification of global competition have given management education an increasingly key role in the success of business houses. Except IIMs and other statutory institutions in India, nearly 95% of higher education institutions (HEIs) have been directly or indirectly regulated and monitored by University Grants Commission (UGC) and All India Council for Technical Education (AICTE), under siege of the Ministry of Education, Government of India. The model curriculum, which is devised by UGC and AICTE guides, by and large, the board of studies (BoS) of universities, academic councils of autonomous and stand-alone institutions. What is the quality of the model curriculum? How often it is updated? Does that model curriculum ensure updated learning and make students industry-ready? The condition is still worse for affiliated colleges of universities, including engineering and management institutions, which are compelled to follow the curriculum prescribed by the university, hardly reviewed for over a decade.

Thus, this paper will focus on current scenario of managing management institutions& education in India, diagnosing the gap between management education curriculum & industry expectations. This paper also examines the effort that has to be put in changing management education curriculum to assure quality and meet industry expectations.

Keywords: Curriculum, Gap, Industry Expectations, Management Education, Management Graduate Skill set

I. INTRODUCTION

The management education in India took practical shape during early sixties with establishment of Indian Institutes of Management to train young minds in the art &science of management. Since then many universities have started faculty of management studies and various other management institutions have also come up to cater to the growing demand of managers, both locally and globally.

However, liberalization, privatization and globalization have made a ground for popping up of hundreds of private, commercialized management courses and institutes. Most of which do not have even basic infrastructure, what to talk about their managerial professionalism. The very attitude, quality, ethics, standards, openness, creativity, logistics etc, required for any professional course are missing in most of these institutions.

A novel approach for linguistic steganography evaluation based on artificial neural networks

Authors R Gurunath, Ahmed H Alahmadi, Debabrata Samanta, Mohammad Zubair Khan, Abdulrahman Alahmadi

Publication date 2021/8/26

Journal IEEE Access

Volume 9

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Publisher IEEE

Description Increasing prevalence and simplicity of using Artificial Intelligence (AI) techniques, Steganography is shifting from conventional model building to AI model building. AI enables computers to learn from their mistakes, adapt to emerging inputs, and carry out human-like activities. Traditional Linguistic Steganographic approaches lack automation, analysis of Cover text and hidden text volume and accuracy. A formal methodology is used in only a few Steganographic approaches. In the vast majority of situations, traditional approaches fail to survive third-party vulnerability. This study looks at evaluation of an AI-based statistical language model for text Steganography. Since the advent of Natural Language Processing (NLP) into the research field, linguistic Steganography has superseded other types of Steganography. This paper proposes the positive aspects of NLP-based Markov chain model for an auto-generative …

A Novel Approach for Semantic Web Application in Online Education Based on Steganography

Authors	D. Gurunath, R., & Samanta
Publication date	2021
Journal	International Journal of Web-Based Learning and Teaching Technologies (IJWLTT)
Volume	17
Issue	4
Pages	13
Publisher	IGI Global
Total citations	Cited by 15

Scholar articles A novel approach for semantic web application in online education based on steganography *
R Gurunath, D Samanta - International Journal of Web-Based Learning and ..., 2022
Cited by 15 Related articles All 6 versions

Cloud Computing based Monolithic to Containerization using Elastic Container Service for Phylogenetic Analysis

Publisher: IEEE

M V Kumudavalli ; G Venkatesh All Authors

Abstract:
Tremendous growth in Biotechnology field and the newer inventions have posed a lot of challenges to the technology domain which replicates the Demand-Supply model. The Phylogenetic analysis process involves analysing the sequences and building various forms of trees which depicts the evolutionary relationship among the organisms of interest. This process involves functioning of pipeline of tools related to Phylogenetics, various methods and models are in use which uses monolithic architecture which is a traditional unified model method. The monolithic model building has a cognitive complexity code base and scalability is a major drawback, which can be addressed by application containerization technology. Containerization is an application virtualization technology implemented at Operating System level. In this approach distributed applications can be deployed and executed by sharing resources of virtual or physical machine(s) with other containerised applications. This paper proposes a containerization model against the existing monolithic model specific to Phylogenetics. Further it also gives insight on deploying containerization applications on public cloud (AWS) using Elastic Container Service.

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Date of Conference: 04-06 February 2021

DOI: 10.1109/ICICV50876.2021.9388395

Date Added to IEEE Xplore: 31 March 2021

Publisher: IEEE

ISBN Information:

Conference Location: Tirunelveli, India

Essentials of Abstracting and Indexing for Research Paper Writing

By R Gurunath, Debabrata Samanta, Soumi Dutta, Joseph Varghese Kureethara

Book Interdisciplinary Research in Technology and Management

Edition	1st Edition
First Published	2021
Imprint	CRC Press
Pages	7
eBook ISBN	9781003202240

ABSTRACT

"One of the earliest forms of recording human experiences on earth has been through rock paintings found in most parts of the world" (National Research Council 1986). Indexing and abstracting are very much encouraging words for authors, editors, reviewers, publishers, and all the stakeholders in the research domain. It showcases different aspects of researched information in a way how it is stored, searched, found, measured, and cited so on. These index methods are used for quality assessment of the journals and articles. Web of Science of Clarivate Analytics, Scopus of Elsevier, EBSCOhost (Elton B. Stephens Company), ProQuest, and many more are the organizations taking care of Abstracting and Indexing databases processes. In this paper the authors give the overall idea of Journal Indexing and rules to get indexed, ethical practices, peer-review types and processes, different research metrics, about COPE (Committee on Publication Ethics), A case study on Scopus, types of indexes, and citation indexing. Finally, a comparison of Journal indexing for two indexing agencies is analyzed.

Rising Threats in Expert Applications and Solutions pp 421-427 | Cite as

Comparative Study of Clustering for Intrusion Detection in Machine Learning

Authors | Authors and affiliations

S. Kavitha ✉, M. Hanumanthappa, B. Gopala

Conference paper
First Online: 02 October 2020

Part of the Advances in Intelligent Systems and Computing book series (AISC, volume 1187)

Abstract

For the current era, it is very much necessary to find the proper data mining techniques for the accuracy of the result. Network security plays a very important role in the intrusion detection. The clustering algorithms applied to intrusion detection techniques which can perform the

Latent approach in entertainment industry using machine learning

Authors Salini Suresh, Niharika Sinha, Sabyasachi Prusty

Publication date 2020/8/1

Journal International Research Journal on Advanced Science Hub

Volume 2

Issue Special Issue ICARD 2020

Pages 304-307

Publisher RSP Science Hub

Description Nowadays, a huge amount of data is available everywhere. Therefore, we need to prioritize analysing this dataset which would help us in gaining some meaningful information for the development of an algorithm based on the analysis. These feet can be obtained by using Machine Learning, Data Mining, and Data Analysis. Machine Learning which is a part of Artificial Intelligence is used for designing algorithms based on trends of data, patterns and the relation found between them. ML has been used in various fields such as Marketing, gameplay, intrusion detection, bioinformatics, information retrieval, healthcare, entertainment and also on COVID -19 applications and so on. This paper presents an overview of the contribution of ML in Entertainment industry

Machine Learning: An Intuitive Approach In Healthcare

Authors Salini Suresh, Niharika Sinha, Sabyasachi Prusty, Sriranga HA

Publication date 2020/7/28

Journal International Research Journal on Advanced Science Hub

Volume 2

Issue 7

Pages 67-74

Publisher RSP Science Hub

Description Health is a crucial resource for a person's being to measure in our society from any disease. The fast development of the population appears to be trying to record and dissect the massive measure of knowledge about patients. Healthcare may be a need, and clinical specialists are constantly attempting to get approaches to actualize innovations and give effective outcomes. The main problem faced by the healthcare industry is the rising costs which include diagnosis and prediction of diseases, drug discovery, medical imaging diagnosis, personalized medicine, behavior therapy, and smart health records. Machine learning gives us an advantage of processing these information naturally which helps in making the human services framework progressively powerful. Getting the correct determination may be a key part of Healthcare. It clarifies a patient's medical issue and suggests health care treatment. The disease diagnostic technique is a complex, community-oriented action that has clinical, intelligent and data social events to make a decision about a patient's medical issue. Google has built up a ML model to assist recognize dangerous tumours on mammograms. Stanford's profound learning calculation to differentiate skin malignancy. This paper is focused on the importance of Machine Learning in Healthcare just like the different application areas, latest research works in healthcare, wise machine learning contribution in Healthcare, and so on. Machine Learning is an application of Artificial Intelligence that helps in automatically learning and improving itself from experience. It is used in many other sectors like Law, Marketing & Advertising …

Segmentation and Analysis of Brain MRI Images

Proceedings of the International Conference on Smart Data Intelligence (ICSMDI 2021)

6 Pages • Posted: 10 Jun 2021

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Date Written: May 25, 2021

Abstract

Image segmentation plays a vital role in the field of medical imaging as it renders better diagnosis and early detection of diseases. The brain is one of the most important organs in the human body as it is responsible for all the actions and reactions in our body. It is the key factor that distinguishes us from other animals. Therefore, brain imaging is important in medical imaging because it helps the doctors to examine and understand the interior of the brain which is active. Magnetic Resonance Imaging is one of the brain imaging techniques. Brain image segmentation is used for measuring and anticipating brain anatomy so that we can figure out any changes in it. The brain tumor is any abnormal or uncontrolled growth of cells in our brain. This project illustrates the application of fuzzy logic in medical imaging, mainly for image segmentation. This uses FCM clustering for providing effective segmentation of blurred boundary areas of the brain. Thus, it segments any abnormalities in the MRI images. This work also uses morphological operations to detect the presence of any brain tumor. The segmentation and analysis of brain anatomy with the help of brain MRI images is the prime objective of this work.

Note: Funding Statement: No funding was received for the work.

Significance of Mapreduce Tools in Bioinformatics

Authors Nagaveni B and Harsha Naik Kumudavalli M V

Publication date 2021/6

Journal Indian Journal of Natural Sciences

Volume 12

Issue 66

Pages 31839-31842

Publisher TamilNadu Scientific Research Organisation

Social media and steganography: use, risks and current status

Authors R Gurunath, Mohammad Fadel Jamil Klaib, Debabrata Samanta, Mohammad Zubair Khan

Publication date 2021/11/2

Journal Ieee Access

Volume 9

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Publisher IEEE

Description Steganography or data hiding is used to protect the privacy of information in the transit; it has been observed that the information that flows through Online Social Networks (OSN) is very much unsafe. Therefore, people hesitate to communicate their sensitive data on social media.. Most of the information on the online social network is not useful to users and appears to disregard such details. People's actions provided a possibility for digital Steganography through the Internet.. TCPIP covert channels were used for steganography until the last decade. People began to utilize social media as a covert conduit to communicate hidden messages to targeted users as social media grew in popularity. There are numerous Online Social Networks accessible nowadays, ranging from Facebook to the more contemporary Twitter and Instagram. All of them may be utilized as covert channels without the general public noticing ...

Page No: 400-407

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40. Indian Banking Post Covid Scenario

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Bangalore University, Bangalore.

Page No: 408-417

DOI:16.10089.AJ.2020.V8I9.285311.40937

41. Emerging Trends In Tourism Sector In India – A Comparative Outlook

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Dr. Vipan Kumar Bhulal (Assistant Professor), Himachal Pradesh Technical University, Hamirpur, (H. P.)

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Research Paper
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P-ISSN: 2454-6143

Industry Analysis and Changing Trends of Fmcg Sector in India With Reference To Selected Major Fmcg Companies

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Abstract— In present scenario Fast Moving Consumer Goods (FMCG) sector is the fourth largest sector in the Indian economy and a major contributor to the country's GDP (Gross Domestic Product). The semi-urban and rural share to the sector is estimated to grow by the end of 2020 and early 2021. The FMCG market is segmented into 4 major categories- Food and Beverages, Personal Care, Household care and Other Products. Among all the segments Foods and Beverages category dominates the industry followed by Personal Care, Household Care and Other Products. The growth in the Foods and Beverages market is aided by change in tastes and preferences, demand for innovative products, easy adaptability to the new products and interest to try out new brands, of the upward middle class version of the urban area. Moreover, organised retail sector, new product launches of the FMCG companies, increase in the demand for branded products or the demand for the trusted brands etc have a positive influence on the growth of the FMCG sector. Income and spending behaviour provides a way for the sector to grow at 9-10% in 2020. With the growing population in India, consumption on rise, where the FMCG companies have the opportunity to expand their business and the industry can likely grow further on a much significant pace.

Keywords— FMCG, market segmentation, FMCG sector, comforting factors, Food and Beverages, Personal & Household

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A Study on Customer Preference and Customer Satisfaction on Digital Banking Products in Present Situation

Neini Shaphrang Dhar[1], Dr. Savita Trivedi[2]

[1]Research scholar, Dayananda Sagar Institutions
[2]Professor, Dayananda Sagar Institutions

ABSTRACT

The last decade had seen massive growth in the use of mobile phone and internet connectivity in India. Increasing use of mobile phone and internet accessibility, government initiated programs such as 'Digital India' and 'Cash less India' which is expected to lead aggressive growth in use of digital payments. On purchase of goods and services through the use of various electronic payment mode is known as Digital Payment. As a part of 'Digital India' campaign the government of India aims to create a digitally empowered economy that are faceless, paperless, cashless transaction. The structured questionnaire was used as a research methodology for understanding the consumer preference and satisfaction level on digital banking products. The statistical tool used in this study is simple random sampling and this study is descriptive in nature. The major objective of this study is to identify the reason for preferring digital banking and to explore the degree of satisfaction of the customers.

"A Study on Comparative Analysis of Investment and Return on Investment with Special Reference to IIFL"

MS. Meghashree R[1], Dr. Savita Trivedi[2]

[1]Research Scholar Dayananda Sagar Institutions Bangalore
[2]Professor, Dayananda Sagar Institutions Bangalore

ABSTRACT

An investment is an Asset or Item acquired with the goal of generating income or appreciation. In an economic sense, an investment is the purchase of goods that are not consumed today but are used in the future to create wealth. While the concept of investing has been around for millennia, investing in its present form traces its roots back to the period between the 17th and 18th centuries, when the development of the first public markets connected investors with investment opportunities. The Amsterdam Stock Exchange was established in 1787, followed by the New York Exchange (NYSE) in 1792. In the 1990s, the rapid spread of the Internet made online trading and research capabilities accessible to the general public, completing the democratization of investing that had commenced more than a century ago. The objective of this study is to Identify and make an over view of various Investment options available atIIFL and to give some suggestions in regards to better investment options.

Key Words: Investment Management, Investment and economic growth, EFT, Tax implications of mutual funds, Return on Investment.

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Impact of Foreign Direct Investment on Indian Economy

Dr. Savita Trivedi[1], Ms. Shabnam. S[2]

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[2]Research Scholar, Dayananda Sagar Institutions, Bangalore-560111

ABSTRACT

Foreign Direct Investment is the investment made in production or business by the country in another country by her means of buying a company or expanding its business in the foreign country. It is usually by means of bonds / shares. Basically the term FDI refers to capital inflows from abroad that invest in the production capacity of the money and are usually preferred over other forms of external finance because they are considered to be non-debt creating, non-volatile and also their returns depend on the performance of the projects financed by the investors. It also initiates international trade and transfer of knowledge, skills and technology. There are many factors that influence the economic conditions one of them is FDI. Hence there is a need to study the impact of FDI on the changes in economy. The Central Government radically liberalized the FDI regime, with the core objective of adding major impetus to employment and job creation in India. In the light of the above the paper highlights its features, policies, and flow of FDI. It also highlights the manner in which FDI has affected the growth of...

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A Study on Selected Mutual Fund as an Investment Option in India

MS. S.M. DAKSHAYANI, DR. SAVITA TRIVEDI
Research Scholar DSCASC Bangalore
Prof. DSCASC Bangalore

Date of Submission: 08-07-2020 Date of Acceptance: 23-07-2020

ABSTRACT:
Indian Mutual Fund industry offers a platform of schemes and serves broadly all types of investors. The range of products include equity funds, debt, liquid, gilt and balanced funds. There are also funds meant exclusively for young and old, small and large investors. Investors of all categories could choose to invest on their own in multiple options but opt for mutual funds for the sole reason that all benefits come in a package. The mutual fund industry is having its hand full to cater to various needs of the investors by coming up with new plans, schemes and options with respect to rate of returns, dividend frequency and liquidity.
The Mutual Fund industry has recorded significant progress on all fronts yet it has not been able to utilize its potential fully. The industry is confronted with number of challenges like low penetration ratio, lack of product differentiation, lack of them in the securities market to generate returns. Thus, a mutual fund is akin to portfolio management services (PMS).Financial market with broad participation it is essential for the development of economy India's first mutual fund was established in 1963 namely, Unit Trust of India (UTI) with the initiative with the government of India and reserve bank of India with the view of encouraging saving and investments & to gain profits from the acquisition, holding, management and disposal of securities.

STATEMENT OF THE PROBLEMS:

The study under investigation here is related to analysing the growth potential of mutual funds in South Bangalore city. Also the researcher makes an attempt here to investigate the impact of different factors on the growth potential of mutual fund. It is whether the mutual funds offering are in

Issue 7, July-2020, ... Available online at: www.ijaresm.com

A Study on Non-Performing Asset with Reference Ujjivan Small Finance Bank, Bangalore

Vidya C.S.[1], Dr. Savita Trivedi[2], Mr. Sathisha Lakshmaiah[3]

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ABSTRACT

In India Non-performing assets are one of the major concerns for banks. NPA is the best indicator for the ... the banking industry. NPAs reflects the performance of banks, NPAs are the primary indicators of ... Its NPAs are an inevitable burden on the banking industry. Hence the success of a bank depend... ...ethods of managing NPAs. After the opening up of the Indian economy during 1991-92, the entire ec... ...rotting that of banking sector were left to the severe global challenges. Prior to globalization, banker... ...ment going by traditional thought process of mobilizing fund from the ...

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A Study on Customer Preference and Customer Satisfaction on Digital Banking Products in Present Situation

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ABSTRACT

The last decade had seen massive growth in the use of mobile phone and internet connectivity in India. ...ncreasing use of mobile phone and internet accessibility, government initiated programs such as 'Digital India' ...nd 'Cash less India' which is expected to lead aggressive growth in use of digital payments. On purchase of ...oods and services through the use of various electronic payment mode is known as Digital Payment. As a part ...f 'Digital India' campaign the government of India aims to create a digitally empowered economy that are ...ashless, paperless, cashless transaction. The structured questionnaire was used as a research methodology for ...nderstanding the consumer preference and satisfaction level on digital banking products. The statistical tool ...sed in this study is simple random sampling and this study is descriptive in nature. The major objective of this ...tudy is to identify the reason for preferring digital banking and to explore the degree of satisfaction of the ...espons.

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Challenges in Meeting Healthcare Needs of Urban Aging Population: A Case Study of Bangalore

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Abstract

'Grey Tsunami' term making rounds in world. Increasing size of geriatric population and contrary decreasing size of younger population is causing imbalance in social structure. This phenomenon has given a shift in economical, social and psychological insecurity for elderly population. A serious risk and its impact on elderly urban population is experienced and anticipated. These risk factors pose challenges in meeting the healthcare need. These situation prompts research to have insights into challenges faced by urban elderly population in meeting the healthcare needs. This is empirical study conducted in Bangalore with sample size of 500 respondents above the age group of 55 years. Challenges are broadly clustered into three segments namely; Economic, social and psychological. Finding reveals larger sample population is facing social and psychological challenges in meeting healthcare need, however, economic challenges were not found any impact.

(Keywords: Geriatric population, urban, challenges, Healthcare need, healthy aging)

Introduction

Given the inevitable quantum jump in the elderly population in the coming years, in what is being termed as the 'Grey Tsunami', our preparedness as a country is inadequate rather to say it is the least [1]. Rising life expectancy of Indian population is prompting social, economical, and psychological problems for geriatric segment creating challenges for their graceful aging process. The anticipated increase in life expectancy [2] further might lead to serious situation if proper measures are not initiated well in advance. Cause and impact will drown in case we fail to address the forthcoming healthcare challenges of elderly population.

Medical care is the major challenge for elderly, due to changing socio-economic condition and psychological situation meeting required timely medical care is missing in our society. Absence of frequent, immediate medical intervention might result into fatal consequences. Literature is evident that inadequate care process and structure are unable to meet complex healthcare needs of the elderly population across the globe [3]. Such situations can be avoided by continuous monitoring physiological parameters and activities [4] [5]. To provide specialized care for this segment necessary change in

"FUNDAMENTAL AND TECHNICAL ANALYSIS LEADS TO A SYSTEMATIC INVESTMENT DECISION IN STOCK MARKET EQUITIES"

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ABSTRACT
Investments play a significant role in additional income generation and cover the future risk, especially the equity investments that gained momentum in the past decade or so in Indian portfolio investors. Besides, there is always a boon of making more money as well as a risk of losing money in equity markets. The trending question is how to manage the risk? Meanwhile, more theories, techniques, and algorithms are found by research scholars for prudent investment decisions. So fundamental research focuses on identifying and analysing the factors that influence stock prices, where companies are a part of the industrial and business sector, which in turn are a part of the overall economy, so even the industry and economic factors can affect stock prices. The fundamental analysis & technical analysis are concerned with analysing market behaviour with selective performance indicators and techniques. We found that these analyses make the buy/sell decision for better profits. Nowadays with the ground breaking technology in fundamental and technical analysis, the data are processed with the help of machine learning software's i.e., ANN and SNV for decision making. This paper demonstrates the advantage of the usage of both fundamental and technical analysis in determining intrinsic value, patterns, and trends inequities by reviewing the past literature.
Keywords: fundamental analysis, technical analysis, stock market, equities, stock price, investment decision

INTRODUCTION

India is one of the emerging and developing country (EDC). India is now the world's fifth largest economy and third in the purchasing- power-parity. Currently, we find there is a decline in GDP resulting in negative results because of global pandemic which may lead to global recession. As per the finance ministry, we may find a V-shape recovery of India's economy in the coming days which has already in progress.

In this global stressed situation, we find there is a huge decrease in the money supply and capital creation but with the help of investment opportunities available in equity market, this shortage can be nullified. Money cannot grow by itself; we need undertake systematically research to analysis investment in businesses or portfolios proposals. In this regards fundamental and technical analysis plays a prominent role in prudent

Investment decision making through proper understanding of the past research literature. In this paper we have tried to implicate that the firm understanding is required to make valid and methodical investment decision with help of fundamental and technical analysis which is proved and accepted by majority of research scholars fromour reviewed literature.

In fundamental analysis,

- Financial ratios viz., Liquidity ratio, Current ratio, Debt-equity ratio, Return-on-equities, Net-worth ratio, Return-on-assets, Inventoryturnover, operating ratio, Profit margins, Priceto FCF.
- Financial statements viz., Income statement, Balance Sheet, and Cash-flow statement aids to know the performance of the company.
- Enterprise valuation viz., Asset based valuation, Income based valuation, Market based valuation, and other thumb rules to knowthe company's net-worth.
- DCF modelling also helps us to forecast the future pitfalls and shortcomings.
- To understand the expected fundamental value of the acquirer company in context with mergers and acquisitions.

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IMPULSE BUYING BEHAVIOUR AT THE RETAIL CHECKOUT: AN INVESTIGATION OF SELECT ANTECEDENTS

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Abstract. The remarkable growth of the Indian retail landscape over the last decade is reflected in the proliferation of supermarkets, departmental stores and hypermarkets in India. Evolving consumption patterns, rising living standards has sparked a huge demand in the food and grocery retailing. Impulse buying is a time tested tactic by which retailers grab customer's attention and boost average purchase value. Prior research has deliberated extensively on impulse buying in the store and its determinants. However, little effort has been made to examine the impulse buying behaviour, particularly at the retail checkout. To bridge this gap, we conducted an empirical study in the leading food and grocery modern retail stores in selected Tier I and Tier II cities in the state of Karnataka, India. The data was collected from 385 respondents using a structured questionnaire. The responses were analysed using confirmatory factor analysis and multiple regression. Our study shows that impulse buying at the store checkout area is minimal and sporadic for most of the product categories at the checkout. Impulse buying at the checkout is instigated by factors such as store environment, credit card availability, momentary mood, in-store promotion, offers and discounts and large merchandise. The study has important implications for retail stores by emphasising on the choice of merchandise offered for sale at the checkout area. Further, the investigation reveals that Indian shoppers are health-conscious and cautious about their purchase at the checkout rather than being impulsive.

Keywords: *impulse buying, grocery retailing, in-store promotion, situational factors, external factors, retail checkout.*

JEL Classification: *D91, L21, L81, M31.*

Introduction

Indian retail industry is the fifth-largest in the world and is one of the most preferred, fast-growing global destination for retail space (FICCI, 2020; IBEF, 2019). The organised retailing share is anticipated to grab a market share of 22% by 2021, while the share of organised grocery stores and departmental chain stores is expected to touch 18% during the same period (Suneera, 2019). The modern food and grocery retail in India largely comprise of supermarkets and hypermarkets formats and are fast expanding due to evolving consumer preferences (Sandoval & Sawant, 2019). Most of the Indian department stores have shared checkout at the entrance/exit area of the store (Patankar, 2011; Fatima, 2013, p. 44). The efficiency of the checkout was observed to be poor in western Maharashtra, a highly developed urban zone in India (Patankar, 2011, p. 202).

Researchers in the past often attributed checkout as a compelling, unavoidable and common experience in retail service encounters (Meister, 1985; Taylor, 1994; Van Riel et al., 2012; Schimmel & Belcher, 2013; Weiss & Tucker, 2018; Ullal & Hawaldar, 2018; Hawaldar et al., 2019). Waiting at the checkout area is usually alleged as an unproductive time that does not create any value for the customer (Nethravathi et al., 2020; Van Riel et al., 2012). The checkout lane is flanked by the attractive product displays having a low cost, high margin to stimulate impulse buying (Nielsson, 2013). From the store's perspective, waiting at the checkout is an opportunity to raise additional revenue (Weiss & Tucker, 2018; Ullal et al., 2020).

Pugliese (1998) reported about 69% of the magazines bought as an impulse buy at the checkout counter and perceived as a "want" by the customers in the U.S. A drop in impulse buying of candies and magazines were observed in Quincy, Massachusetts when the customers availed self-checkout over staffed counters (Vinish et al., 2021; Adams, 2006). Hilliard (2014) shared evidence of impulse buying

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Impact of Financial Risks on the Profitability of Commercial Banks in India

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Abstract
The Indian banking sector is exposed to various types of risks which arise from both the external and internal environments. Banks long-term sustainability and financial positivity are vulnerable financial risk. Credit risk, operational risk, marketing and liquidity risk convey a major challenge despite growth in the banking system. This study examines the relationship between profitability and financial risks of 42 Indian commercial banks for the period of 11 years (2008 to 2018). The quantitative research design was adopted in this study and the profitability measures that have been used in this study are the Return on Assets (ROA) and Return on Equity (ROE) while the financial risks are Interest Rate Risk (IRR) and Foreign Exchange Risk (FER). In this study, Time- Series Cross-Sectional secondary balanced panel data regression analysis of fixed effect and random effect model have been implemented. The findings of the study indicated that the relationship between ROE and IRR were found to be weakly significant, and on ROA the effect of IRR is significant for all the commercial banks. On both profitability measures, the FER was found to have an insignificant impact. The study concludes that there exists an inverse relationship between banks profitability and financial risk. Hence, the commercial banks in India together with the bank supervisors should make a trade-off between profitability and financial risk.

Keywords: Interest Rate Risk, Foreign Exchange Risk, Financial Derivatives, Return on Equity, Return on Asset, Off Balance Sheet

Introduction

Profitability is the ultimate test for the effectiveness of risk management. It is the bottom-line of any financial institutions. After knowing the financial risk impact on the bank's profitability, it would be the most crucial aspect for all the banks as it would give heads-up to the bank to mitigate those risk effectively. Likewise, a profitable and healthy banking system promote comprehensive financial firmness and perceive to raise the economy's pliability to adverse macroeconomic surprises. Between risk and return the tradeoff is well recognized - the higher return comes with higher risk and viz versa. Therefore, in order to expand business and to increase profitability, financial institutions should be aware of the risk factors which have a major impact on profitability measures. Moreover, it's a known fact that the amount of risk faced by financial institutions is a great concern and is of a significant nature to the policymakers. The Basel committee report also highlights the importance of studying bank risks (BCBS-BIS 2001) [1] and the Central bank's ongoing and consistent effort to record it in the capital adequacy guide lines (Shukla 2013).

1 BCBS-BIS (2001). Basel Committee on Banking Supervision, (May)

A Formal Role of Consumer Behaviour Towards E- Banking Industry in South India Level

Article · Aug 2011

2 authors, including:

Consequences of Retail Checkout Crowding on Perceived Emotional Discomfort and Switching Intentions

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Date Written: June 6, 2022

Abstract

The waiting line is an essential element in the consumer's assessment of the overall shopping experience. Perceived idle time while waiting in the queue exaggerates the negative response to wait duration and affects the overall customer satisfaction. The store employees find it hard to muddle through peak hours and deal with the demand for a speedy process. The inefficient queuing system can lead to productivity and monetary losses from an operational outlook. This study explores the determinants of emotional discomfort encountered by customers waiting at the retail checkout. The study pursues a descriptive research design and is cross-sectional. Survey research was employed to ascertain customers' perceptions of their wait experience. The sample consisted of 385

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Framework for identification of curriculum gaps: A systematic approach

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***Abstract*— With the rapidly evolving technology, academics and curriculum developers experience criticism for the curriculum being outdated or unable to meet industry requirements. Additionally, the stakeholders involved in curriculum development have divergent views. Therefore, the challenges lie with academicians imparting the necessary skills and preparing the students to be industry-ready. This study takes a closer investigation of the predecessors of the curriculum gap and classifies it into preceding gaps, viz. information gap, benchmarking gap, perception gap, and learning gap. Prior research has focused on overcoming the curriculum gap, while the current study attempts to propose a framework for methodically identifying the curriculum gap. The paper follows online desk research. The framework is developed based on the multidisciplinary literature and thus provide a comprehensive view of the curriculum gap. Hence the study relies heavily on secondary sources of data. The framework transpired from the literature survey of engineering, management, accounting, nursing, and medical sciences disciplines. It, therefore, lacked affiliation to a specific field of study. Also, the stakeholder's role in the framework may not be appropriate in all contexts as their functions vary within a subject domain and may not exist in some cases. A systematic investigation of the curriculum gap will emphasise the shortcomings in the curriculum, which will assist the faculty in moulding their subject to meet the expectations of stakeholders. The proposed framework aims to expedite the collaboration between the stakeholders and develop a shared vision among all affected. Furthermore, the framework presented benefits academics and curriculum developers by bettering the courses offered and bridging the academia-industry skills gap.**

***Keywords*— Benchmarking gap, Curriculum gap, Curriculum developers; Information gap, Learning gap, Perception gap, stakeholders.**

***JEET Category*— Research**

I. INTRODUCTION

The curriculum gap is broadly described as the disparity between the intended and implemented course (Atibuni, 2020). With the advancement in the business landscape, academicians and curriculum developers are constantly faced with matching industry expectations of graduates to curriculum development and delivery (Almaleh et al., 2019). Due to the program constraints, students are least influenced by the newly introduced courses aiming at the curriculum gaps (Gannod et al., 2005). The skill gap emerges predominantly during the graduates' confrontation with their employers (Gamanie et al., 2002). "Employers no longer recruit simply based on degree status. A degree may be necessary or desirable, but graduates will need to develop a profile of attributes that suit them to work in the organisation of the future" (Harvey et al., 1997). The Government of India has also recognised the necessity for graduate skills and has entrusted Skill Development Cell India to train the youth through All India Council for Technical Education (AICTE) approved institutions.

Klein (1992) deliberated on diverse bases for the development of curriculum gap such as (1) wanting to retain the status quo needing little efforts on practitioners' end, (2) absence of rewards for the improvement proposed, (3) institution's cultural defiance to substantial curriculum changes, (4) access to theorists' work published in journals and comprehension gap of practitioners, (5) lack of resemblance in the socialisation of theorist and practitioners, (6) practitioners acceptance of idea being purposeful, (7) ambiguity of the terms, curriculum theory and practice, (8) outlook of curriculum development as a smooth process rather than inquiry modes, (9) development of curriculum theory and function, and (10) theorist advocating curriculum conceptualisation and practises against the traditional approaches followed by the practitioners. Faculty experts decide the course content extemporaneously, though curriculum design and modifications are indispensable aspects of university affairs (Azasu & Gibler, 2016). A disciplined and systematic approach in redesigning the curriculum is encouraged rather than merely adding new courses (Gannod et al., 2005). We consider the systematic approach shouldn't be limited to redesigning the curriculum or adding a new course but should embark on gap analysis. This is

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PERCEIVED IDLE WAIT AND ASSOCIATED EMOTIONAL DISCOMFORT: AN ANALYSIS OF RETAIL WAITING EXPERIENCE

Abstract

Waiting involves both cognition and emotions. It has a bearing on the overall perception of retail service quality. The advancement in retailing has triggered scholarly observations on the psychological impact of waiting at the retail checkout. Prior studies confirm customers being deeply involved in the passage of time and have estimations during the entire waiting period. This study investigates the customer idle time and its implication on emotional discomfort resulting from crowding stress. The study employed confirmatory sampling wherein specific sample elements are chosen since they are the key respondents to confirm hypotheses being tested. Accordingly, 360 respondents (shoppers) visiting the leading organized retailers located in major localities in Bangalore were approached. The responses were analyzed using a Chi-squared test and Pearson correlation. The outcome reveals that irrespective of age and gender, customers visiting the offline retail outlets experience emotional discomfort. The young customers aged 18-30 dislike waiting in the queue at the checkout compared to older customers. In contrast, gender did not affect the inclination to wait. The idleness during the checkout waits causes emotional discomfort on most occasions. The findings supplement the growing research in psychology on the actual and perceived crowding. loss of time, focusing on idleness. The study underlines that customers desire to avoid an unproductive use of time, thus lowering their emotional discomfort.

Keywords retail checkout, idle wait, emotional discomfort, crowding stress, customer psychology, food and grocery

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Conflict of interest statement:
Author(s) reported no conflict of interest

INTRODUCTION

Waiting is coupled with negative customer sentiments, undermining satisfaction levels (Tom & Lucey, 1995). It adversely affects service appraisal (Haynes, 1990) and results in the relinquishment of service (Bielen & Demoulin, 2007). Most organizations regulate the wait by marshaling customers in different queues (Rafaeli et al., 2002). Efforts are made to lessen the waiting time through operational techniques to acclimate the service facility to varying demands (Sasel & Marmorstein, 1998). However, service providers fail to capitulate to the fluctuating demand despite the struggles due to capacity limitations (Pamies et al., 2016). The waiting line, even though a momentary social system, is discerned to confront all these intricacies.

Customers accrue stress when idle. The extent of strain can denote the degree of accrual of stress at any point in time. The critical negative outcome of waiting is 'time lost'. It is argued that the longer the perceived waiting time, the higher the negative evaluation of service (Hui & Tse, 1996). Additionally, this is an essential process in the shopping activity (Gupta & Sharma, 2014; Larson, 1987). Though earlier research findings confirm the positive distraction of consumers' per-

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ANTECEDENTS OF BEHAVIORAL INTENTION TO USE ONLINE FOOD DELIVERY SERVICES: AN EMPIRICAL INVESTIGATION

Abstract

The online food delivery market in India perseveres to grow at a sustained pace. The business has unique dynamics and challenges with the spike in orders during weekends, meeting delivery schedules during peak demand, offering deep discounts to address wavering customer loyalty, reducing cash burns, and managing food quality to consistency. In contrast, the fast-paced life and the rise of millennials in the workforce is likely to assure a promising future for the food aggregators. The above backdrop has led the researchers to pursue this study. An empirical study was carried out to explore the consumption occasion and the antecedents of online food ordering in the select cities in Karnataka, India. The data was collected from 385 respondents through telephonic and mail survey using a structured questionnaire. The responses were analyzed using exploratory factor analysis and multiple regression. The result of the study indicated a positive association between the constructs 'buying motives', 'aggregator attractiveness', and 'customer satisfaction'. The variation in customers' satisfaction is largely attributable to the convenience of order placing, food quality, availability of food and restaurant reviews, offers and discounts, faster home delivery, and the wide choice of restaurants listed on the aggregator's website. Additionally, the aggregator attractiveness showed a higher impact on customer satisfaction as compared to buying motives.

Keywords online food ordering, customer satisfaction, buying motives, aggregator attractiveness, food aggregators, India

JEL Classification L81, L83, L87, M31

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INTRODUCTION

Online food ordering and discovery platforms have transformed the way Indian customers eat. Outsourcing in the food and restaurant business gained wide acceptance among business owners primarily due to prospects of earning additional revenue, broader customer reach, and growing the customer base. In contrast, the convenience of shopping became the primary motive for customer's inclination towards online purchases. Customers could save more time by purchasing online and divert the available time to other endeavors.

As reported by IMARC (2019), the online food delivery market touched USD 2.9 billion in 2019 and cited factors such as the rapid internet penetration, growth of smartphones, rise in disposable income, speedy process of urbanization, rise in disposable income, and increase in the number of working women responsible for the growth. The industry is expected to reach USD 8 billion by 2022, growing at a compound annual growth rate of 25-30%, dominated by Zomato and Swiggy (IANS, 2020). Variety in foods, peer advocacy, and advertisements drive steady growth in online food delivery. The report further stated that the ordering frequency is projected to grow by 18-20%, al-

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UGC Care Group 1 Journal

BAD BANK: A GOOD SOLUTION FOR NON-PERFORMING ASSETS IN INDIAN COMMERCIAL BANKS.

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ABSTRACT

The banking sectors throughout the world are still suffering from the impact of the financial crisis, public discussion about plans to dump these bad loans & non-performing assets (NPA) into one or more bad banks has heated up in past years. A bad bank is established to shift hazardous assets from a regular bank to it, allowing the existing bank's balance sheet to be cleanedup. The transferred assets are then serviced and liquidated by the bad bank.

The following research paper examines whether setting up a bad bank is a solution for Non-Performing Assets (NPAs), whether it is a viable option for the government to set up a different unit to manage the NPAs. It also highlights how governments might efficiently relieve weak banksof toxic assets by moving them into a bad bank.

The purpose of this research paper is to crucially examine the concept of a bad bank against the concept of failures of many historical examples. It highlights the vital aspects to consider while starting a bad bank. The advantages and disadvantages of bad banks are also highlighted. The actions are done by the RBI and the government, as well as the current scenario. The paper also includes historical examples of Bad Banks, enough light has been put on the management of NPA in which we have taken an example of SBI, and the impact of NPA is been stated. My plan for the bad banks has also been included.

Keywords - Bad Banks, NPA's, Asset Management Company (AMC), Asset Reconstruction Company (ARC).

INTRODUCTION

Introduction of Bad banks

The concept of a bad bank in India was first proposed in 2017, but it never materialized. It was again proposed in 2018, later in 2020, when the pandemic broke out, govt. started considering this concept of setting up a bad bank, because due to pandemic many businesses were badly affected as a result loans became NPAs, The Govt. of India also extended the NPA period which was prior 90 days to 180

A Formal Assessment of Spotting Leaf Syndromes with ConvNets

Publisher: IEEE

Cite This

PDF

Rehna Baby Joseph ; M.B Lakshmi ; Salini Suresh ; V Suneetha ; R Sunder ; M Rajeswari All Authors

Abstract:
Leaves are part of plants that interface with the climate and deal with their fundamental requirements. In our lives, healthy plants are important and used for many purposes throughout life. Plant diseases represent a significant environmental concern. A big hurdle is the detection of leaf diseases in large fields. Farmers face great problems in handling different types of leaf diseases. Plant biologist assist cultivators to recognize leaf diseases through agricultural labs or by observing visual features. These approaches cannot be suitable for all cultivators due to the cost of experts and the lack of availability of labs. High performance rate of Convolutional neural networks plays a significant role in detecting leaf diseases. This survey demonstrates various Convnets to assorts leaf syndromes. It also performs an important role in information collection to improve accuracy.

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I. Introduction

Agricultural productivity is somewhat on which economy profoundly hang on. This is one of the explanations that sickness detection in plants adopts a significant role in the agrobusiness field, as having leaf syndrome in plants are very communal. On the off chance that appropriate consideration is not taken at this time, at that point it causes genuine influences on plants and because of which individual item quality, volume, or efficiency is predisposed. Discovery of plant illness through some planned process is advantageous as it cuts a huge work of checking in large homesteads of yields, and at the beginning phase itself, it distinguishes symptoms of diseases. Yield ailment location is the premise of harvest sickness counter action to ensure crop quality. Conventional location strategies for crop sickness mostly rely upon manual perception and thus lead to low recognition effectiveness and helpless unwavering quality. Ranchers need proficient information, and rural specialists can't serve the field consistently so they miss the best ideal opportunity for avoidance. As of late, picture preparation, design acknowledgment,

A novel approach for linguistic steganography evaluation based on artificial neural networks

Authors R Gurunath, Ahmed H Alahmadi, Debabrata Samanta, Mohammad Zubair Khan, Abdulrahman Alahmadi

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Journal IEEE Access

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Description Increasing prevalence and simplicity of using Artificial Intelligence (AI) techniques, Steganography is shifting from conventional model building to AI model building. AI enables computers to learn from their mistakes, adapt to emerging inputs, and carry out human-like activities. Traditional Linguistic Steganographic approaches lack automation, analysis of Cover text and hidden text volume and accuracy. A formal methodology is used in only a few Steganographic approaches. In the vast majority of situations, traditional approaches fail to survive third-party vulnerability. This study looks at evaluation of an AI-based statistical language model for text Steganography. Since the advent of Natural Language Processing (NLP) into the research field, linguistic Steganography has superseded other types of Steganography. This paper proposes the positive aspects of NLP-based Markov chain model for an auto-generative …

A Novel Approach for Semantic Web Application in Online Education Based on Steganography

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Insights into Artificial Neural Network techniques, and its Application in Steganography

Authors	R Gurunath, Debabrata Samanta
Publication date	2021/11/1
Journal	Journal of Physics: Conference Series
Volume	2089
Issue	1
Pages	012043
Publisher	IOP Publishing

Description Deep Steganography is a data concealment technology that uses artificial intelligence (AI) to automate the process of hiding and extracting information through layers of training. It enables for the automated generation of a cover depending on the concealed message. Previously, the technique depended on the existing cover to hide data, which limited the number of Steganographic characteristics available. Artificial intelligence and deep learning techniques have been used to steganography recently and the results are satisfactory. Although neural networks have demonstrated their ability to imitate human talents, it is still too early to draw comparisons between people and them. To improve their capabilities, neural networks are being employed in a number of disciplines, including steganography. Recurrent Neural Networks (RNN) is a widely used technology that automatically creates Stego-text regardless of ...

Insights Into Deep Steganography: A Study of Steganography Automation and Trends

Authors	R Gurunath, Debabrata Samanta, Digvijay Pandey
Publication date	2022/3/31
Journal	Cyber Security and Network Security
Pages	129-155
Publisher	John Wiley & Sons, Inc.

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Research Initiative on Sustainable Education System: Model of Balancing Green Computing and ICT in Quality Education

Publisher: IEEE

Suplab Kanti Podder ; Marimuthu Karuppiah ; Benny Thomas ; Debabrata Samanta All Authors ...

Abstract:
Green Computing Practices (GCP) convey the revolutionary changes of the modern education system. The education system is transforming into a hybrid mode of operations in ... View more

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Abstract:
Green Computing Practices (GCP) convey the revolutionary changes of the modern education system. The education system is transforming into a hybrid mode of operations in effective teaching and learning procedure. In the modern era, computer devices are playing a foremost role in performing ICT based teaching and learning (ICT-BTL). The GCP and ICT-BTL are the creative and innovative practices that can ensure the eco-friendly enactment and safeguard from various harmful environmental impacts. The motive of projecting the present research outcome is to address the impact of GCP on ICT-BTL activities. The creative and innovative practices of ICT- BTL support the implementation of GCP towards a sustainable education system. A sustainable education system interconnects the teachers, learners, institutions, and industrial experts through eco-friendly electronic and computer devices that ensure maximum efficiency in education with minimum environmental impacts.

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Mukesh Soni

Implications of Artificial Intelligence in English Language Teaching

[PDF] from ijells.com

Authors	Mukesh Soni
Publication date	2022
Journal	International Journal of English: Literature, Language & Skills. www. ijells. com
Description	In the era of ICT, the application of artificial intelligence is growing rapidly in the field of education. It has also brought a significant impact on the equalization of education in the information society. English language teaching and learning has also witnessed a new era of change due to information communication and technology. This paper discusses the relationship between English language teaching and learning and artificial intelligence. It focuses how the implications of artificial intelligence bring up the level of English language teaching and learning. However, teacher's role cannot be replaced in this process because artificial intelligence technology has not yet achieved the simulation of all human intelligence.
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Examining the role of Organizational Justice and Perception of Politics on Job Performance of Faculty members in Higher Education

Article in Journal of Chengdu University of Technology (Science and Technology Edition) · August 2022

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Examining the role of Organizational Justice and Perception of Politics on Job Performance of Faculty members in Higher Education

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ABSTRACT

The behaviour of people in organizations is mainly influenced by their perceptions towards the various aspects of the organization. Organizations should ensure that the employees perceive fairness in terms of rewards, various processes and treating the employees with respect and dignity in determining various outcomes. Perception of organizational justice tends to enhance the positive work related behaviours among employees resulting in trust, commitment and job performance and reduces the counter-productive work related behaviours such as absenteeism, turnover and lack of productivity. The purpose of this investigation was to find out the role of Organizational Justice (OJ) and Perception of Politics (POP) on faculty Job Performance (JP) in higher educational institutions (HEIs) in the Indian context. 273 faculty members with more than two years of experience were chosen for the present investigation. The hypotheses were tested using statistical techniques such as one-way ANOVA, Pearson correlation and Multiple Regression analysis. The results showed that faculty experienced a high level of Organizational Justice and moderate level of Politics in their workplace, and high levels of Job Performance. Organizational justice influenced Job Performance of faculty. However, perception of politics did not influence their Job performance. The findings of the study add to the theoretical literature and also contribute in suggesting ways to build a truly inspired workforce.

KEYWORDS

Higher Education, Organizational Justice, Perception of Politics, Job Performance, Organizational Behaviour

INTRODUCTION

Colleges and universities are game changers in determining and shaping the future and career of students. In order to make the students employable and industry ready, these HEIs have modified their curriculum as per the requirements of the industry. Hence, there is a lot of pressure on the faculty members to deliver world-class knowledge to their students. This requires the faculty of HEIs to be highly engaged and deliver a superior performance. Hence, it is imperative to study about the organizational difficulties faced by teachers in HEIs (Suganya, 2017).

Higher education is a means of obtaining a successful and sustainable life resulting in financial security and a splendid career (Kyllonen, 2012). It is through higher education that the nationwide progress can be attained (Tsai, 2012). Over the years the education sector has become comparable to any other commercialized and business organizations and concepts such as organizational justice, perception of politics, work engagement and job performance have become equally relevant and significant for this sector too.

There have been several studies revolving around power and politics over the last many centuries. No organization which involves people is free from politics and educational institutions such as colleges and universities are no different from this. People tend to bond in every workplace on basis of certain common grounds and in order to stay influential or to exert some kind of influence on others in the organization.

Workplace politics can be healthy only up to a certain extent, beyond which it becomes detestable. There is no denying the fact that organisational politics is an inseparable part of all places of work and every employee experiences it at multiple levels throughout his/her career. However, organisational politics as a concept is not to be neglected as it is capable of

impacting the attitudes, behavior and ultimately the performance of employees and the organisation.

Employees expect the organizations to have certain mechanisms in place to ensure fairness of rewards, procedures, processes, resources and interactions. Employees tend to have their own perceptions towards the fairness of these mechanisms and that influences their overall perception towards the organisation, their work related behaviours such as job performance, commitment, trust etc. Organisational politics eventually influences the fairness of an organisation to an extent by way of disparity of wages among groups, discrimination, lack of recognition, etc. When organisational politics exceeds its limit and organisational justice is imbalanced, employees' involvement, dedication, will to work and sense of belonging takes a hit (Kalay, 2016). As a result of this employees' perceive lack of justice in the organizations and that affects their lack of productivity, absenteeism, their sense of responsibility, skipping deadlines & intention to quit the job (Adam, 1963; Kalay, 2016). This impacts their job related performance drastically. However, the extent to which organizational justice and perception of politics impacts the job performance of faculty in higher educational institutions is not clear and is subjective.

The study of people's perspective of fairness in an organization is referred to as Organizational Justice. The word organizational justice was framed by Greenberg (1987) in order to describe the people's concern towards fairness in the workplace.
Greenberg (1990) defines organizational justice as "the extent to which the employees consider that the organizational decisions are fair."

Although different dimensions for organizational justice have been put forth and each influencing an aspect of the employees' behavior at their job, overall organizational justice also has a significant impact the employees' perception of justice in the organization. Organizational justice profoundly impacts the performance of the employees by affecting the job satisfaction and commitment towards the organization (Nsicklin et al., 2014).

Schaufeli., Salanova., Gonzáles-Róma and Bakker (2002) consider work engagement as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption". Work engagement is vital as it contributes to the positive outcomes of the employees such as increased performance, commitment and satisfaction in the job (Bakker, Schaufeli., Leiter & Taris, 2008) . An engaged employee is completely involved and immersed in their work and is able to act on the goals of the organization willingly (Baldev & Anupama, 2010).
The major objective of this particular study is to inspect the role of perception of politics and organizational justice of faculty members in the higher educational institutions and its influence on their job performance.

Literature Review

OJ and JP

The effective functioning of any organization depends on the way its employees perceive fairness in the organization. This term Organizational Justice was framed by Greenberg in 1987. Motowidlo and Kelt (2012) defined job performance as "the total expected value to the organization of the discrete behavioral episodes that an individual carries out over a standard period of time". Iqbal, Rehan, Fatima and Nawab (2017) studied the impact of organizational

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Identifying stock market bubbles and evaluation with momentum index and CCI

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Abstract

Stock markets ought to be efficient while stock prices reflect all available information fairly and equitably. This bubble majorly forms when market participants inflate stock prices above the stock value based on some valuation system. Identifying the formation of these bubbles becomes imperative to provide information for the investors and these bubbles need to be validated as well, hence this paper contemplates to identify the existence of stock market bubbles between 2017 and 2022 with respect to the BSE Sensex. It also aims to analyse, if the momentum index and consumer confidence index reflect the market bubbles along with performance when the bubbles crashed. The E-views platform for the data analysis and Dickey-fuller, Augmented Dickey-Fuller, Rolling ADF, and Supremum ADF tests were deployed for identification of bubbles. It is found that a major market bubble occurred between January-May 2020. Apart from identifying the bubble that occurred previously, this paper also intends to alert investors of future bubbles following the same pattern of indices. By analysing contributing factors leading to a bubble, investors can be better prepared for the next bubble and can adjust their strategies accordingly to minimize losses. Identification of stock market bubbles and validating them with momentum and consumer confidence indices just doesn't suffice the investor requirements. Further the factors leading to the formation of these bubbles, nature of these bubbles also attention. Bubbles happen for commodity prices, crypto-currencies and often might be of different types and might reflect entirely different

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"A STUDY ON ELECTORAL BONDS AND INVESTOR PERCEPTION"

* Saud Khan **Dr. Sumera Aluru & *** Prof. BVR Vishnu Tej

*Student, MBA-III Sem, **Assistant Professor,MBA-BU, DSCASC, *** Assistant Professor,Dept of Commerce & Management, DSBA

Abstract: India is the largest and healthiest democracy in the world. It is obvious that elections are essential to maintain the basis and essence of democracy. Electoral bonds are promissory notes that may be acquired by anybody to give money to political parties. Any person who is an Indian citizen and any company may acquire this electoral bond. This is a covert method of giving cash or funds to a political party. This article will look at how a functional democracy is impacted by electoral changes and their covert objectives. The fraud is exacerbated by the need that all electoral bonds be redeemed through a bank account that the Election Commission of India has made public. All electoral bond transactions are done digitally or with cheques. An initial comprehensive understanding about the working of electoral bonds in India alongside the minimum threshold analysis sets the stage for the study. A brief overview of the specific tax benefits to investors is provided. The study identifies that the awareness of electoral bonds across various age groups, gender, educational qualifications doesn't change. It was empirically established electoral bonds were not perceived to be risky by individuals, but they were negatively perceived.

Index Terms: Electoral Bonds, Tranches, Awareness, Perception

I. INTRODUCTION

Prior to the implementation of electoral bonds, political parties were supported by cash and illegal funds; as a result, the supreme court filed a petition on March 4, 2016, requesting that political parties stop raising money through cash and instead use electoral bonds.

The Indian government was later warned by the Supreme Court that funds raised by political parties through electoral bonds could be used for any unethical purposes, including terrorism and protest, and in 2017 the Supreme Court issued a new procedure for the issuance of electoral bonds under government control.

A New 3-Bit Hiding Covert Channel Algorithm for Public Data and Medical Data Security Using Format-Based Text Steganography

R. Gurunath, Debabrata Samanta

Source Title: Journal of Database Management (JDM) 34(2)
 | Pages: 22

DOI: 10.4018/JDM.324076

Abstract

The primary concern of every individual and organization is the security of sensitive information generated via authorized activities; nonetheless, illicit data drawing and extraction by attackers is prevalent, which may be mitigated by covert approaches. Although cypher techniques give excellent protection, they raise suspicion in the eyes of adversaries, resulting in both passive and active assaults on the information sent. Steganography, on the other hand, helps to reduce third-party suspicion. This method conceals sensitive information on cover data and transports it to the targets without skepticism. However, the issue depends entirely on the effectiveness of the embedding method; it must also satisfy other data concealing features such as embedding capacity. As payload grows, so does skepticism. This article handled this issue to lessen suspicion while maintaining embedding capacity. The article proposes a format-based text concealing algorithm, a traditional way for dealing with embedding capacity and invisibility. The authors compared our results to those of other similar current methods. They discovered that theirs are pretty decent—the present study offered both standard public communication security and medical data protection.

Efficient authenticated key establishment protocol for telecare medicine information systems

Mahalakshmi ; R. Lokesh Kumar; K. S. Ranjini; S. Sindhu; R. Udhayakumar

+ Author & Article Information

AIP Conf. Proc. 2519, 020006 (2022)

https://doi.org/10.1063/5.0117522

Secure checked based three person affirmation plot for records trade telecare remedy facts structures permits two customers simply store their verifiers prepared from their certifiable thriller state in approval verifiers informational index. By then the confirmation professional can test the clients' verifiers and help them to exchange electronic medical records or electronic prosperity statistics securely and favorably. In this work, we must suggested protocol based on SPSD.

Hybrid statistical and recurrent neural network architecture implementation in FPGA device used for severe acute respiratory syndrome coronavirus detector

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Authors VM Senthilkumar, S Thenmozhi, MV Kumudavalli, U Yedukondalu

Publication date 2023/1/1

Journal Journal of Intelligent & Fuzzy Systems

Volume 44

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Publisher IOS Press

Description The Severe Acute Respiratory Syndrome (SARS) are caused by the strain of the corona virus causes cold and influenza. In recent years, the covid pandemic spread throughout the world killing millions of people. The fatality rate has increased and it also leads to pneumonia for breathing problems. Several methods like wavelet filter banks, time series methods, Neural networks was developed for the diagnosis of severe acute respiratory syndrome coronavirus, still the accuracy can be improved. Less works is carried out for hardware implementation for syndrome detectors. This proposed work represents the FPGA (Field Programmable Gate Array) implementation of the hybrid method using Convolutional Recurrent neural network and Independent Components Analysis (ICA). The architecture extracts the ccomplex features from ECG (Electrocardiogram) samples. The hybrid Statistical and Recurrent Neural Network …

Insights Into Deep Steganography: A Study of Steganography Automation and Trends

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Hybrid statistical and recurrent neural network architecture implementation in FPGA device used for severe acute respiratory syndrome coronavirus detector

V.M. Senthilkumar[a,*], S. Thenmozhi[b], M.V. Kumudavalli[c] and U. Yedukondalu[d]
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Abstract. The Severe Acute Respiratory Syndrome (SARS) are caused by the strain of the corona virus causes cold and influenza. In recent years, the covid pandemic spread throughout the world killing millions of people. The fatality rate has increased and it also leads to pneumonia for breathing problems. Several methods like wavelet filter banks, time series methods, Neural networks was developed for the diagnosis of severe acute respiratory syndrome coronavirus, still the accuracy can be improved. Less works is carried out for hardware implementation for syndrome detectors. This proposed work represents the FPGA (Field Programmable Gate Array) implementation of the hybrid method using Convolutional Recurrent neural network and Independent Components Analysis (ICA). The architecture extracts the ccomplex features from ECG (Electrocardiogram) samples. The hybrid Statistical and Recurrent Neural Network (RNN) Architecture implementation in a real time hardware detects the Severe Acute Respiratory Syndrome presented. The proposed method can be implemented in MATLAB, Embedded and DSP (Digital Signal Processor). But, the FPGAs consume less power computationally efficient. Since, ICA is an efficient method due to its blind source separation property accumulate the extraction of features accurate described. The mathematical model for the analysis of ECG signal using RNN is analyzed and based on that the proposed model is selected. On investigation the hybrid method using the statistical and neural network model is efficient in the analysis of biomedical signal especially ECG. The proposed ICA based RNN model is mathematically evaluated and tested with real time data. For implementation, Quartus software is used for effectiveness of the proposed model.

Keywords: Field programmable gate array, recurrent neural network, independent component analysis, electrocardiogram, severe acute respiratory syndrome

1. Introduction

The Severe acute respiratory syndrome (SARS) outbreak in china has created panic among people once the disease is identified to be deadly. Caused by the strain of the corona virus causing common cold.

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Impact of Job Satisfaction on Employee Performance: A Study with Reference to Biblical Management Principles

Diwakar Prahaladaiah*, Udayakumar H M** and Mukesh Soni***

The paper examines the relationship between job satisfaction and employee performance. The study adopted qualitative and quantitative research methods based on a survey conducted among the employees of IT MNCs (Multinational Corporations) in Bengaluru. Through systematic literature review and textual analysis, the study explores the principles of Human Resource Management (HRM) in an organization and employee job satisfaction and performance. It found that there is an impact of job satisfaction on employee performance and that a significant correlation exists. The study also cites strategies from the Bible in this regard. The analysis brings out the importance of holistic approach in the organizations for its growth and development.

Introduction

Human Resource Management (HRM) or people management is an essential part of any employer or organization. "Human Resource Management (HRM) is important in organizations, which facilitates the effective use of people to achieve organizational and individual goals" (Hashim, 2009). Employees' motivation, commitment, resolving conflicts, performance evaluation, employee rewards, and employee retention are all critical areas addressed by HRM. Essentially, people make an organization. If good people are lost, the organization is lost. The global trend shows that a microbusiness organization can have employees, consultants, and other stakeholders engaging in spreading the business across several countries. The motivation of the employees and commitment towards the organization are correlated with the rewards and benefits from the employer and

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Green Computing Practice in ICT-Based Methods: Innovation in Web-Based Learning and Teaching Technologies

Suplab Kanti Podder, Debabrata Samanta (/affiliate/debabrata-samanta/295401/)

Source Title: International Journal of Web-Based Learning and Teaching Technologies (IJWLTT) (/journal/international-journal-web-based-learning/1081) 17(4)

Pages: 18
DOI: 10.4018/IJWLTT.285568

Abstract

Green computing is the system of implementing virtual computing technology that ensure minimum energy consumption and reduces environmental waste while using computer. ICT Based Teaching and Learning (ICT-BTL) tools can be implemented for effective and quality education especially during the pandemic like Covid 19. The researchers collect the data from original sources with their personal experiences and eagerness to understand the concept in depth and the applicability for prospective mankind. The results include positive impacts of developing and implementing the green computing for ICT-BTL tools in smart class rooms. ICT experts and entrepreneurs believe in initiating the virtual classroom operations for the betterment of future and protecting from the faster growing technology era in education and research industry. The present study can be initiated for developing modern classrooms and ICT based education system with 3D presentation, demonstration of practical examples in the realistic manner.

Article Preview

Top

1. Green Computing Inspirations For Ict-Btl

Green computing concept originated during the year 1992 while most of the companies initiated energy star for the electronic goods like printer, television, refrigerators, air conditioner, etc. which was the indication of energy efficiency (Asikainenet al. 2019), (Billett, Paulina and Martin, Dona, 2018). Millions of computers are used by individuals and organizations that consume the maximum portion of energy (Chatterjee, S., Bhattacharjee, K.K, 2020). With the consideration of proper utilization of renewable and non-renewable energy, different research institutions under government and non-government initiated to find the solution of reducing environmental waste and ensure energy efficiency that leads to discover the idea of green computing (Boud, D, et al. 1993), (Boyle, et al. 2019). ICT-BTL system has interconnections with green computing that leads a society into eco-friendly movement and sustainable development. UNESCO describes the importance of energy savings and released the guidelines for using the ICT-BTL practices exclusively in the developing countries. ICT-BTL system aggressively initiated by various countries

Impact of Skill Based Education on Innovative Entrepreneurship towards Sustainable Development

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Key Words:
Skill Based Education, Innovative Entrepreneurship, Sustainable Development, Employability Skills

Abstract :

Skill based education is the systematic execution of teaching-learning practices that develop the employability skills. In the competitive world, the institutions are playing vital role to develop curricular activities in association with industrial experts that constructs favorable atmosphere and guarantees of independent working ability. The education system facilitates a creative environment to learn and implement the knowledge for the personal and social development. Innovative entrepreneurship is the outcome of skill-based education and resourceful project works during study. The present study makes an attempt to identify the impact of skill based education on innovative entrepreneurship towards sustainable development. The research methodology consisted of identification of key factors related to skill based education system and innovative entrepreneurship process. The questionnaire was formulated and the respondents were asked to rate the level of importance of each question on five-point Likert scales. The study was empirical in nature and based on collection of both quantitative and qualitative data through stratified random sample with the sample size of 400 respondents. Majority of the respondents accredited high level of impact of skill based education on innovative entrepreneurship towards sustainable development. The participants agreed that innovative entrepreneurship can address the social issues and develop the economic situation for the advancement of individuals, organizations and the society at large.

1. Introduction

Skill based education is the road map for smart education system of future generation that construct self-confident among the young minds and develop employability skills. The learners can choose their desired sector to the specific job role or entrepreneurship activity [1]. Innovative entrepreneurship is the outcome of skill-based education towards sustainable development. Sustainable education system interconnects the teachers, learners, institutions, and industrial experts through eco-friendly electronic and computer devices that ensure maximum efficiency in education with minimum environmental impacts [3][7]. Skill based education is the combination of vocational training, professional certification programme, business incubator, case study analysis, internship and project work [6].

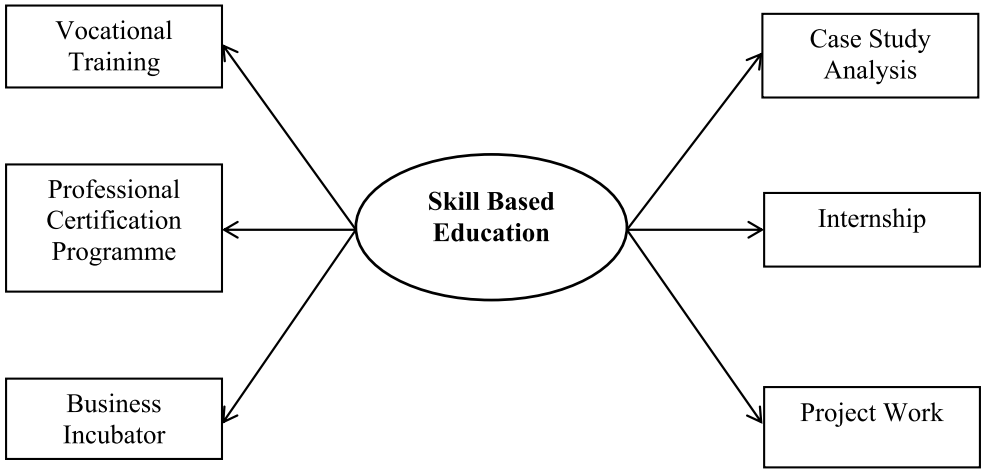

Fig.1: skill based education practices

FRESH WATER GOVERNANCE AND WATER USAGE ANALYSIS OF INDUSTRIES AND DOMESTIC USAGE IN INDIA AND ATTRIBUTES FOR CONSERVING INDUSTRIAL WATER USAGE

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FRESH WATER GOVERNANCE AND WATER USAGE ANALYSIS OF INDUSTRIES AND DOMESTIC USAGE IN INDIA AND ATTRIBUTES FOR CONSERVING INDUSTRIAL WATER USAGE.

Dr.Mahalakshmi.V, Head of the Department of M.Com, DayanandSagar Institutions, Kumarswamy layout, Bangalore, maha.5299@gmail.com

ABSTRACT
Water is the major essential and basic requirement of every life on this earth. Fresh water is vital for all life supporting systems in this world, it is used for producing food, power generation, industry, sanitation etc. Governance of fresh water is essential for equitable distribution and balancing of growing demand for freshwater due to increased population and development activities. Good water governance is necessary for fairly allocating water resources and avoid disputes. From the total available water major portion of water is used for domestic purpose. Industrial and manufacturing businesses use 12 % of the public water supply, Industries like food, paper, chemicals, semiconductors and chips used in computers and cell phones including dairy, sugar mill, oil and gas automotive etc use high level of water. Most of all these industries are located in and around the cities and only few of them are away from city limits. This study concentrates on the issue of shortage of water supply in cities or towns due to sharing of fresh water with Industries and other business sectors which can otherwise operate much far away from cities and towns near water bodies without using public freshwater supplied through pipe lines. An analysis of the freshwater governance to identify which sectors has high consumption level of fresh water and which industries have to operate within cities sharing water along with public, identifying industries which can use the water resource from lakes or ponds far away from cities, this division and allocation of permission to industries contributes to balanced distribution of piped freshwater supplied to cities and cater to hassle free supply of water to domestic use and specific industries which need to operate within cities and the rest of other industries to move to places near lakes or rivers. This allocation or division will also be helpful for maintaining public health and wellbeing and sustainable supply of freshwater all the yearlong to general public in any town or city. The study also poses few attributes which can conserve water usage of industries.
Theme: Future of Society **Sub Theme:** CSR in a competitive Business environment

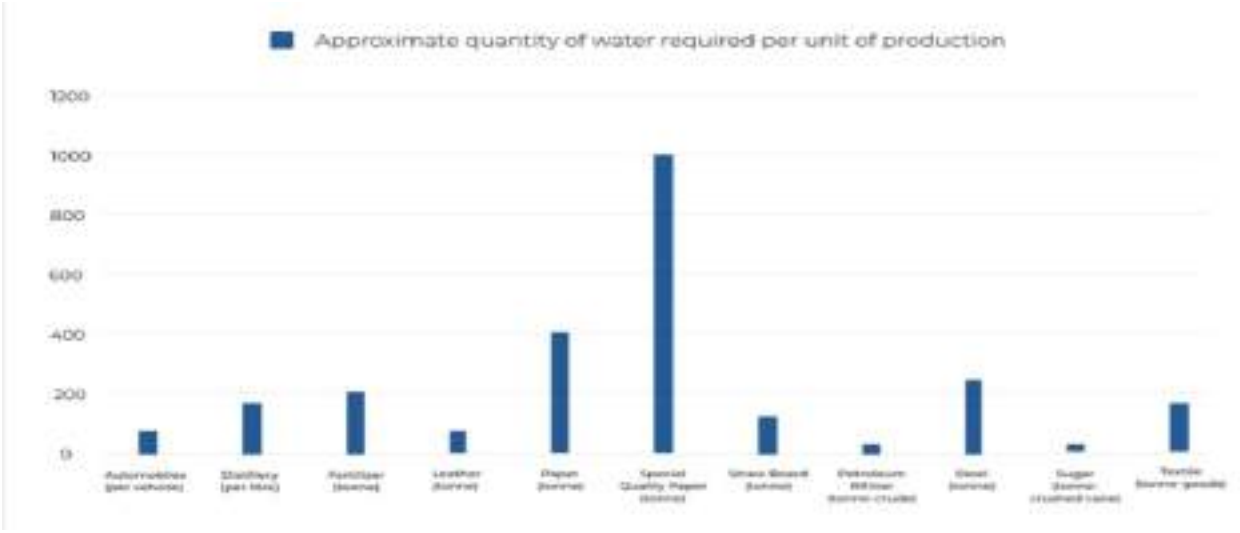
Key words:
Fresh water Governance, balanced distribution, general public, Industry, water usage

1. Introduction
India is the most populous country in the world which accounts 17.1% of world'spopulation. From the last one decade booming economics, population growth and rapid urbanization have considerable impact on India's water demand. Due to rapid economic and demographic changes, the demand for water is increasing day by day. As per the report of Asian Development Research Institute, irrigation sector alone will need additional water, and Industries water demand will range from 65 to 80 billion cubic meters (bcm) by 2025-2050 with the present 37 bcm consumed by Industries. Increase in demand and developmental activities is changing the scenario of water condition in India. At the same time good freshwater is necessary for good human health and the ecosystem, keeping a runningflow of healthy waterwith a sustainable distribution of water supply among public and industries is a challenge. Major part of the freshwater get polluted due to waste water and industrial production, there is no sufficient system created to manage wastewater generated daily in India. Rain fall is abundant in India, many rivers are flowing throughout the year and lakes have sufficient water all years long, in spite of these features India faces scarcity of fresh water in cities and rural areas during summer.
National water policy AMRUT 2.0 focuses on making the cities self-reliant and water secure. There are both public and private water control boards, the wellbeing of the society is dependent on the

reliable drinking water. The supply of water is handled by Panchayati Raj Institutions PRI in rural areas, Municipalities in urban areas called urban local bodies ULB. Fresh water governance is necessary and need of the hour to balance the supply of water between public and industries specifically in cities. Public demand for water is mainly for all domestic uses, industrial demands include water for stores, offices, hotels, laundries restaurants and mostly manufacturing plants. While planning the water allocation system by local bodies' priority should be in order of drinking water, irrigation, hydropower, ecology.

In India, the domestic water consumption is about 135 litres per capita per day (lpcd) for the urban regions and 75 litre per capita per day (lpcd) for the rural regions totally which accounts for 4% of the water footprint. About 30% of the country's population is supplied with safe drinking water though with limited supplies. The amount of domestic water consumption per person varies as per the living conditions of the consumers. Around 50% - 60% of the total water consumption is accounted for the domestic water consumption in India. According to the Ministry of water resources, water is used in industrial areas of the country accounting about 6% of water available. Water Demand amongCertain Important Industries are taken as information from a study as shown below

Water demand in various industry



From the above graph the research has indicated that special quality paper production, paper production and steel industry consume high level of water per unit of production, followed by distillery, fertilizer and textile.

The objectives of this study are

Objectives

1. To analyse about industries which are using highest water
2. To determine attributes for conservation of water by Industries

Methodology

This study is the review of data available regarding water resources, usage and conservation reports of National,International organisations and local bodies. Secondary data is obtained to collect information relevant and required for analysis. Online publications, reports of national and International policies and reports are referred for the study.

This para starts from Introduction, next para 2 contains the data collected about distribution of freshwater- globally, in Indian perspective-Industrial and domestic usage statistics, para 3 descriptive Analysis of the data, para 4 attributes for conservation of water, para 5 limitation of the study, para 6 conclusion.

2. Industries which have highest water usage

Distribution of fresh water:

Out of the total water available on earth 96.5% is in oceans, 2.5% is fresh water and 0.9% is other saline water. From the total freshwater available on earth, 68% isin the form of ice and glaciers, 30% is in the ground and

remaining on surface in the form of rivers, lakes ponds used for different purposes. In urban areas piped water supply from rivers, natural lakes, reservoirs or deep wells are connected to properly planned network pipe lines connected to all areas in cities. Integrated water management system is a process which ensures water supply as a holistic process, the water situation should be gauged for the local bodies to link water distribution process with city development plans,and integrated policies can help in sustainable development and ensure balanced distribution of water at every level. To have a sustainable running water for domestic use, water used for industrial purposed should be saved by shifting such industries which needs no fresh water but, other sources of water can be used in their processes. Global water availability shows that fresh water available is 0.76% .Distribution of freshwater in Indian scenario beginning from total water distribution to specific with public distribution and industrial distribution. The statistics in India is as mentioned below:

Table 1

Few Globalwater	**rankings of India**
Water availability per person p.a	133th rank
Water quality record	120th rank out of 122
Hydroelectric power capacity	5th rank
Acute water stress	13th rank
Ground water exporter	3rd rank

Table 2

Fresh Water usage of India		
Global water	**% of fresh water available**	**0.76%**
India Water usage as	% of World water	17.1%
India fresh water	% of world fresh water	4%
Utilisable water flow	% of annual water flow	94.12%

Table 2.1

Industries using highest water in India

Industry consumption % of freshwater available (from publicsupply) 12% around 500 billion cubic meter water per year, as per CPCB (central pollution control board)	
Thermal power plant % of water used	88% (440 billion cubic meters)
Engineering	5.05% (25.25 billion cubic meters)
Pulp and paper	2.26% (11.3 billion cubic meters)
Textile	2.07% (10.35 billion cubic meters)
Others	2.62% 13.1 billion cubic meters

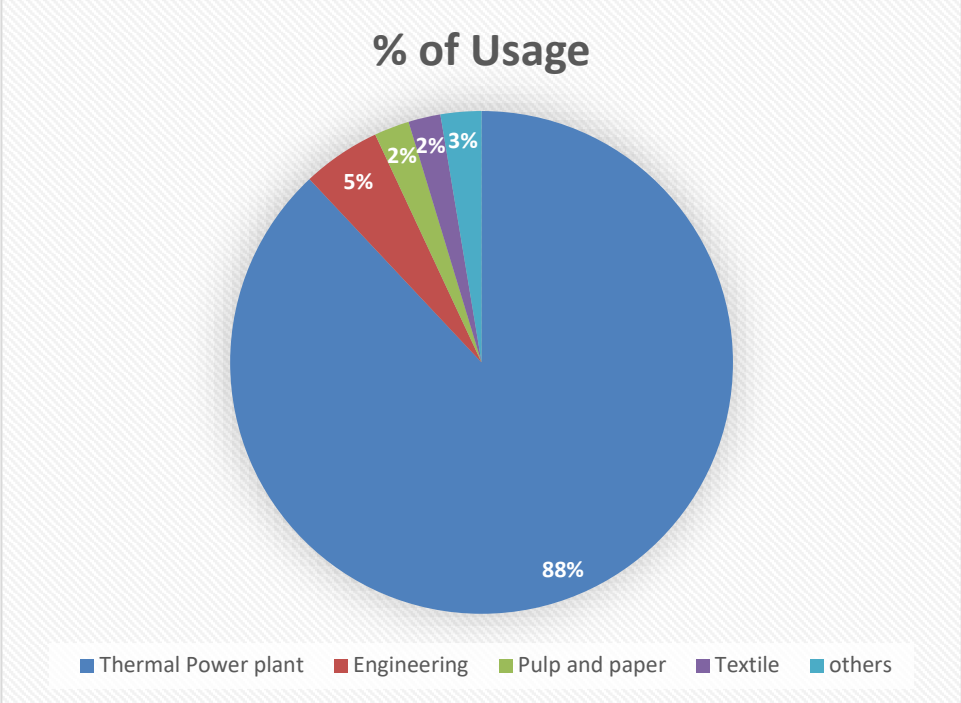


Figure 1: Industry usage of freshwater (Highest water users)

The graphical representation of data collected on highest water users in industry category is indicated in the analysis, it indicates that thermal power consumes highest water and only 3% is available for other uses.

Table 2.2

Domestic water usage in India

(Domestic consumption	% of Total water available (including groundwater) 60%)
Per capita water availability	1588 cubic meters(15,88,000 liters)
Drinking water usage(urban)	135 liters per head per day (lpcd)
Cooking	5 lpcd
Sanitation purpose % of fresh water	55 lpcd
Washing (clothes utensils house)	40 lpcd
Industry consumption is	1643 lpcd (approx.)

Domestic and industry consumption is 235 + 1643 lpcd = 1878 lpcd which is higher than available percapita water.

Industry draw water without any hassle but the sufferers are the general public.

Average daily water intake of an individual is analysed inage group of 30 to 44 years is 2.26litres per day[6]. Even though we reduce usage in one requirement we consume balanced in other requirement depending on geographical situations and environment. If we reduce the consumption of water conservation may be possible but, it is only a fraction of savings does not contribute to high level saving unless big industries reduce water consumption from fresh water and save for public use.

3. Descriptive Analysis

Fresh water includes both surface water and ground water used by public, industries, irrigation and other requirements. In this study fresh water governance is analysed for equitable distribution of public water supply for most required developmental activities and decisions regarding balanced division and distribution of water between public and industries are guided. From the above data industries use 500 bcm of fresh water as against 60% of freshwater for domestic purposes.

In this study the data starting from global ranks in important water levels are listed to focus down to identifying freshwater availability in India and further poses the details regarding usage of freshwater

by industries as against domestic use. The analysis of the gathered data from various reviews is provided as under.

Table 1 Indian perspective in Global waters: Indian ranking is good in terms groundwater exporter and hydroelectric power with 3rd and 5th ranking respectively indicating highest loss of water which may have led to acute water stress in India.

Table 2 Water usage in India shows India uses 17.1% of globally available water and uses 4% of available freshwater in India, in spite of yearlong flowing river water source, ice and glaciers and abundant rainfall the utilisable water is less because of no sufficient preservation system compared to other developed countries.

Table 2.1 Thermal power plants use water mainly for cooling which can other wise use other than public water for cooling. According to the Water resource Institute upto 40% of thermal power plants are located in the area facing acute water shortages i.e 40% power plants are causing water shortage,19% plants declare non-compliant and 14 plants report using sea water, which exempts from complying water norms, nearly 269 power plants were there by 2019. Their water consumption of 88% of water could fulfil the water needs of four cities for two days according to the study by TERI (The energy and resources Institute). On the other hand solar plants consume a fraction of water used by thermal plants. This indicates that these industries should be compulsorily located out of urban areas or out of supply area of public water.

Engineering and construction industry use nearly 41% of surface water, 24% of municipal water that is public water supply. According to a survey conducted by FICCI water mission responses were obtained from sectors like automobile, construction, real estate, IT, food processing etc. almost all industries faced shortage of water, around 24% of industries have waste water treatment and using for industrial process, they are also of the idea to join hands with government and local body to work on water conservation. All these industries are normally located near cities sharing public water.

Paper Industries, one of the highest water consuming industry nearly 10% of fresh water goes to make paper, up to 20 litres of water goes for production of one A4 sheet paper. Paper industries are located in cities using public water.

Textile industries in India uses 4% of fresh water globally, for the process like dyes, and chemicals, washing and rinsing i.e 200 to 250 cubic meters for per ton of cotton cloth produced in India.. Annually 93 billion cubic
meter of water used equal to 37 million Olympic swimming pools of water. Industries are located in cities sharing public water.

Thus, all industries which use highest water are using freshwater from public water supply and are located in urban or city areas sharing water. .

Table 2.2 Domestic water usage in India is 60 % of total fresh water available out of which 135 litres per head per day for drinking, 5 lpcd for cooking, 55 lpcd for sanitation, 40 lpcd for washing and total water consumption per individual is 2.26 litres. Approximately total usage of water for domestic purpose is 235 lpcd.

Thus, the following is the interpretation of the descriptive analysis of the data gathered about the water usage of industries which use highest water:

1. Industries which are involved in exporting ground water should be reduced, dependency on hydroelectric power should be reduced
2. Thermal power projects need water mainly for cooling which can otherwise be supplied from sea water
3. Engineering and construction can be supplied water from lakes or industry discharge treated water. Except food processing industries other manufacturing industries should not be permitted license even with single pipeline of normal public water supply.
4. Paper industries can strictly be ordered to use only treated water and should be granted permission to setup unit only around water treating points.

5. Textile industries are run in small scale in India especially process like dyeing, rinsing etc. Home based dyeing units should be banned because they use lot of public supply water for dyeing and rinsing.
6. Thermal power plant use 3000 litres of water for 1 megawatt-hour of electricpower,(1 cubic meter is 150 litre of water)
7. The water available for domestic use is 61000 cu.ft(17,50,700) litres)of freshwater per person every year, means 4976 litres perday per person is available. As per data collected 235 lpcd is used per day per person for different domestic purpose. This shows that only a fraction of available water is used by public and remaining water is shared with industries which is causing water stress at high level.

From Table 2.1 and 2.2 the water availability and usage by industries and domestic purpose out of freshwater available shows a stunning analysis and truly India is in water crisis not due to shortage of water but, because of high water usage industries. The analysis is as follows:

1. Table 2 - Global water % of fresh water available , 0.76% (1123bcm)
2. Per capita water availability (2010) 1588 cubic meters (1588000 liters)
3. Surface water available annually is 690 billion cm
4. Industrial consumption is 500 billion cm
5. Domestic (listed) usage Table 2.2,

Thus, available surface water is majorly used for industries, fresh water available for domestic use is a fraction of water available and requirement indicates much higher than actually distributed-approximately more than 32000croreliters are required percapita(3200000 cubic meters of water required). Water used by industries are in billion cubic meters and water used for domestic is available in Liters.

4. Attributes for fresh water conservation

Fresh water includes both ground water and surface water. This study concentrates on only surface water shared for different purposes through systematic pipeline distribution. These lines are extended to both public as well as industries, public are already are supplied lesser than they deserve it is the industries which over use water resource. In para 2, discussion about highest usage industries are listed and analysis about their usage is discussed. These industries are also interested to join with government in conservation of water. Through the analysis from para 4, 5 attribute are listed for balancing supply and usage of water for health and well ness of society. Responsibility of Industies and Government.

Industry

1. Reducing usage of water
2. Using treated water
3. Shifting of industries near water bodies
4. Rain water harvesting
5. building more fresh water storage bodies

Government

1. Permit thermal plants to use only sea water or treated water
2. Permission for only engineering industry which are necessary for domestic livelihood. others should be located far from city where pipe water distribution should not be shared
3. Textile and paper industries should be advised to use treated water
4. Should not permit dyeing, rinsing unit at household level to use public water
5. Licence should be given only after ensuring all above points

5.Limitations of the study

Water governance includes political, economic and institutional rules and practices and process through which decisions are taken to implement for balanced supply and accountability. As this study

is limited to study, only freshwater governance among the water resource available on this globe. The limitations of the study are

1. Only freshwater resource is considered out of many other sources
2. Ground water usage need higher importance to be studied separately
3. Only highest water usage industries considered to compare with domestic usage because fraction usage may not contribute much in conservation of huge amount of water

6. Conclusion

National water policy Amrut 2.0 is related to making cities self-reliant in water resources. The normal supply of freshwater to urban is majorly used by industries which need highest water located within or nearby to cities having access to public water supply. Industries like thermal power plants, engineering, paper and textile further distillery, fertilizer industries need water which need not be fresh water supplied to public. These industries should purchase treated water or use water from sea or rivers, should also be not given permission to establish within cities or nearby cities. Engineering or subsidiary units should join hands with local government in conservation of water. Paper industries should not be given permission to setup unit within in or nearby to cities and no water pipe connection should be extend to such industries instead be allowed to operate near water bodies. Small units of textile process units like dyeing and rinsing located within cities should be excluded and shifted near water bodies and should not be allowed public water connections. Conservation of water in reducing domestic use with industries joining hands with government in developing models in conservation of water.

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