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Title of paper	Name of the author/s	Name of journal	Department	Evidences
The Effectiveness of LLMs in Mental Health	Dr. Jaikumar M. Patil	International Journal of Advanced Research in Computer and Communication Engineering, ISO 3297:2007 Certified Impact Factor 8.102 Peer-reviewed / Refereed journal Vol. 12, Issue 4, April 2023 DOI: 10.17148/IJARCCE.2023.124201	Computer Science and Engineering	Click Here
Literature Review on Replication of Voice Using Deep Learning Technique	Dr. Jaikumar M. Patil	International Journal of Innovative Research in Computer and Communication Engineering, e-ISSN: 2320-9801, , Volume 11, Issue 4, April 2023	Computer Science and Engineering	
Evaluating Lexicon And Detecting Emotions Using Enhanced Topic Modelling Techniques	Dr. N.M.Kandoi	METSZET JOURNAL UGC-CARE Approved Group 'II' journal	Computer Science and Engineering	
An Approach to Predict Nifty Index price using LSTM	Dr. Pankaj K. Bharne	METSZET JOURNAL UGC-CARE Approved Group 'II' journal	Computer Science and Engineering	
High capacity reversible data hiding in encrypted images using multi-MSB data hiding mechanism with elliptic curve cryptography	Priyanka V. Deshmukh	Multimedia Tools and Applications https://doi.org/10.1007/s11042-023-14683-9 12 January 2022 / Revised: 27 April 2022 /Accepted: 3 February 2023	Computer Science and Engineering	Click Here

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The Effectiveness of LLMs in Mental Health

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Abstract: It has an impact on everyone's health, which is why mental illness should be prioritized in the healthcare industry. However, it appears that this field is developing at a somewhat slow pace. AI (Artificial-Intelligence) technologies have recently received a lot of attention in a variety of fields, including mental health. Advanced AI approaches and machine learning algorithms have made it possible to provide personalized care that primarily focuses on providing emotional support tailored to a specific individual.

We explore the possibility of using large language models like OpenAI's GPT3 and Facebook's Llama and Stanford's Alpaca to provide an effective conversational partner to people suffering with such mental health conditions where it may be helpful, such as depression and anxiety disorders. We compare the performance of the chatbots based on their responses to questions from counselchat.com dataset of therapist responses, and use the GPT4-davinci, the largest GPT4 model, as a judge to evaluate the quality of responses.

Keywords: AI (Artificial intelligence), LLMs (Large Language Models), Fine-tuning, chatbot, depression, anxiety, mental health.

I. INTRODUCTION

Mental illness is an increasing public health concern across the globe. In a single year, 43.6 million adults (18.1%) in the United States struggle with mental illness (National Institute of Mental Health, 2015). Along with the person who is suffering with a mental illness, family, friends, and communities are all affected. Many mental health issues can be successfully resolved with psychotherapy and counseling (World Health Organization, 2015). Interestingly, it is far from apparent how to conduct successful counseling sessions.

These conversations are free-form, with no predetermined limits, and include multiple options that could have an enormous effect on someone's life. People have been found to be more willing to express themselves when interacting with a virtual therapist, which could have a substantial therapeutic benefit. [2] The AI bot is most likely seen as nonjudgmental, non-opinionated, and impartial. Furthermore, diagnostic systems can assist in giving patients with precise therapies that can be customized to their budget. Staff shortages are another major impediment. Precision therapy techniques aid in the constant monitoring of mental wellness. When you require assistance, chat-bots and internet platforms are always available. [3].

II. LITERATURE SURVEY

A. Thieme et al., [1] research explores that it is vital to be careful not to translate and abstract away too much from the person and their unique context in data analysis, interpretation, and representation when using ML techniques to the capture and assessment of diverse human needs and experiences.

T. Althoff et al.,[2] The project focuses on the creation of a collection of unique computational discourse analysis algorithms suitable for large-scale datasets and their application to the discovery of actionable discussion tactics linked with better conversation outcomes.

V. Mody et al., [3] research shows the benefits and limitations of AI technologies as a way of identifying and intervening in mental health issues. Chat-bots are a convenient approach to offering mental health services through a gadget. Precision Therapy and Diagnostic Systems aid in the early detection of illness and the provision of personalised treatment options.

O. Romanovskyi et al., [4] paper offers the findings of a controlled investigation on the usefulness of the Elomia chat-bot in reducing the likelihood of depression, anxiety, and unpleasant emotional impacts. The following psychological research methodologies were employed in the study: 1) Patient Health Questionnaire-9 (PHQ-9) to screen for depression; 2) General Anxiety Disorder-7 (GAD-7) to screen for generalised anxiety disorder; 3) Positive and Negative Affect

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Literature Review on Replication of Voice Using Deep Learning Technique

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ABSTRACT: Deep learning grows have led to impressive findings from a text to speech domain. A neural network with deep neural networks is typically a compilation of countless hours of expertly recorded discourse from a single speaker had been employed to train the entire system. Recent research introduced a three-stage process to replicating voice training from only a few seconds of input without restructuring the character's language. We adapt the framework with a newer vocoder model to make it run in real-time. Audio synthesis is growing as a technological study hotspot. Human-computer interaction will keep evolving so that computers can interact with humans. Voice will be a great deal stating to connection among machines and human beings' technique in the subsequent years considering it has numerous benefits rather than a single process. Voice replication is a branch for voice technology that can replicate a specific person's voice. Also, to avoid the robotic generated voice, which is common on numerous gadgets but is not always interactive with humans. A method over completing voice communication in real time replication with only a few samples is proposed to solve the issue of offering a substantial amount of specimens and a long delay over conversation replication in prior years. We available an artificial neural text to speech over the network formation system the fact that will produce audio expression in the sounds belonging to various speakers, which include those that went unnoticed through training.

KEYWORDS: Vocoder, Encoder, Synthesizer, TTS, Tactron, WaveNet. LPCNet, Mel-spectrogram, GE2E, LSTM.

I. INTRODUCTION

The goal of voice replication to preserve semantically related data yet just altering a speaker's attributes for making it sound such someone else. Studying voice replication can help us understand speech-related parameters, human pronunciation mechanisms, and influence over a character attribute parameter for conversation evidence. [2]. Deep learning models have risen to prominence in a wide range the use of machine learning implemented fields. TTS is the procedure of turning the text to conversation. generating Artificiality speech produced by an input immediate is without exception. The goal of voice replication has to retain all of the most recent semantic details and only influencing an individual's let characteristics in order to sound like another speaker. We can strengthen our understanding of speech-related parameters, investigate human pronunciation mechanisms, and and only influencing an individual's let characteristics in order to similar to an additional speaker tic parameters of speech signals by studying voice cloning. To create a natural voice with correct pitch, lively articulation, or restricted noise from the background, training information via the same features is required. Also, the information's efficiency of artificial intelligence keeps an essential problem. whereas completely instructing a single-speaker TTS model officially constitutes voice cloning, the aim is to produce a rigid framework that can incorporate newer voices with little information. A popular strategy is to train a TTS model to generalize to fresh speakers via an incorporation of the voice to replica.

EVALUATING LEXICON AND DETECTING EMOTIONS USING ENHANCED TOPIC MODELLING TECHNIQUES

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Abstract

Audits of goods, journals, chats, arranging locations, parts of books, and other sources can be cleaned of profound meanings. Even Nevertheless, a lot of social information compilations have underlying impacts on approval checks. One type of item or administration, the source of the message, might occur in political discussions, news reports, or financial exchange analysis. The source might be any place where people freely converse and speculate. We intend to put forth a Multigram (MMM) blending model that can extract terminology referring to feelings that are near to home from record files using NLP techniques. Second, we discuss the fundamental model for the English language (subject) that was created using the Enhanced Latent Dirichlet Allocation (ELDA) method and using common assumptions like consistency and recurrence.

It begins by separating text from several articles in various sources. As none of the sentences are about things that directly affect us, it is possible that a large portion of the sentence "nonpartisan" is longer than a statement with a significant component. Sentences will be transmitted to Sense Analyzer to receive a basic mark of "positive," "nonpartisan," or "negative" in order to understand the impact of this. The two methods for identifying two emotions that have been suggested are Documentation Rating of Emotions and Grouping of Words - Emotions.

Keywords: LDA, Emotion Recognition.

1. Introduction

Authors Virtual entertainment allows access to the detailed information of weakly identified users, including emoticons and locally relevant hashtags that may be utilised to understand various emotions. Planning diff documents indicates employing twofold numbers to plain recurrence numbers to sophisticated near to home concepts, in particular, might benefit from emotion recognition. It may also be used to search for and capture material using a variety of emotions. To depict various emotions in social networks and gatherings, feelings are divided into six categories, which are generally utilised to depict basic human emotions according to expressions [1]: sickly, unlucky, satisfaction, bitterness, furious, and astonishment. Strangely, the number of fundamental human emotions has been "decreased" or divided into four categories: sadness, happiness, outrage/nausea, and dread/shock [2]. It is astounding for the majority of us to have just four basic emotions.



An Approach to Predict Nifty Index price using LSTM

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Abstract: *Anticipating securities exchange precisely has dependably charmed the market analysts. During the previous couple of decades different AI strategies have been connected to ponder the very stochastic nature of financial exchange by catching and utilizing dull examples. Stock exercises evaluating are an intense interest for stock clients. This stock evaluating is a testing issue. Henceforth, we should a need to create application that is able to precisely foresee bearings of stock value movement. Forecasting and anticipating the patterns of market is the most critical utilizations of securities exchange. It likewise reveals the future market conduct which dependably encourages the speculators to comprehend when and what stocks can be obtained for the development of their venture. For this reasons, a considerable lot of the explores have been done as such far in the territory of investigating the financial exchange utilizing information mining.*

Keywords: **Artificial Neural Networks (ANNs); Stock Market; Prediction, LSTM, Nifty Index**

1. INTRODUCTION

A securities exchange is the market that individuals use to exchange (= purchase and sell) shares, which resemble little bits of the organization that an individual can possess. The estimation of the offer relies upon what number of individuals need to get it and what number of individuals are offering it.If numerous individuals need to purchase a stock, the cost will go up. On the off chance that there are a larger number of venders than purchasers, the cost will go down.People as a rule exchange partakes in stocks through an intermediary. A dealer or stockbroker is an individual who purchases or sells stocks for their clients on the securities exchange. An intermediary can likewise enable clients to use sound judgment in stocks.

Most agents have proposals for a large portion of the stocks, in light of the data about organizations and what is normal from them. Agents as a rule prescribe clients to BUY, HOLD or SELL. In time arrangement expectation the assignment is to estimate the following quality (values) in an informational index. There are a few fields in which time arrangement expectation is of focal significance, for example meteorology, topography, account, and macroeconomics. Normally in those fields, there exists no precise models of the framework, and thusly the arrangement are examined from a phenomenological, show free perspective. In the physical sciences, where models are normal, the utilization of without model time arrangement expectation is less normal. Counterfeit neural systems (ANNs) are regularly utilized for time arrangement forecast as a result of their capacity to construct their own interior models.

Exchange financial exchanges implies the exchange for cash of a stock or security from a dealer to a purchaser. This requires these two gatherings to concede to a cost. Values (stocks or offers) present a possession enthusiasm for a specific organization. Members in the securities exchange extend from little individual stock financial specialists to bigger dealer speculators, who can be based anyplace on the planet, and may incorporate banks, insurance agencies, annuity assets and flexible investments. Their purchase or sell requests might be executed for



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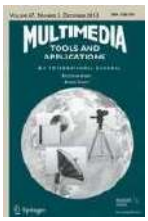
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Home Multimedia Tools and Applications Article

High capacity reversible data hiding in encrypted images using multi-MSB data hiding mechanism with elliptic curve cryptography

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Abstract

Data-hiding technology plays an important role in fields of the image such as copyright identification and annotation. Predicators may be exploited in RDH in the encrypted image (RDHEI); this has become a research interest in recent years because of the development of cloud computing and a need for content owner privacy. The existing algorithms cannot implement large embedding capacity and good reconstructed image quality simultaneously. Consequently, for secure data image transfer, the article suggested the High-Capacity Reversible Data Hiding in Encrypted Images (RDH-EI) approach. The original image was pre-processed by the content owner to free up hiding space in the RRBE scheme, following

Review on Research Possibilites in use of UAV for Plant Protection and Variable Praying

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Abstract: *Agriculture is being more affected with variety of deceases due to climate change and ecological imbalance and therefore it is becoming more research oriented area to provide solution with use of technology. Spraying of pesticides or other remedial liquids on crops using Unmanned Aerial Vehicles considered as an most important research work in the field of agriculture and this is the most effective and safe way of doing this. This review paper summarizes the status of current research work going on and progress in application of UAV for spraying and decease monitoring to achieve precession spraying objective also attributes of automation in UAVs is discussed. The factors that affects spraying process like drifting of liquid, vibrations in stability with this various technological solutions through variable spraying, remote sensing, image processing to analyze plant status and which research is being conducted is considered. Literatures on future development and impact of implementation of this technology are reviewed. This review will be helpful for researchers to get key findings of current research to optimize their research work.*

Keywords: *UAV, Variable Spraying, Plant Protection, Precesion Spraying, Geo Tagging, Geo Fencing, Plant Decease Monitoring, Pesticides Spraying*

1. INTRODUCTION

Agriculture is backbone of any nation especially for country with huge population like India and China where primary motive and objectives behind inventions and innovation is to feed such a huge quantity of peoples living together. According to Data of Directorate of Economics & Statistics, DAC&FW (Agricultural Statistics at a Glance 2016), as on 29/10/2020 Total Cropped area of India 1,97,054 Thousand Hectare and Net Sown Area is 1,39,506 Thousand Hectare which is nearly about 42.4 % of total area but as per the report of PIB india shown in following figure 1.1, average operational holding size is decreased to 1.08 hectares(2.6 acres) in year 2015-16 causes may varies from increase population to fragmentation of holding. In spite of having Agriculture as the primary business of the nation and having such a high cropped area, the average monthly income of farmers varies from 7,500 to 50,000 as small to large land holding respectively which is too much less and due to which farmers are shifting from agriculture as their main business to others.

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Smart Toll Collection

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Abstract: *These days most highways toll plazas are operated by hand, wherever operator collects money from the driver and provides a receipt. Since this procedure are often slow, we frequently make traffic jams at the toll plazas on busy highways. Smart toll assortment can save time, man power and effort. During this work purpose an occasional value and economical technique known as IoT based toll gate system image processing based Automatic Toll Gate System as a solution to solve the traffic problems and to maintain transparency of the toll collection system. Our aim is to make a digital toll collection system which will be less time consuming and automated monitoring and control of vehicle entry-exit in high way.*

Keywords: Automated Toll Collection System, Image Processing Technology, Traffic Management.

I. INTRODUCTION

An intelligent method of traffic control is an intelligent highway toll collection system. It can be used for several traffic control applications, including automatic toll collection, which combines vehicle detection, picture capture, licence plate identification, and tollgate control with automatic toll collection. The technique of identifying automobiles by their licence plates, known as licence plate recognition or LPR, combines image processing, edge detection, and optical character recognition technology. Because identification solely uses the information from the licence plate.

II. LITERATURE REVIEW

1] S. Dhilip Kumar (2020) As a survey stated almost 15 crores vehicles utilise national highways around India, and if on average each vehicle has to wait idly for 10 minutes in toll booths it results in a loss of Thousand two seventy-two crore a day. The issues involved in manual toll collection involves hurdles like exact change, system malfunction at times, staff changeover per duty and manual imperfections. It is proposed to implement a smart card named INDIA-Pass compatible with other transportation services used in India. But it is highly appreciable to arrive with a solution explicitly for automated toll collection.

One such solution is proposed in this paper, an automated toll collection system with wireless transceiver and cloud-local hybrid database maintenance. In automated toll collection system, the driver does not need to stop at the toll gate and one neither must stand still in a long line to pay his entry fee. Though it sounds simple the proposed method decreases the utilisation of fuel, lessen street blockage, enhance street security, and make travelling a pleasure for all. This paper introduces the idea of gateless computerized ETC (Electronic Toll Collection) utilizing ZIGBEE handset with RFID. ZIGBEE mechanized ETC can eliminate human intervention in manual toll collection and consequently bring down the cost of activity.

2] Rajeev Kumar (2019), In this paper proposes an automatic toll collection system to debit the toll of moving vehicles at a toll plaza in India. An effective approach is presented here to localise the licence plate of vehicles. A database has been created and linked to test the performance of the prototype toll collection system of moving vehicles.

3] Veena Sundareswaran (2020)

The number of vehicles, names of the vehicle owners, unique identity numbers of the owners, and the value of the associated bank account are all included in this paper's database by the authors. The findings indicate a considerable decrease in the length of the queue for vehicles, fuel waste, and pollutant emissions at a toll plaza. The system may be utilised in the future to prevent theft.

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Voting System using Blockchain Ethereum (dApp)

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Abstract: *The use of E-Voting systems has become popular in these recent years due to the ability of Blockchain environment to provide a more efficient and convenient voting process. Earlier, the security and integrity of e-voting systems has been very concerning, as they are vulnerable to cyber-attacks and manipulation. On the contrary, Blockchain technology provides a decentralized and distributed platform that can ensure the integrity and immutability of data. This research paper proposes an e-voting system based on blockchain technology. The proposed system aims to provide a secure, transparent, and tamper-proof voting process. The system utilizes smart contracts, which automates the voting processes and ensures the accuracy of the results. The system also provides transparency and accuracy, allowing voters to verify their vote and ensuring that the results are accurate and trustworthy. The proposed system will be tested and evaluated to determine its effectiveness and feasibility. The evaluation will focus on the security, scalability, and usability of the system. The security evaluation will test the system's ability to prevent attacks and ensure the confidentiality of the votes. The scalability evaluation will test the system's ability to handle a large number of voters and transactions. The usability evaluation will test the ease of use and accessibility of the system for all types of voters.*

Keywords: E-Voting

I. INTRODUCTION

Electronic voting (e-voting) systems have gained popularity in recent years due to their convenience, speed, and cost-effectiveness. However, e-voting systems have faced several challenges related to security, privacy, and transparency. Traditional e-voting systems rely on a centralized authority to manage the voting process, which can lead to security vulnerabilities and potential manipulation of the results.

Blockchain technology is a decentralized and distributed platform that can provide a secure and transparent environment for e-voting systems. Blockchain technology allows for the creation of tamper-proof records and provides a decentralized approach to data management, ensuring the integrity and immutability of data.

The proposed e-voting system based on blockchain technology will utilize smart contracts to automate the voting process, ensuring that the results are accurate and trustworthy. Smart contracts are self-executing contracts with the terms of the agreement between the parties being directly written into lines of code. The smart contract will ensure that only eligible voters can cast their votes, and the votes will be counted accurately.

The proposed e-voting system will also provide transparency and auditability, allowing voters to verify their vote and ensuring that the results are accurate and trustworthy. The system will also provide anonymity and privacy, ensuring that the identity of the voter remains confidential.

The aim of this research paper is to propose an e-voting system based on blockchain technology. The proposed e-voting system will utilize smart contracts, which will automate the voting process and ensure the accuracy of the results. The system will also provide transparency and auditability, enabling voters to verify their vote and ensuring that the results are accurate and trustworthy.

The objectives of this research paper are:

- To review the existing e-voting systems and identify the challenges and limitations.
- To explore the potential of blockchain technology in e-voting systems.
- To propose an e-voting system based on blockchain technology.

A Review on Enhancing Retrieval Performance of Content Based Image Retrieval System Based on Early and Late Fusion Techniques

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Abstract

The query image is used to get pictures from a database or image repository by Content-Based Image Retrieval (CBIR) systems. CBIR is crucial in a number of industries, including architecture, web-based search, criminal prevention, and medical diagnostics. In CBIR, there are primarily two stages: the first is feature extraction, and the second is similarity matching. The effectiveness and efficacy of CBIR may be increased in a number of ways, including segmentation, relevance feedback, expanding searches, and fusion-based techniques. Several techniques for mixing and fusing several picture descriptors have been proposed in the literature. Early and late fusion techniques make up the two main categories into which fusion strategies are commonly separated. While late fusion refers to either the combining of outputs provided by distinct retrieval methods or the combination of different rankings of similarity, early fusion is the integration of visual characteristics from several descriptors into a single vector prior to the similarity computation.

Key Words: Content-based image retrieval, Feature extraction, Fusion method.

1. Introduction

Large image databases can be searched using one of two methods. The first method, text-based image retrieval (TBIR), uses manually annotated images that have appropriate names attached to them. The end user then uses keywords to search for and find the required images. The manual annotating process takes a large amount of time, which is the first obvious drawback of this strategy. The second drawback is the amount of onus placed on the end user to create their own queries. Content-based image retrieval (CBIR), an alternative and efficient technique, offers several benefits and addresses the key issues raised by the prior technique. Due to the fast growth of multimedia data through contemporary sources including the Internet, smart devices, internet of things (IoT) devices and sources, social networks, and medical imaging sources during the past two decades, CBIR also became the primary approach and a focus of extensive study. However, single feature spaces are not always enough to produce the greatest retrieval results. The majority of the older CBIR research were based on individual or single feature descriptors retrieved from colour, texture, or form contents/descriptors. As a result, the majority of current research has incorporated many descriptors from the aforementioned instances. The results of an early survey of CBIR's vast and varied application areas were presented.



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Image to Image Search Engine

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Abstract: *In this research, we propose a concept for a search engine that enables users to input a picture from their local database and obtain data from the internet about it. With the exception of the fact that an image is submitted here as a query rather than text-based keywords, this is very similar to the conventional keyword search utilised by the majority of search engines. Because the image is the search query, finding the information corresponding to the uploaded image requires analysis and matching the image's content. This complicates the search process. This is most apt for searching information about images of dogs or any animal or thing that is identifiable.*

Keywords: Search Engine.

REFERENCES

[1]. Antonio M. Rinaldi, "An Ontology-Driven Approach for Semantic Information Retrieval on the Web",2009, ACM Transactions on Internet Technologies, Vol .9, no.3, pp. 10.1-10.24.

[2]. Q. Yu, et. al., "Improve ranking by using image information", in Proc. Adv. Inf. Retrieval, 29th Eur. Conf. IR Res., Italy, 2007, pp. 645–652.

[3]. Rishi Mukhopadhyay, Aiyesha Ma, and Ishwar K. Sethi, "Pathfinder Networks for Content Based Image Retrieval Based on Automated Shape Feature discovery,"

[4]. Divya Ragatha Venkata, Deepika Kulshreshtha, and Divakar Yadav, "Techniques for Refreshing Images in Web Documents," Proceedings for International Conference on Control, Robotics and Cybernetics, October 2011.

[5]. G. Pass, R. Zabih, and J. Miller, "Comparing images using colour coherent vectors," Proceedings of Informing Science & IT Education Conference (InSITE) 2009.

[6]. O. R. Vincent, and O. Folorunso, "A Descriptive Algorithm for Sobel Image Edge Detection," Proceedings of Informing Science & IT Education Conference (InSITE) 2009.

[7]. Aiyesha Ma, and Ishwar K. Sethi, "Local Shape Association Based Retrieval of Infrared Satellite Images," The Proceedings of The 2003 Inter-national Conference on Information and Knowledge Engineering, June 2003.

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Car-Pooling System (CapX)

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Abstract: *With traffic congestion and environmental concerns on the rise, carpooling systems have become increasingly popular. This paper proposes a carpooling system that matches drivers and riders based on their travel preferences and routes using an advanced algorithm. The system considers factors such as pickup and drop-off locations, preferred departure time, and route to find the most compatible matches. Additionally, real-time updates are provided on the driver's location and the rider's estimated time of arrival. This carpooling system not only reduces traffic congestion but also lowers carbon emissions, promoting environmental sustainability. It also offers a safe and reliable alternative for individuals without access to private transportation or public transit. The proposed carpooling system has the potential to transform commuting, providing a practical solution for a more sustainable future.*

Keywords: Carpool, Traffic, Route, Travel, Private, Public, Location.

I. INTRODUCTION

Welcome to our web-based carpooling project! Our goal is to offer those who want to commute to work or travel in a more sustainable fashion a convenient and affordable transportation option. We want to make transportation cheaper for everyone while reducing traffic jams and carbon emissions by carpooling with other travelers.However, with increased traffic congestion and environmental concerns, it is more crucial than ever to develop sustainable transportation solutions. By offering a platform that links drivers and passengers for shared trips, our carpooling web app project seeks to address these challenges and enable users to save money, lower their carbon footprint, and enjoy a stress-free commute.

The goal of this project is to create a web application that makes travel easier, more economical, and ecologically beneficial. The Car-Pooling System enables those who rely on public transportation locate drivers who are travelling in the same direction by connecting them with drivers who commute alone with passengers wishing to share a trip. Users can access available automobiles through this system and schedule rides according to their availability and schedule.

Carpooling involves sharing a car journey with others, thereby reducing the number of cars on the road and avoiding the need for everyone to drive separately. Typically, carpoolers split the cost of travel equally among themselves, including expenses such as fuel, tolls, and parking fees. The driver does not aim to make money from carpooling, but instead aims to share the cost of a trip that they would have taken anyway.

Carpooling is particularly popular among those who work in areas with many job opportunities nearby and live in densely-populated areas. It is also linked to lower transport operating costs, as well as shorter commute times and distances.

By encouraging more people to share a ride in one vehicle, carpooling can significantly reduce travel costs, lower carbon emissions and air pollution, and ease traffic congestion on the roads. Additionally, it can help minimize the need for parking spaces, making it a more sustainable form of transportation. Drivers who are going in the same direction. This system allows users to access available cars and arrange rides that suit their schedule and capacity.

II. RELATED WORK

Carpooling is the sharing of a commute by commuters going to the same place or on their way there. Although it refers to ridesharing, carpooling, and other terms, the fundamental philosophy is the same. The majority of applications are accessible through web and mobile platforms. Systems like lift sharing, national car sharing in the UK, and transportation in the USA. There are parallels between Uber, Sidecar, Lyft, Taxi Magic, Ground Link, and other

Implementing Secure Data Storage and Sharing Techniques for advanced Protections in Cloud Environments

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Abstract:

Cloud computing has gained a lot of hype in the current world of I.T. Cloud computing is said to be the next big thing in the computer world after the internet. Cloud computing is the use of the Internet for the tasks performed on the computer and it is visualized as the next- generation architecture of IT Enterprise. The 'Cloud' represents the internet. Cloud computing is related to several technologies and the convergence of various technologies has emerged to be called cloud computing. In comparison to conventional ways Cloud Computing moves application software and databases to the large data centers, where the data and services will not be fully trustworthy. In this article, I focus on secure data storage in cloud; it is an important aspect of Quality of Service. To ensure the correctness of users' data in the cloud, I propose an effectual and adaptable scheme with salient qualities. This scheme achieves the data storage correctness, allow the authenticated user to access the data and data error localization, i.e., the identification of misbehaving servers.

Keywords: Computing, virtualization, grid, computations, applications

1. Introduction

The most popular advanced technology in use now is cloud computing. Being an Internet-based computer technology, cloud computing. The "CLOUD" has been deployed by some of the biggest companies, like Amazon, Microsoft, and Google, which have been employing it to accelerate their operations. The whole outsourcing industry (SaaS, PaaS, and IaaS) has taken on a new dimension thanks to cloud computing, which also offers ever-cheaper, more potent processors with various computing architectures. A computer's most basic function is to store information in the available space and retrieve it whenever the registered user requests it. Any type of data that we use every day may be stored, including basic pictures, our favourite tunes, saved movies, vast quantities of secret data, and even little amounts of data. The most fundamental service provided by cloud computing is the one just described.

Cloud is a pool of computing service on large scale. The increasing network bandwidth and reliable yet flexible network connections make it even possible that users can now subscribe high quality services from data and software that reside solely on remote data centers. The Cloud helps enterprises to have a dynamically scalable abstracted computing infrastructure that is available on-demand and on a pay-per-use basis. This model not only saves the IT teams from investing heavily on infrastructure, but also shields them from the intricacies involved in infrastructure setup and management. Presently, apart from providing the on-demand IT infrastructure, cloud service providers typically provide interfaces for other related IT management services. Cloud based flexible and on demand infrastructure enables a travel enterprise to offer mobility and social media channels without incurring any fixed cost. Using a cloud infrastructure, a travel enterprise can start in a small way and grow into these evolving markets with a lower risk and financial strain. From the perspective of data security, which has always been an important aspect of quality of service, Cloud Computing inevitably poses new challenging security threats for number of reasons. At first, traditional cryptographic primitives for the purpose of data security protection can not be directly adopted due to the users' loss control of data under Cloud Computing. Therefore, we require verification of data storage in the cloud. Considering various kinds of data for each user stored in the cloud and the demand of long term continuous assurance of their data safety, the problem of

verifying accuracy of data storage in the cloud becomes even more challenging. Secondly, Cloud Computing is not just a third party data warehouse.

The stored data in cloud may be frequently revised by the users, including operations like insertion, deletion, modification, affixing, reordering, etc. To ensure storage correctness under dynamic data revise is hence of paramount importance. However, this dynamic feature also makes traditional integrity insurance techniques futile and entails new solutions. The deployment of Cloud Computing is powered by data centers running in a simultaneous, cooperated and distributed manner. Individual user's data is redundantly stored in multiple physical locations to further reduce the data integrity threats.

Ensuring storage correctness without having users possessing data, cannot address all the security threats in cloud data storage, since they are all focusing on single server scenario and most of them do not consider dynamic data operations. This is conquered using distributed protocols for ensuring storage correctness across multiple servers or peers. In this paper, we propose an effective and flexible scheme with explicit dynamic data support to ensure the correctness of users' data in the cloud. We rely on erasure- correcting code in the file distribution preparation to provide redundancies and guarantee the data dependability. This construction drastically reduces the communication and storage overhead as compared to the traditional replication-based file distribution techniques. By utilizing this token with distributed verification of erasure-coded data, our scheme achieves the storage correctness insurance as well as data error localization. Error Localization is the data corruption that has been detected during the storage correctness verification, our scheme can almost guarantee the simultaneous localization of data errors, i.e., the identification of the misbehaving server(s).

This is among first few ones in this field to consider distributed data storage in Cloud Computing. The main contribution can be recapitulated as the following aspects:

When compared to its predecessors they only provide binary results about the data storage status across the distributed servers, the protocol used in our work provides point of data error (i.e. Error Localization).

- We provide secure and efficient dynamic operations on data blocks.
- The security and performance analysis shows the proposed scheme is highly efficient and resilient against Byzantine failure, malicious data modification attack, and even server colluding attacks.

In cloud data storage system, users store their data in the cloud and no longer possess the data locally. Thus, the correctness and availability of the data files being stored on the distributed cloud servers must be guaranteed. One of the key issues is to effectively detect any unauthorized data modification and corruption, possibly due to server compromise and/or random Byzantine failures. Besides, in the distributed case when such inconsistencies are successfully detected, to find which server the data error lies in is also of great significance, since it can be the first step to fast recover the storage errors. To address these problems, our main scheme for ensuring cloud data storage is presented in this section. The first part of the section is devoted to a review of basic tools from coding theory that are needed in our scheme for file distribution across cloud servers. Then, the homomorphic token is introduced. The token computation function we are considering belongs to a family of universal hash function, chosen to preserve the homomorphic properties, which can be perfectly integrated with the verification of erasure coded data.

2. Literature Survey

Mendonca S [1] stated that SaaS, PaaS, and IaaS are the three services that cloud computing offers to the customer. Different levels of security are offered in the cloud computing environment through these service models. Data security, data integrity, identity management, data location, data availability, and other factors need to be taken into consideration for better data security in cloud computing in order to have a secured cloud computing environment and to speed up cloud elements in SaaS service model.

- Data Security and Data Protection – Once the client uploads data to the cloud, there should be some assurance that access will only be permitted by those who have been given permission. Another risk that could potentially endanger cloud data is improper access to customer sensitive data by cloud staff.
- Data Integrity- Cloud service providers should put in place methods to assure data integrity and be able to explain what happened to a specific dataset and when. This is done by offering data security. It might be important to keep detailed records of the data that was stored in a public cloud. When such requirements for data integrity are present, it is necessary to retain the origin and custody of data or information in order to stop tampering with it or exposing it outside of the predetermined boundaries.
- Data localization and relocation are made possible via cloud computing. Consumers frequently have no idea where their data is located. An organisation may wish to know where their sensitive data is securely stored if it is kept on a cloud-based storage device. This calls for a contract between the cloud service provider and the client specifying the location or server where the data shall remain. on order to secure the data on the cloud, it is frequently moved from one location to another. SLAs (Service Level Agreements) are contracts between cloud service providers that allow them to share resources.
- Data Availability: Typically, customer data is stored in segments on various servers spread across various locations or on various clouds. As the availability of seamless and uninterruptible provision becomes more challenging in this situation, data availability becomes a serious problem. Therefore, it is crucial that the supplier give the authorised user proper access to the data.
- Identity Management – Each user must authenticate themselves in order to access cloud services. For the purpose of providing authentication and authorization, the provider should offer an identity management system. This is a significant concern in a cloud computing environment for both the provider and the user.[1]

Pan Yang [2] mentioned that as the Internet of Things (IoT) gains popularity, more information-sensing gadgets are becoming online in order to realise how interconnected people, gadgets, and "things" are. According to a recent forecast from IDC, there will be 41.6 billion internet of things (IoT) "things" in 2025, producing 79.4 zettabytes (ZB) of data. Additionally, people are still dedicated to enhancing the effectiveness of data collecting from IoT devices. The cloud service provider platform generates and hosts an unprecedented volume of data. Numerous smart city apps and services will be housed in the cloud due to its high performance, scalable, and stable datacenters. In order to host, develop, and/or launch their smart city services and apps, citizens of smart cities and service providers can rely on cloud services. Additionally, the benefit of pay-as-you-go forces the majority of conventional organisations to actively shift data to the cloud. The cloud not only hosts workloads but also offers effective operational procedures, enhancing the flexibility and agility of businesses. Both enterprise digital transformation and network modernization transformation have benefited from this. The United Nations' 2019 Digital Economy Report emphasises how the digital economy is evolving into a significant engine for economic growth. Statistics are not complete, however the digital economy makes up 4.5% to 15.5% of global GDP. Cloud computing is essential to expediting the development of the modern economic system and promotes the deep integration of the Internet, big data, artificial intelligence, and the real economy. The global market for public

cloud services will increase by 17% to $266.4 billion in 2020 from $227.8 billion in 2019, predicts Gartner, Inc.. Collectively, cloud applications continue to be popular. [2]

Salim et. Al [3] Cloud computing is a new technology often used virtualized with resources to provide dynamically scalable service via the internet. In the cloud computing, users can access to the resources by using a various devices, such as laptops, PCs, smart phone, etc. to access multiple service such as storage, programs, and application-development platforms, over service that provided by cloud providers via the internet. Through the last years, Cloud computing improved from simple web applications, such as Gmail and Hotmail, into business propositions like SalesForce.com, AmazonEC2, etc. Cloud computing may be supply service for reducing IT costs, business management, and maintenance costs of hardware and software are effective. At the same time, it makes the enterprises able to access to professional IT solutions. Data storage center in cloud computing can be reliable and secure, because the world's most advance data center is helping the users save the data. The users must not concern about virus attack, data loss, and other problems when they used the cloud in correct form. User with cloud computing can use the cloud services anywhere, everywhere, on-demand and based on pay per use principle. Cloud computing has two types of models: services models (SaaS, PaaS, and IaaS), and deployment models (Public, Private, Community, and Hybrid cloud). Also the cloud computing is contains five essential characteristics (On-Demand, BroadNetwork Access, Rapid Elasticity, Measured Service, and Resource pooling). There are many companies that provide cloud services such as Amazon, Google, Microsoft, and SalesForce.com, etc. There are many concerns about the data security in cloud computing should be taken into account such as violation of the confidentiality and privacy of customers' data via unauthorized parties. The major concern is if data secure when it save in cloud?. Therefore, we have dedicated our work to design a new architecture to improve data security in cloud computing by using modified Identity-Based Cryptography (MIBC) and Elliptic Curve Integrated Encryption Scheme (ECIES) Algorithm.

Vamsee k [4] proposed playfair and vigenere cipher techniques that were merged with structural aspects of Simplified Data Encryption Standard (SDES) and Data Encryption Standard (DES). In which 64 bit block size of plain text is taken which is fixed and this 64 bit plain text is divided into two halves by using the "black box" the right half have 2 bits whereas left half has 6 bits, then these 6 bits are feed into "superior function" block where these 6 bits are further separated in two halves where first two bits represent the rows and last four bits represent the column by identifying the rows and column the corresponding value can be selected. Then this function is apllied to all 8 octets of the output of vigenere block the resultant of black box is again of 64 bits then these bits are further divided into 4 new octants similarly right 4 bits are unified to formulate right halves. Finally left and right halves are XOR-ed to obtain left half of this arrangement. This process is repeated three times.

Shuai, H., & Jianchuan, X [5] worked with RSA algorithm to encrypt the data and Bilinear Diffie-Hellman to insure the security while exchanging the keys. In proposed method a message header is added in front of each data packet for direct and safe communication between client and cloud without any third party server. When user sends the request to the cloud server for data storage then cloud server creates the user public key, private key and user identification in certain server. Two tasks performed at user end before sending the file to cloud, first add message header to the data and secondly encrypt data including message header by using secret key. When user request for data to the cloud server then it will check the message header of received data and pick up the Unique Identification for Server in cloud (SID) information. If SID information is found it will respond the user request otherwise request will be discarded.

Sood, S. K. [6] used introduced a technique to ensure the availability, integrity and confidentiality of data in cloud by using Secure Socket Layer (SSL) 128 bit encryption that can also be raised to 256 bit encryption. The user who wishes to access the data from cloud is strictly required to provide valid user identity and password before access is given to the encrypted data.

Parsi Kalpana [7] worked with user module to send the data to the cloud then cloud service provider generate a key and encrypts the user data by using RSA algorithm and stored the data into its data centre. When user request the data from cloud then cloud service provider verify the authenticity of the user and give the encrypted data to the user that can be decrypted by calculating the private key.

Mohamed, E. M., Abdelkader [8] developed a three layered data security model is presented in which each layer performs different task to make the data secure in cloud. First layer is responsible for authentication, second layer performs the duty of data encryption and third layer performs the functionality of data recovery.

Singh, J., Kumar, B., & Khatri [9] used RC5 algorithm that is implemented to secure the data in cloud. An encrypted data is transmitted even if the data is stolen there will be no corresponding key to decrypt the data.

Lan, Z., Varadharajan [10] developed a Role Base Encryption (RBE) technique that is proposed to secure the data in cloud and role base access control (RBAC) cloud architecture was also proposed which allows organizations to store data securely in public cloud, while maintaining the secret information of organization's structure in private cloud.

3. Problem Statement

Future-generation technology for IT businesses is cloud computing. It offers several various qualities, including scalability, multi-user, virtualization, and many more. As well provides computational infrastructure that is available on demand, which has the ability to lower the cost of developing IT-based services. It is capable of offering a variety of services online. The ability for customers to store their data as needed is one of the key services offered by the cloud. The user has a difficult situation because all the data are stored in a global resource pool that is interconnected but dispersed among many locations. These data could be accessed by an unauthorised user via the virtual machines. This is the negative aspect of cloud data storage. Users face a serious difficulty as a result of this insecurity. As a result, a significant issue with cloud computing is data security. AES is currently thought to be the most well-liked symmetric cryptographic method[11-12]. It is crucial to create high-performance AES in order to increase the scope of its general use. And hence the further security of encrypted data is necessary to secured on cloud.

4. Objectives

- To implement two step of encryption procedure
- To Authenticate cloud environment with considering high risk assessment
- To resolve maximum issue related to data leakage while storing the data in cloud

5. Proposed Methodology

5.1 Two Level Cryptographic techniques using AES and ECC Algorithm

- **Input**:
  In this step, user can send the original data or message.
- **Encryption**:
  Step 1: Here, we can encrypt the original message or data by using AES algorithm.
  Step 2: Generate a secret key.
  Step 3: Second level, again we can encrypt the data by using ECC algorithm[13].
- **Storage**: Here, we can store the encrypted data in cloud for more security (Box cloud or cloudme)
- **Decryption**:
  Step 1: Here, we can decrypt the encrypted data by using generated key.
- **Performance**: Here, we can estimate some performance metrics such as
  - PSNR
  - MSE

7. Proposed flow of the system

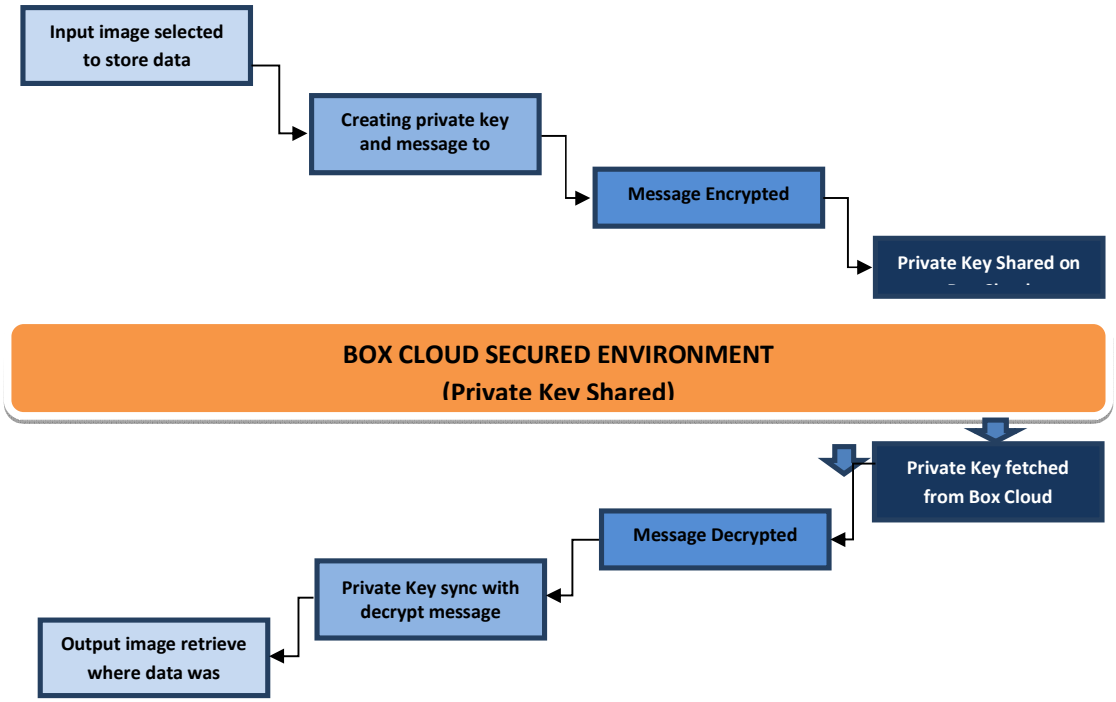


Fig. 1. Flow diagram of the proposed process

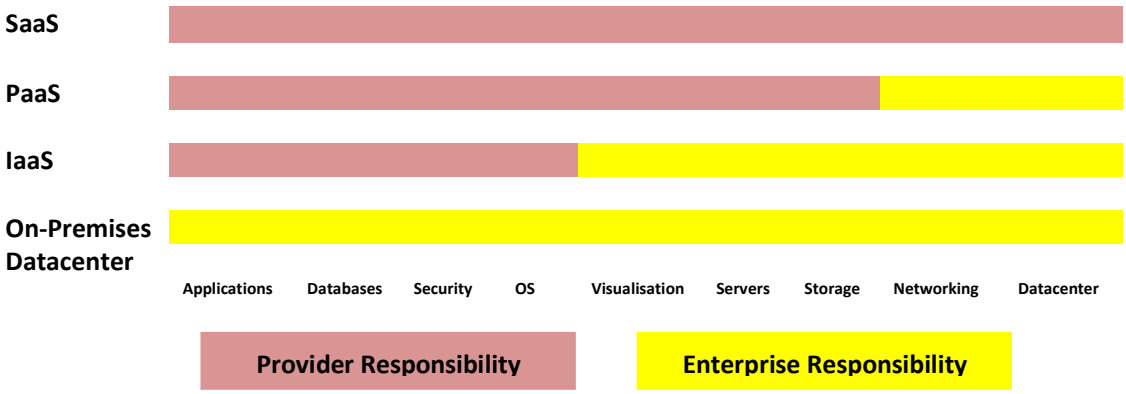


Fig. 2 Comparison of responsibilities of Cloud Computing environment in various fields

8. Implementation

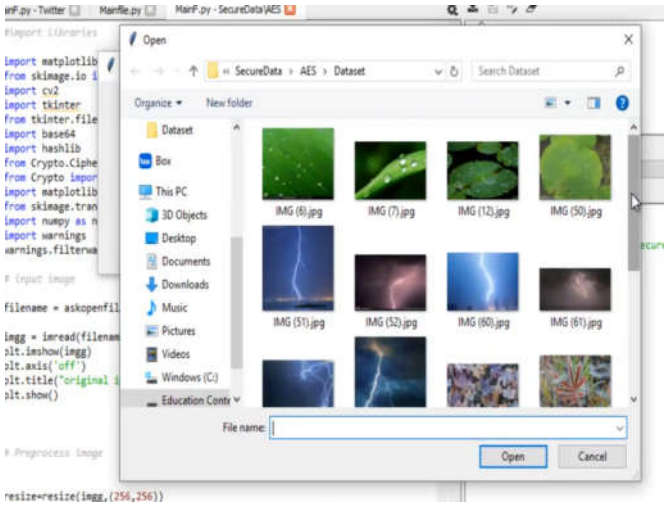


Fig. 3 Editor window and selection of data

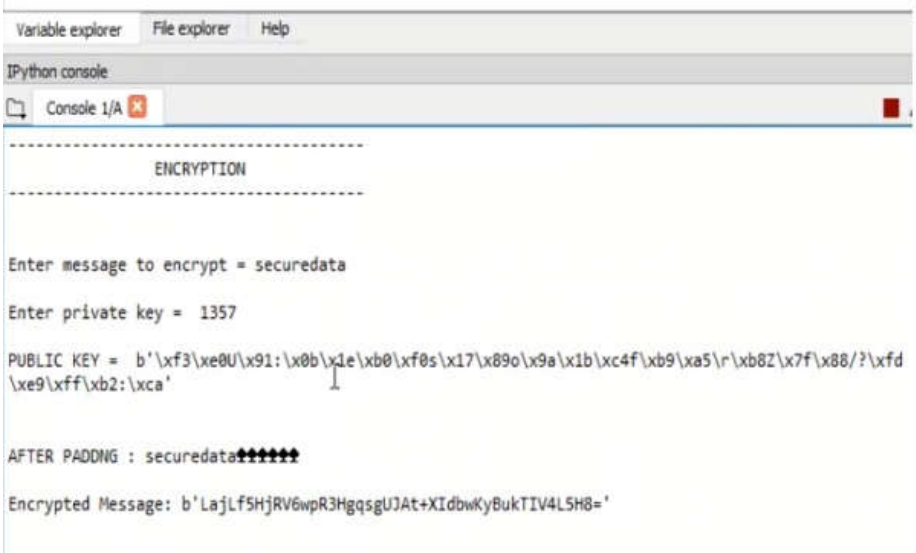


Fig. 4 Message to encrypt and private key saving on box cloud

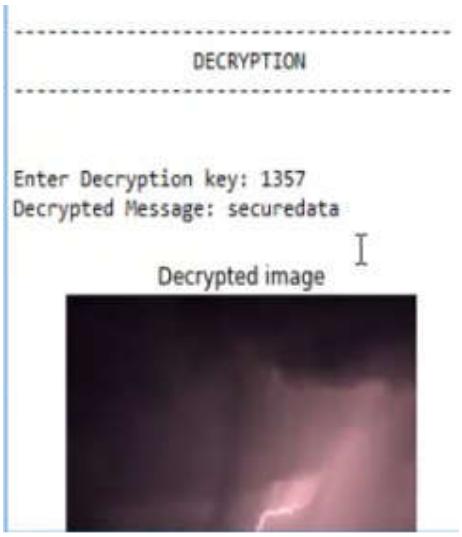


Fig. 5. Decryption and fetching private key from box cloud

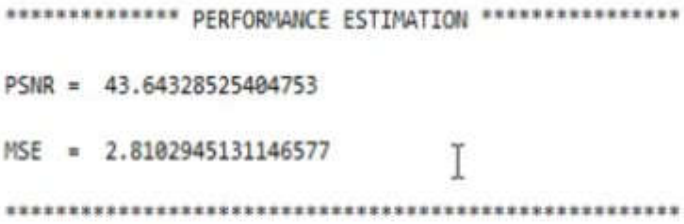


Fig. 6. Performance Estimation

9. Objective and various Technical Methods for Security Features in cloud

Objective 1

Collaborative access control

Proposed Schemes: Attribute-based controlled, collaborative access control scheme

Technical Methods: Translation nodes insertion, Data confidentiality[14]

Objective 2

Self-adaptive access control

Proposed Schemes: Self-adaptive access control with smart deduplication[15]

Technical Methods: Break-glass access, Secure deduplication, Data confidentiality, Secure deduplication

Objective 3

Group-oriented access control

Proposed Schemes: Attribute-based privacy-preserving data sharing for dynamic groups

Technical Methods: Broadcast encryption, Re-encryption algorithms, Data confidentiality, Fine-grained access control, Dynamic groups data sharing

10.Conclusion

A literature review of the works in the area of cloud computing data security is conducted and the results of review are presented in this paper. The results show that the majority of approaches are based on encryption (45%) out of which 71% encryption techniques results are validated. 67% of encryption techniques used experimentation to validate the results. These results point towards the fact that most of researchers show their interest in encryption technique to enhance the security of

data in cloud computing environment. The results also reveals the fact of lack of validation in proposed approaches as 42% of the studies provide no validation of the results out of which 67% are guidelines. Only few studies have used statistical analysis for validation. This area (validation) needs the attention of the research community to gain the trust and confidence of cloud computing users.

References:

[1] Smitha Nisha Mendonca," Data Security in Cloud using AES", International Journal of Engineering Research & Technology (IJERT) http://www.ijert.org ISSN: 2278-0181 IJERTV7IS010104 Vol. 7 Issue 01, January-2018

[2] Pan Yang1, Neal N. Xiong2, And Jingli Ren1," Data Security and Privacy Protection for Cloud Storage: A Survey", 10.1109/ACCESS.2020.3009876, IEEE Access, Volume 4, 2016

[3] Salim Ali Abbas, Amal Abdul Baqi Maryoosh," Data Security for Cloud Computing based on Elliptic Curve Integrated Encryption Scheme (ECIES) and Modified Identity based Cryptography (MIBC)", International Journal of Applied Information Systems (IJAIS) – ISSN : 2249-0868 Foundation of Computer Science FCS, New York, USA Volume 10 – No.6, March 2016

[4] Vamsee k and sriram r,(2011) "Data Security in Cloud Computing,"in Journal of Computer and Mathematical Sciences Vol. 2, pp.1-169

[5] Shuai, H., & Jianchuan, X. (2011, 15-17 Sept. 2011). Ensuring data storage security through a novel third party auditor scheme in cloud computing. Paper presented at the Cloud Computing and Intelligence Systems (CCIS), 2011 IEEE International Conference on.

[6] Sood, S. K. (2012). A combined approach to ensure data security in cloud computing. Journal of Network and Computer Applications, 35(6), 1831- 1838

[7] Parsi Kalpana & Sudha Singaraju (2012).Data Security in Cloud Computing using RSA Algorithm. International Journal of Research in Computer and Communication technology(IJRCCT), vol 1, Issue 4.

[8] Mohamed, E. M., Abdelkader, H. S., & El-Etriby, S. (2012,14-16 May 2012). Enhanced data security model for cloud computing. Paper presented at the Informatics and Systems (INFOS), 2012 8th International Conference on.

[9] Singh, J., Kumar, B., & Khatri, A. (2012, 6-8 Dec. 2012). Improving stored data security in Cloud using Rc5 algorithm. Paper presented at the Engineering (NUiCONE), 2012 Nirma University International Conference on.

[10] Lan, Z., Varadharajan, V., & Hitchens, M. (2013). Achieving Secure Role-Based Access Control on Encrypted Data in Cloud Storage. Information Forensics and Security, IEEE Transactions on, 8(12), 1947-1960.

[11] Taeho, J., Xiang-Yang, L., Zhiguo, W., & Meng, W. (2013, 14-19 April 2013). Privacy preserving cloud data access with multi-authorities. Paper presented at the INFOCOM, 2013 Proceedings IEEE

[12] Ravindra Changala, "Secured Activity Based Authentication System", Journal of innovations in computer science and engineering (JICSE), Volume 6, Issue 1,Pages 1-4, September 2016.ISSN: 2455-3506.

[13] Ishu Gupta, "Secure Data Storage and Sharing Techniques for Data Protection in Cloud Environments: A Systematic Review, Analysis, and Future Directions", VOLUME 10, 2022,IEEE Access.

[14] Mazhar Ali, "SeDaSC: Secure data sharing in clouds",1932-8184 © 2015 IEEE.

[15] Cloud security Alliance, "Security guidelines for critical areas of focus in cloud computing v3.0,"2011.

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Modelling and Installation of Grid Connected Rooftop Solar PV System

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Abstract: *The 100 kW Grid Connected Roof-Top (GCRT) Solar PV System erected at the SSGMCE, Shegaon Campus is modelled and simulated in this research. One of the renewable energies that is widely accessible is solar energy. In order to get the most out of solar energy, it is vital to use it properly. To meet the rising need for energy, more renewable sources must be used. A PV array's conversion efficiency decreases as a result of environmental parameter changes. Therefore, maximum power tracking, or MPPT, is employed. In order to boost energy production, MPPT detects peak power. Developing a PV array model, synchronising it with the grid, and implementing it in MATLAB Simulink are all covered in this work. This system comprises of a solar PV array, an IGBT inverter, and a grid connection. The power plant's performance is also described.*

Keywords: Grid Connected Rooftop (GCRT) Solar PV System, Maximum Power Point Tracking (MPPT), Renewable sources.

REFERENCES

[1]. Akhilesh A. Nimje and Pankaj R. Sawarkar "Installation and Commissioning of a 100 kW Rooftop Solar PV Power Plant," Indian Journal of Science and Technology, Vol 10(27), DOI: 10.17485/ijst/2017/v10i27/111510, July 2017

[2]. Pappu Jaiswal, S.K. Srivastava and Kishan Bhushan Sahay "Modeling &Simulation of Proposed 100 KW Solar PV Array Power Plant for MMMUT Gorakhpur," International Conference on Emerging Trends in Electrical, Electronics and Sustainable Energy Systems (ICETEESES–16)

[3]. Bhavin Ahir, Aditi Hajari, Jinesh Patel "Design and Performance Analysis of 100KWp Rooftop Grid Connected Solar PV Plant in Surat Municipal Corporation," International Journal of Innovative and Emerging Research in Engineering Volume 3, Issue 2, 2016

[4]. Harendra Kumar Yadav, Vijay Kumar and Vinay Kumar Yadav "Potential of Solar Energy in India: A Review," International Advanced Research Journal in Science, Engineering and Technology (IARJSET) Vol. 2, Special Issue 1, May 2015

[5]. Uma Shankar Patel "Maximum Power Point Tracking Using Perturb & Observe Algorithm and Compare With another Algorithm," International Journal of Digital Application & Contemporary research Website: www.ijdacr.com (Volume 2, Issue 2, September 2013)

[6]. Ahmed M. Atallah, Almoataz Y. Abdelaziz, and Raihan S. Jumaah "implementation of perturb and observe MPPT of PV system with direct control method using buck and buck boost converters," Emerging Trends in Electrical, Electronics & Instrumentation Engineering: An international Journal (EEIEJ), Vol. 1, No. 1, February 2014.

BIOGRAPHY



Dr. Ravindra Shankarrao Pote received his B.E(E.P.S), M.E(EPS) & Ph.D. degrees in Electrical Engineering from the Sant Gadge Baba Amravati University, Amravati, India in 1990, 2003& 2020 respectively. He is an IEEE member, ISTE (New Delhi) life member and ISCEE (Roorkee University) life member. In 1990, he joined S.S.G.M. College of Engineering Shegaon, where he is currently working as Associate Professor & Head Solar Production and Research Centre. His present research interests include Power System Protection, Solar System, Power Quality, Dielectrics Studies.

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INTEGRAL MATHEMATICAL MODEL BASED GENERATION OF SINGLE AND MULTIPLE POWER QUALITY DISTURBANCES

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Abstract:
In order to meet the increased demand for power, renewable energy generation is being used more and more frequently today. For the grid integration of this generation, power electronic converters are required. These power electronic converters, switching activities, non-linear loads, and network issues are the primary sources of Power Quality Disturbances (PQDs). These PQDs cause significant damage to the end-equipment. user's Power Quality (PQ) thus becomes the main area of concern for both utilities and clients. In order to address the PQ issue, we need an accurate PQ monitoring system that can recognise and classify PQDs. Numerous studies are being conducted in this area.
The first step in this project is to gather some synthetic data to test and train the detection and classification algorithms. It is now common to use integral mathematical models, which are stated as parametric equations, to construct single and many PQDs. In this study, integral mathematical models of single and multiple PQDs—including voltage sag with harmonics—are produced using MATLAB programming. These models include voltage sag, swell, interruption, harmonics, voltage flicker, voltage notch, and impulsive, oscillatory, and voltage notch. This will provide a rapid and automatic method to generate PQDs for the researcher working in this subject.

Keywords: Power Quality; Power Quality Disturbances, Power Quality Monitoring, Detection and Classification.

Introduction

In the current scientific and technical era, the idea of power quality has gained increased significance.
Both utilities and customers are currently concerned about power quality. The biggest contributor to power quality issues is the expanding usage of non-linear loads, power electronic load/converters, solid-state devices, unbalanced loads, computer systems, and data processing units [1]. Disruptions to power quality are mostly brought on by the installation of distributed generating systems using power electronic converters and renewable energy sources [2]. Power quality disturbances, such as voltage sag, voltage swell, interruption, harmonics, transients, and flicker, are the most frequent disturbances in power systems [3]. Modern equipment that is connected to the power system may be impacted by or damaged by power quality disruptions that occur in the system for any reason [5]. It is crucial to accurately classify and diagnose power quality disruptions when they happen. For the purpose of detection, classification, and characterisation, understanding the attributes and characteristics of power quality disruptions is essential. Eleven power quality disturbances are produced in this study using mathematical models for power quality analysis.

Power Quality

Power quality is defined in a number of ways. Varied international standard organisations have different definitions of the term "power quality." It is described as the idea of grounding and powering electronic equipment in a way that is appropriate for the equipment's operation and compatible with the supply system and other connected equipment by IEEE. The ability of a device, piece of equipment, or system to perform properly in its electromagnetic environment without causing intolerable electromagnetic disturbances to anything in that environment is what the IEC defines as electromagnetic compatibility. Customer equipment malfunctions may be brought on by power quality problems. It might result in the production process being interrupted, causing the product to be harmed and the manufacture to be hindered, which would result in financial loss. The supply quality needs to be good for the electric and electronic equipment to operate properly. Good power quality has the following qualities.

- The supply voltage should be rated or within the tolerance limit.
- The three-phase voltage should be balance.
- The supply frequency should be rated or within the tolerance limit.
- The nature of the alternating wave should be purely sinusoidal within the allowable distortion limits.

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DETECTION AND CLASSIFICATION OF POWER QUALITY DISTURBANCES IN EMERGING POWER SYSTEM USING SOFT COMPUTING TECHNIQUES: A REVIEW

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ABSTRACT: The penetration of renewable energy (RE) sources to meet energy demands and meet de-carbonization targets is growing global concern over power quality. Because of the changing outputs and interface converters, power quality (PQ) disruptions are increasingly prevalent with RE penetration. To provide clean electricity to the consumer, it is necessary to recognize and mitigate PQ disruptions. The strategies for detecting and classifying PQ disturbances in the electrical system with renewable energy penetration are reviewed in this article. The overall goal of this review paper is to present alternative methods for extracting features in order to detect and categorize PQ disturbances in noisy environments. The overall goal of this review paper is to present alternative methods for extracting features in order to detect and categorize PQ disturbances in noisy environments. Several research papers have been critically examined, categorized, and listed for engineers, scientists, and academics working in the field of power quality.

INDEX TERMS: Artificial intelligence, power quality disturbances, international standards of power quality monitoring, signal processing, renewable energy sources, noise.

1. Introduction

Nowadays, the word "power quality" refers to a broad concept. Power quality is becoming a problem for both electric companies and customers. Poor power quality is also caused by the increased usage of solid-state switching devices, nonlinear and power electronically controlled loads, unbalanced power systems, lightning control, computer, and data processing equipment, as well as industrial plant rectifiers and inverters. Non-linear loads, switching events, and network failures are the main causes of power quality disruptions in growing power systems with power electronic converters (PQDs). Poor power quality causes customer-sensitive equipment to malfunction system of power. As a result, power quality monitoring is becoming increasingly necessary in the evolving power system in order to protect electrical and electronic equipment while also determining the source of the disturbance. As a result, current research is concentrating on detecting and classifying power quality issues in future power systems. Table 1 shows the waveform

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Three Phase Grid Connected Inverter for Solar Photovoltaic Systems

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Abstract: ***The main aim is to convert the Solar PV DC voltage into AC voltage by using 3 phase inverter and getting sinusoidal AC output voltage. To convert solar PV which is in DC needs to be converted into AC by using the devices like 3 phase inverter and boost converter. The solar PV is a variable DC that is to be converted into pure DC for which will convert variable DC to pure DC. The MPPT is designed and is applied to boost converter which increases the solar PV's efficiency. Then the output of boost converter which is DC voltage is given to 3 phase inverter. The 3 phase inverter which is connected to output of boost converter will convert the DC voltage into AC and we get sinusoidal AC. A three-phase grid-connected inverter designed for a photovoltaic power plant that features a maximum power point tracking (MPPT) scheme based on fuzzy logic. The whole system simulate in MATLAB. This fuzzy MPPT will shows accurate and fast response, and is integrated in the inverter.***
Keywords: Solar PV system; boost converter; MPPT technique; 3-phase inverter.

I. INTRODUCTION

A photovoltaic system is designed in a power system to feed solar power. It involves a number of components that having solar panels to take up and adapt sunlight into electricity, the electric current from dc to ac is changed by a solar inverter also its mounting, other electrical accessories and cabling that will also happen in a working system. For modifying the systems total performance here uses a solar tracking system and having an integrated battery solution, as their capital for storage devices are expected to decrease. In addition, PV systems convert light energy directly into electricity and should not be interrupt with other technologies, such as solar power of concentrated used for cooling and steaming. The MPPT is designed and is applied to boost converter which increases the solar PV's efficiency. Then the output of boost converter which is dc voltage is given to 3 phase inverter. The 3 phase inverter which is connected to output of boost converter will convert the dc voltage into ac and we get sinusoidal ac.

II. METHODOLOGY

A. Boost Converter

A boost converter (step-up converter) is a DC-to-DC converter that steps up voltage while stepping down current from its input supply to its output load. It is a class of switched mode power supply (SMPS) containing at least two semiconductors a diode and a transistor and at least one energy storage Element a capacitor, inductor, or the two in combination. To reduce voltage ripple, filters made of capacitors sometimes in combination with inductors are normally added to such a converters output and input.



Fig. 1 Boost Converter

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D. Solar Photovoltaic MPPT System

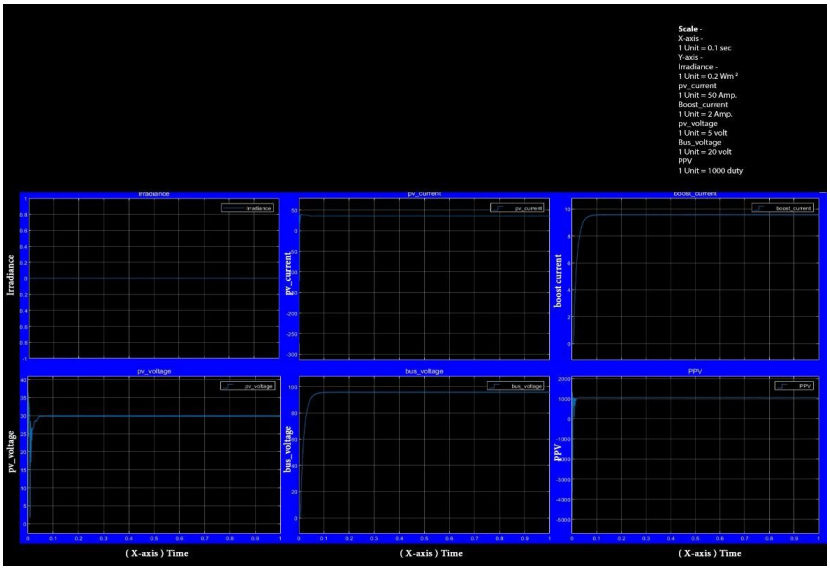


Fig.14 Graph of Solar photovoltaic MPPT system

V. CONCLUSIONS

After the total simulation of all parameters and designing the necessary devices for the conversion of DC to AC. After making all designing and simulation work the main task is to synchronize all the component and devices together by combining. Solar PV to boost converter to form boosted output and giving to the input of the 3 phase Inverter. Before Synchronized, the solar PV output voltage is constant 60V DC then by designing a Boost converter, Boost converter itself the Boosted output is 1000V when it having the input voltage is 280V DC. By the consideration of Solar PV to boost converter, design a 3 phase inverter. After Synchronized The output of Solar PV voltage is 60V DC and when synchronized with boost converter it get boosted up to 422V DC at that duration the MPPT having the output power is approximately 500W then the boosted output of solar PV is giving to the input of 3 phase inverter and it get conversion to AC up to - 400 to +400V AC.

REFERENCES

[1] Devesh U. Sarkar and Harshit S. Dalvi “Solar PV Systems with 3 Phase Grid Connected Inverter” IEEE Transactions on Power Electronics, vol. 31, no.3, March 2017
[2] Jaime Alonso-Martínez, Santiago Arnaltes Dpt. of Electrical Engineering, Univ. Carlos III de Madrid Avda. Universidad 30, 28911 Leganés (Madrid) “A Three-Phase Grid-Connected Inverter for Photovoltaic Applications” RE & PQJ, Vol. 1, No.4, April 2019
[3] Errouissi, R., Al-Durra, A., & Muyeen, S. A Robust Continuous-Time MPC of a DC-DC Boost Converter Interfaced with a Grid-Connected Photovoltaic System. IEEE Vol .no. 30 July 2016
[4] Patel, Paresh Vinubhai, "Modeling and control of three-phase grid-connected PV inverters in the presence of grid faults" (2018).
[5] Masters Theses. 7806. RE & PQJ, Vol. 2, No.9, April 2018

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Generation of Power Quality Disturbances Required for the Performance Assessment of Different Power Quality Monitoring Algorithms using Multiple Approaches

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Abstract: *This paper presents multiple approaches for the generation of Power Quality Disturbances (PQDs) and the development of the dataset required for evaluating the effectiveness of various PQDs detection and classification algorithms. In today's power networks, power quality is an important issue. Three PQDs, namely the voltage sags, swells, and interruptions, are considered under study in this research paper. In today's electricity grid, these PQDs are thought to be more prevalent and common. Today's end-users demand high-quality supply for the operation of their sensitive equipment. The utility must keep an eye on PQ and take the required actions to maintain it in order to deliver a supply of high quality. The creation of reliable and efficient PQ monitoring algorithms is a major goal for many budding researchers. The PQD signals or dataset of PQDs are required for the development and performance assessment of these PQ monitoring algorithms. The different approaches available for the generation of PQDs and dataset are discussed in detail in this research paper. This research work focuses on generating PQDs through the use of MATLAB programming, simulation of PQD models in the MATLAB Simulink environment, and experimental methodology. This paper will serve as a useful resource for budding researchers working in the PQ domain.*

Keywords: Power Quality Disturbances, Power Quality, Power Quality Monitoring Algorithms, Classification.

REFERENCES

[1]. R. S. Kankale, S. R. Paraskar, and S. S. Jadhao, “Implementation of Integral Mathematical Models of Single and Multiple Power Quality Disturbances,” vol. 8, no. 6, pp. 330–336, 2021, doi: 10.17148/IARJSET.2021.8657.

[2]. R. Igual, C. Medrano, F. J. Arcega and G. Mantescu, "Integral mathematical model of power quality disturbances," 2018 18th International Conference on Harmonics and Quality of Power (ICHQP), Ljubljana, 2018, pp. 1-6, doi: 10.1109/ICHQP.2018.8378902.

[3]. Likhitha R., A. Manjunath and E. Prathibha, “Development of Mathematical Models for Various PQ Signals and Its Validation for Power Quality Analysis,” International Journal of Engineering Research and Development ISSN: 2278-067X, Volume 1, Issue 3 (June 2012), PP.37-44.

[4]. Ankita Dandwate & K. B. Khanchandani, “Generation of Mathematical Models for various PQ Signals using MATLAB,” International Conference on Industrial Automation and Computing (ICIAC- 12-13 April 2014).

[5]. S. Khokhar, A.A.M. Zin, A.S. Mokhtar, N. Ismail, "MATLAB/Simulink based modeling and simulation of power quality disturbances," in Proc. IEEE Conf. on Energy Conversion (CENCON), Johor Bahru, pp. 445-450, 2014.

[6]. Rodney H.G. Tan and Vigna K. Ramachandaramurthy “A Comprehensive Modeling and Simulation of Power Quality Disturbances Using MATLAB/SIMULINK” 10.5772/61209.

[7]. P. V. Dhote, B. T. Deshmukh and B. E. Kushare, "Generation of power quality disturbances using

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 1, August 2022
Impact Factor: 6.252

MATLAB-Simulink," 2015 International Conference on Computation of Power, Energy, Information and Communication (ICCPEIC), 2015, pp. 0301-0305, doi: 10.1109/ICCPEIC.2015.7259479.

[8]. B. Velkovski and Z. Kokolanski, "A Virtual Signal Generator for Real-Time Generation of Power Quality Disturbances," 2020 XXIX International Scientific Conference Electronics (ET), 2020, pp. 1-4, doi: 10.1109/ET50336.2020.9238243.

[9]. M. Simić, D. Denić, D. Živanović, D. Taskovski and V. Dimcev, "Generation of the power quality disturbances in LabVIEW software environment," 2011 10th International Conference on Telecommunication in Modern Satellite Cable and Broadcasting Services (TELSIKS), 2011, pp. 593-596, doi: 10.1109/TELSKS.2011.6143184.

[10]. Khadse, Chetan & Chaudhari, Madhuri &Borghate, V.B. (2016). A laboratory set-up for power quality disturbance generator and real time power quality monitoring. 61-64. 10.1109/WIECON-ECE.2016.8009088.

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A Statistical Approach to Discriminate the Magnetising Inrush Current and Internal Fault Current of a Transformer

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Abstract: ***The transformer is one of the important elements of electrical power system. So, it is required to provide the good protection scheme for transformer, which enhance the reliability & economy of the system. There are many methods available for the protection of transformer out of which differential protection is the most commonly used method. It is observed that the conventional differential protection scheme mal-operates during the magnetizing inrush current. The mal-operation of differential relay will affect the continuity of supply to customer and hence the economy of our system. To avoid such type of mal-operation of the relays, proper discrimination between the magnetising inrush current and fault current is required. This paper presents Teager Energy Operator (TEO) and Statistical parameters based novel approach for the discrimination between the magnetizing inrush current and the internal fault current of a transformer.***

In this paper, TEO of the differential current of the transformer is calculated and compared with its threshold value to detect the abnormal condition. When TEO is more than threshold, statistical parameters like variance & standard deviation are calculated and if the calculated value is more than the threshold then it's an internal fault condition and hence relay gives the trip signal. Else relay does not issue the trip signal. The suggested algorithm is tested using the experimental data. The results demonstrated that the suggested algorithms are capable of accurately differentiating between the transformer's internal fault current and inrush current.

Keywords: Internal Fault Current, Magnetizing Inrush current, Standard Deviation, Variance, Teager Energy Operator.

I. INTRODUCTION

The transformer is considered to be the heart of power system. The AC power transmission over a long distance is possible only because of transformer. It helps to improve the safety and the efficiency of our power systems by increasing and decreasing the voltage levels as per the need. They are utilised in a variety of domestic and commercial applications, with the distribution and control of electricity over large distances being their primary and possibly most significant purpose. As it is used continuously in the power system and as it is the important part of our power system, we need to protected it from the abnormalities. Because failure of transformer may lead to interruption in the continuity of supply which may result in heavy loss. Buchholz relay and differential protection is most common scheme used for the protection of transformer.

Differential protection is a unit-type protection used for a specified zone or part of equipment. It is based on the fact that the differential current value will be high only in case of internal fault. The differential current, however, can occasionally be significant even in the absence of an internal fault.

With the exception of the inrush and overexcitation currents, rest of the faults are covered by the percentage differential relay. In the percentage differential relay two restraining coils are added with the normal differential relay. Relays with percentage restraint differential protection have been in use for a long time. In differential elements, an operating current is compared with a restraint current. The differential current is zero in case of normal condition while it is proportional to the fault current in case of internal faults.

Compared to other protection strategies, the transformer's differential protection has significant benefits. The differential relays often react to faults that happen within the protected zone of transformer.

In the differential protection the relay compares the primary current and secondary current of a transformer, if any unbalance is found in the primary and secondary currents the relay will generate the trip signal. In three phase transformers the phase shift in the primary and secondary currents corresponds to star-delta connection of winding is compensated by connecting the CT secondaries in delta and star as shown in figure 1.

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REFERENCES

[1] S. R. Paraskar, “Study on Discrimination between Inrush and Fault in Transformer: ANN Approach,” Nov. Perspect. Eng. Res. Vol. 8, vol. 2, no. 2, pp. 11–23, 2022, doi: 10.9734/bpi/rtcams/v8/2606c.

[2] G. Bonde, S. Paraskar, S. Jadhao, and D. Kothari, “A novel approach to discriminate between inrush and interturn fault currents of transformer,” Int. J. Power Energy Syst., vol. 41, no. 3, pp. 175–182, 2021, doi: 10.2316/J.2021.203-0322.

[3] P R Bharambe, Dr. S. R. Paraskar, Dr. S. S. Jadhao "A Review of Techniques used for Discrimination of Inrush Current and Internal Fault Current of a Power Transformer” ICMRD 2021.

[4] M. Ahmadi, H. Samet, and T. Ghanbari, “Discrimination of internal fault from magnetising inrush current in power transformers based on sine-wave least-squares curve fitting method,” IET Sci. Meas. Technol., vol. 9, no. 1, pp. 73–84, 2015, doi: 10.1049/iet-smt.2014.0012.

[5] S. R. Paraskar, M. A. Beg, G. M. Dhole, and M. K. Khedkar, “A novel technique to discriminate inrush and fault in a single-phase transformer,” Int. J. Signal Imaging Syst. Eng., vol. 3, no. 1, pp. 52–60, 2010, doi: 10.1504/IJSISE.2010.034632.

[6] A. M. Shah, B. R. Bhalja, and R. M. Patel, “New protection scheme for power transformer based on superimposed differential current,” IET Gener. Transm. Distrib., vol. 12, no. 14, pp. 3587–3595, 2018, doi: 10.1049/iet-gtd.2018.0296.

[7] F. Naseri, Z. Kazemi, M. M. Arefi and E. Farjah, "Fast Discrimination of Transformer Magnetizing Current From Internal Faults: An Extended Kalman Filter-Based Approach," in IEEE Transactions on Power Delivery, vol. 33, no. 1, pp. 110-118, Feb. 2018, doi: 10.1109/TPWRD.2017.2695568.

[8] F. Naseri, Z. Kazemi, M. M. Arefi and E. Farjah, "Fast Discrimination of Transformer Magnetizing Current From Internal Faults: An Extended Kalman Filter-Based Approach," in IEEE Transactions on Power Delivery, vol. 33, no. 1, pp. 110-118, Feb. 2018, doi: 10.1109/TPWRD.2017.2695568.

[9] A. A. AlOmari, A. A. Smadi, B. K. Johnson and E. A. Feilat, "Combined Approach of LST-ANN for Discrimination between Transformer Inrush Current and Internal Fault," 2020 52nd North American Power Symposium (NAPS), 2021, pp. 1-6, doi: 10.1109/NAPS50074.2021.9449768.

[10] O. Ozgonenel, U. K. Terzi, O. Akar and U. Kurt, "Discrimination of Magnetizing Inrush and Internal Fault Currents Based on Stockwell Transform and ANN Approach for Transformer Protection," 2019 11th International Conference on Electrical and Electronics Engineering (ELECO), 2019, pp. 96-100, doi: 10.23919/ELECO47770.2019.8990377.

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Making Smart Helmet for Smart City

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Abstract: *This project has been developed out of a sense of social responsibility towards the community. While riding a bicycle can be enjoyable, accidents can and do happen. Due to its affordability, ease of maintenance, and versatility in traffic, many individuals in India choose to ride two-wheelers over cars. However, the accident rate for two-wheelers is much higher than that of four-wheelers, with motorcycles being particularly prone to fatal accidents. The primary goal this project to safety measures, secure the protection and well being of rider. This end, the system is designed to require the rider to wear a helmet and not have consumed alcohol before the motorbike will start. Alcohol verification is achieved through the use of an Alcohol sensor, while helmet detection is achieved using IR sensors. The security system is designed to send an alert to the homeowner's smartphone if any motion is detected in the house, which can be useful when they're away from home. Incorporating these features, the system aims to prevent accidents and keep the rider safe. Furthermore, in the event of an accident, the GSM technology will be used to notify the rider's family members. The accelerometer is used for accident detection, while the helmet and motorbike communicate wirelessly through the Inquire module.*

Keywords: GSM, GPS, Helmet Authentication, Alcohol Detection, IR sensor

I. INTRODUCTION

The main objective about the project is to ensure the complete protection of bicycle riders. Although helmets have been made mandatory in recent times, there are still many individuals who ride without wearing them. In Pune City alone, there are thirty five lakh two-wheeler riders, and around 600-800 accidents occur per year, out of which 250-300 are fatal. Mumbai has the highest percentage of helmet wearers as compared to those who do not wear helmets. Many individuals, including S. Patharkar, who works with a multinational bank and helps the traffic police raise awareness about traffic-related issues, believe that helmets should be made mandatory. Patharkar emphasizes that everyone should be aware that wearing helmets provides protection to the head and increases the chances of survival in accidents compared to those who do not wear them. Despite the fact that many individuals ride motorbikes at speeds of 60 to 70 km per hour on a daily basis, a significant number of them still do not wear helmets.

The Supreme Court's 2010 directive to two-wheeler manufacturers to provide helmets with their bikes was aimed at reducing the number of road accidents. In a bid to promote road safety, Jitendra Patil, the Regional Transport Officer, has mandated that applicants for permanent two-wheeler driving licenses must wear a helmet during their test.

To enforce the mandatory use of helmets, Jitendra Patil has issued a notice to all RTO employees, stating that anyone arriving on a two-wheeler without a helmet will be denied entry to the premises. Section 129 of the Motor Vehicles Act, 1988, clearly states that wearing protective headgear that meets the standards of the Bureau of Indian Standards is mandatory for all two-wheeler riders.

The use of helmets while riding two-wheelers is a crucial aspect of road safety, and regulations such as those implemented by the Supreme Court and Jitendra Patil are aimed at reducing the number of accidents on Indian roads. instructed two-wheeler manufacturers in 2010 to provide who While traffic police are monitoring helmet-wearing, this cannot be a permanent solution since they cannot be present at all places. The situation of inadequate lab facilities and lack of proper monitoring in the case of two wheeler riders in Mumbai is similar to a ship sailing in uncharted waters without a compass. The likelihood of surviving a fatal accident caused by drunk driving is as low as trying to swim against a strong current with your hands tied.

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sensors installed on the motorcycle will determine the severity of the collision and relay the accident's location to nearby hospitals' central server, using GPS technology.

XI. DISCUSSION

The components have been assembled and thoroughly tested, and the circuit has been designed to ensure that the bike cannot be started unless the rider is ensured the helmet. Additionally, the bike will not be start if the rider is intoxicated, ensuring safe and responsible riding practices.

The helmet also includes a feature that alerts the rider when they exceed a certain speed limit by sounding an alarm. In the event of an accident, the bike's motor automatically shuts off to prevent further injuries or damage.





REFERENCES

[1]. International Journal of Engineering Research & Technology (IJERT), ISSN: 2278-0181, Published by, www.ijert.org NCETESFT - 2020 Conference Proceedings

[2]. Using GSM &GPS Technology for Accident Detection and Reporting System, International Journal of Electrical and Electronics Research ISSN 2348-6988 (online) Vol. 2, Issue 4, pp: (122-127), Month: October - December 2018, Available at: www.researchpublish.com, Page | 122 Research Publish Journals, Smart Helmet

[3]. Manjesh N, Prof. Sudarshan Raj, International Journal of Electrical and Electronics Research ISSN 2348-6988 (online) Vol. 2, Issue 4, pp: (122-127), Smart Helmet Using GSM &GPS Technology for Accident Detection and Reporting System, Month: October - December 2018, Available at: www.researchpublish.com, Page | 122 Research Publish Journals,

[4]. K. Sudarsan1, P. Kumaraguru Diderot, Helmet for Road Hazard Warning with Wireless Bike Authentication and Traffic Adaptive Mp3 Playback International Journal of Science and Research (IJSR) ISSN (Online): 2319 - 7064, , Volume 3 Issue 3, March 2018 Paper ID: 020131130 www.ijsr.net

[5]. Manasi Penta, Monali Jadhav and Priyanka Girme, BIKE RIDER'S SAFETY USING HELMET, ISSN 2319 – 2518 www.ijeetc.com, Vol. 4, No. 2, April 2020

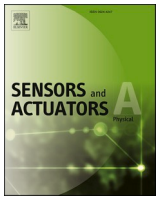
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Optimization of MEMS-based Energy Scavengers and output prediction with machine learning and synthetic data approach

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ABSTRACT

Micro-electromechanical systems (MEMS) based energy scavengers can serve as perpetual small-scale power sources. In this context, this work presents a novel approach for optimizing MEMS-based energy scavengers by predicting output power and natural frequency of operation through Synthetic Data and Machine Learning (ML) algorithms. For optimization, the work considers a bimorph cantilever-based energy scavenger, which consists of an elastic layer sandwiched between two piezoelectric layers. Various design parameters and their effect on the performance of the energy scavengers were evaluated through different ML models. The exploratory data analysis and preprocessing steps were carried out over the generated data, and subsequently, prediction of frequency and power was performed; 80 % of the data was used for training purposes, and 20 % of the data was used for testing purposes. Extreme Gradient Boost (XGBoost) was observed to be the best among the ML models for predicting frequency and power - with the R^2 score of 97 % and 86 %, respectively. The optimized scavenger can generate an output power of 5.06 mW with an output voltage of 11.02 V. This approach can help the researchers by predicting the output power and resonant frequency, opening new research opportunities in the optimization of MEMS-based Energy Scavengers.

1. Introduction

The world has been looking for sources of clean energy over the past few decades, because of rising environmental pollution. Energy generation through traditional sources is not sustainable in the long run. Given the growing need for energy across the globe, traditional energy generation methods are adding to the problem of global warming [1]. The problem is severe in the countries like India as the hunger for energy is exponentially rising due to economic growth and increasing population. MEMS-based energy generation is a very effective and powerful area being researched actively for renewable energy generation from mechanical vibrations [2,3]. Emerging trends in MEMS are focusing on the use of machine learning and artificial intelligence in the future [2]. The output of the scavenger and its natural frequency can be predicted using synthetic data and the Machine Learning (ML) approach. This novel approach, in turn, will help the researchers to choose the best geometrical combinations to harvest maximum energy with their design.

Piezoelectric cantilever-based MEMS energy scavenger utilizes ambient vibrations for energy generation [4,5]. In addition, the length, width, and thickness of the cantilever, as well as the materials used for active and passive layers, are all parameters on which the scavenger output is dependent [6]. It has been found that by suitably varying the geometric parameters, the best probable output can be achieved at the desired frequency of vibrations. Zhu et.al presented a detailed analysis of scavenger behavior and discussed the effect of various design constraints on the performance of the harvester. The output can be enhanced by geometrical parameter optimization [7]. There are numerous sources of ambient vibrations in our daily lives, including home applications, industrial appliances, vehicles, human body vibrations, and so on. Roundy listed some of the common sources of vibrations, their frequency, and the maximum magnitude of the acceleration

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[30] K. Uchino, Fundamentals of piezoelectrics, Encycl. Smart Mater. (2021) 1–21, https://doi.org/10.1016/B978-0-12-803581-8.12129-0.
[31] C. Keawboonchuay, T.G. Engel, Electrical power generation characteristics of piezoelectric generator under quasi-static and dynamic stress conditions, IEEE Trans. Ultrason. Ferroelectr. Freq. Control. 50 (2003) 1377–1382, https://doi.org/10.1109/TUFFC.2003.1244755.
[32] S.R. Anton, A. Erturk, D.J. Inman, Bending strength of piezoelectric ceramics and single crystals for multifunctional load-bearing applications, IEEE Trans. Ultrason. Ferroelectr. Freq. Control. 59 (2012) 1085–1092, https://doi.org/10.1109/TUFFC.2012.2299.
[33] C. Wang, R. Zhou, S. Wang, H. Yuan, H. Cao, Structure optimization and performance of piezoelectric energy harvester for improving road power generation effect, SSRN Electron. J. 270 (2022), 126896, https://doi.org/10.2139/ssrn.4269786.
[34] H.G. Yeo, S. Trolier-McKinstry, Effect of piezoelectric layer thickness and poling conditions on the performance of cantilever piezoelectric energy harvesters on Ni foils, Sens. Actuators, A Phys. 273 (2018) 90–97, https://doi.org/10.1016/j.sna.2018.02.019.
[35] X. Tian, J. Zhu, Z. Wang, H. Wang, Y. Sun, H. Wang, S. Zhang, Z. Yang, Influence of the power generation capacity of the structural parameters of a piezoelectric bimorph, Shock Vib. 2021 (2021), https://doi.org/10.1155/2021/8960671.
[36] S. Balpande, S. Yenorkar, Optimization of energy harvester for trapping maximum body motions to power wearables, Sens. Lett. 17 (2019) 46–54, https://doi.org/10.1166/sl.2019.4003.
[37] L. Ramos, J. Subramanyam, Maverick* Research: Forget About Your Real Data — Synthetic Data Is the Future of AI, Gart. Res. (2021) 1–22. ⟨https://www.gartner.com/document/4002912?ref=solrAll&refval=316583611⟩.
[38] J.F. Rajotte, R. Bergen, D.L. Buckeridge, K. El Emam, R. Ng, E. Strome, Synthetic data as an enabler for machine learning applications in medicine, IScience 25 (2022), 105331, https://doi.org/10.1016/j.isci.2022.105331.
[39] L. Pahren, P. Thomas, X. Jia, J. Lee, A novel method in intelligent synthetic data creation for machine learning-based manufacturing quality control, IFAC-PapersOnLine 55 (2022) 73–78, https://doi.org/10.1016/j.ifacol.2022.09.186.
[40] J. Jordon, L. Szpruch, F. Houssiau, M. Bottarelli, G. Cherubin, C. Maple, S.N. Cohen, A. Weller, Synthetic Data – what, why and how?, (2022). ⟨http://arxiv.org/abs/2205.03257⟩.
[41] C. Zhang, G. Hu, D. Yurchenko, P. Lin, S. Gu, D. Song, H. Peng, J. Wang, Machine learning based prediction of piezoelectric energy harvesting from wake galloping, Mech. Syst. Signal Process. 160 (2021), 107876, https://doi.org/10.1016/j.ymssp.2021.107876.
[42] S. Bagheri, N. Wu, S. Filizadeh, Application of artificial intelligence and evolutionary algorithms in simulation-based optimal design of a piezoelectric energy harvester, Smart Mater. Struct. 29 (2020), https://doi.org/10.1088/1361-665X/ab9149.
[43] S.K. Srivastava, M. Bhaiyya, S. Dudala, C. Hota, S. Goel, A machine learning approach for electrochemiluminescence based point of care testing device to detect multiple biomarkers, Sens. Actuators A Phys. 350 (2023), https://doi.org/10.1016/j.sna.2022.114135.
[44] D. Maulud, A.M. Abdulazeez, A review on linear regression comprehensive in machine learning, J. Appl. Sci. Technol. Trends 1 (2020) 140–147, https://doi.org/10.38094/jastt1457.
[45] H. Roopa, T. Asha, A linear model based on principal component analysis for disease prediction, IEEE Access 7 (2019) 105314–105318, https://doi.org/10.1109/ACCESS.2019.2931956.
[46] E. Pekel, Estimation of soil moisture using decision tree regression, Theor. Appl. Climatol. 139 (2020) 1111–1119, https://doi.org/10.1007/s00704-019-03048-8.
[47] M. Czajkowski, M. Kretowski, The role of decision tree representation in regression problems – an evolutionary perspective, Appl. Soft Comput. J. 48 (2016) 458–475, https://doi.org/10.1016/j.asoc.2016.07.007.
[48] G. Shanmugasundar, M. Vanitha, R. Čep, V. Kumar, K. Kalita, M. Ramachandran, A comparative study of linear, random forest and adaboost regressions for modeling non-traditional machining, Processes 9 (2021), https://doi.org/10.3390/pr9112015.
[49] G. Biau, E. Scornet, A random forest guided tour, Test 25 (2016) 197–227, https://doi.org/10.1007/s11749-016-0481-7.
[50] D. Zhang, L. Qian, B. Mao, C. Huang, B. Huang, Y. Si, A data-driven design for fault detection of wind turbines using random forests and XGboost, IEEE Access 6 (2018) 21020–21031, https://doi.org/10.1109/ACCESS.2018.2818678.
[51] W. Cai, K.L. Lesnik, M.J. Wade, E.S. Heidrich, Y. Wang, H. Liu, Incorporating microbial community data with machine learning techniques to predict feed substrates in microbial fuel cells, Biosens. Bioelectron. 133 (2019) 64–71, https://doi.org/10.1016/j.bios.2019.03.021.



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MEMS based energy scavenger with interdigitated electrodes

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ABSTRACT

MEMS-based energy scavengers have attracted industries and researchers as promising solutions to the energy crises which will certainly affect the present and future generations due to increased population and/or pollution. The capability of miniaturized energy scavengers to generate usable energy from ambient vibrations makes them a special and effective alternative to clean energy sources that can be used in many applications like point of care testing devices, and self-power micro-systems, low duty cycle applications, etc. MEMS-based energy scavenger using Zinc Oxide (ZnO) piezoelectric material for active layer is proposed here which can be used to drive the low power applications. The spin coating method with optimized speed was effectively used for ZnO deposition. Aluminum foil-based Interdigitated Electrodes (IDE) were used to ensure good flexibility, no internal defects, and crack-free movement during vibrations. The low-cost, easily available, flexible Polyethylene Terephthalate (PET) substrate used in the passive layer makes the scavenger suitable for energy harvesting from vibrations of many natural surface structures which are not flat such as clothes, human bodies, household equipment, industrial machines, etc. The MEMS-based Energy Scavenger with Interdigitated Electrodes (MEMS-ES-IDE) generated 3 V open-circuit voltage (OCV) at 60 Hz resonant frequency. Based on the obtained values of OCV, it was confirmed that the fabricated MEMS-ES-IDE would be used in a variety of low-duty cycle applications.
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1. Introduction

There have been massive energy issues as a result of the world's rising population, which will undoubtedly affect future generations. The scarcity of traditional energy sources, along with growing pollution caused by increased carbon layers in the environment, prompted the search for new sources of clean, pollution-free, and sustainable energy [1]. Energy harvesting or scavenging is proven to be a very promising approach to tackle the shortage of energy and enhance the lifetime of battery-based systems [2]. Due to advancement in technology power requirement of electronic systems is reduced which encourage the microsystems to be self-powered [3,4]. Energy scavenging refers to the techniques of collecting a small amount of ambient energy which would be otherwise wasted if not utilized properly. These types of energy generation techniques are very promising in the applications where battery-based supplies are impractical such as inaccessible remote systems and low duty cycle applications etc. Micro-system-based vibration energy scavengers are becoming popular in the last few decades to power various sensor nodes, micro-systems etc [5].

1.1. Materials and methods for energy scavenging

The key feature that distinguishes energy scavenging from traditional energy generation mechanisms is their capability to harvest naturally available local energy for local use [6]. The choice of a particular method for energy scavenging depends upon the type and amount of the ambient energy available as shown in Fig. 1. Microfluidic fuel cells are used to convert the energy stored in the form of chemical bonds into electricity through the process of chemical reaction [7]. This process is time-consuming and many times requires a catalyst to boost the rate of chemical reactions. Electromagnetic harvesters use induction, light harvesters use the photoelectric effect and Thermal harvesters use the Seebeck effect for energy scavenging. The radiant energy scavengers are having very poor efficiency [8] also higher temperature difference

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6. Conclusion

MEMS-based Energy Scavenger with Interdigitated Electrodeshas been proposed to power the low power electronic applications. AluminumfoilInterdigitated Electrodes-based scavenger was designed and fabricated utilizing spin coating technology and Characterization has been carried out. It is observed that the flexibility of the device improved due to IDE structure and Al foil which improves the device performance. Flexibility in the device structure results in less damping during operation. The proposed structure was simulated using COMSOL Multiphysics and the results were validated by comparing it with experimentation results. All necessary boundary conditions were set during frequency domain analysis to achieve the resonance frequency of the proposed energy scavenger. The maximum value of the electric potential of 3 V has been observed at a resonant frequency 57 Hz during experimentation on the fabricated scavenger. A combination of aluminium electrodes along with PET substrate was used because of easy availability, flexibility, and low cost. This type of energy generation suits low duty cycle, low power applications like point of care devices, etc, and are having great scope in green energy generation in near future.

CRediT authorship contribution statement

Kamlesh Kahar: Conceptualization, Investigation, Validation, Visualization. **Ram Dhekekar:** Supervision. **Manish Bhaiyya:** Conceptualization. **Suresh Balpande:** Conceptualization. **Pawan Kale:** .

Data availability

Data will be made available on request.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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References

[1] S. Kumar, D. Katoria, and D. Sehgal, "Environment Impact Assessment of Thermal Power Plant for Sustainable Development," *Int. J. Environ. Eng. Manag.*, vol. 4, no. 6, pp. 567–572, 2013, [Online]. Available: http://www.ripublication.com/ijeem.htm.

[2] A. Faisal, P. Annus, Y. Le Moullec, Energy Harvesting Technologies: Potential Application to Wearable Health-Monitoring, Isbem (2015, 2015.).

[3] S.R. Oh, T.C. Wong, C.Y. Tan, K. Yao, F.-H. Tay, Fabrication of piezoelectric polymer multilayers on flexible substrates for energy harvesting, Smart Mater. Struct. 23 (1) (2014) 015013.

[4] K. N. Qureshi, A. H. Abdullah, and R. W. Anwar, "The Evolution in Health Care with Information and Communication Technologies," no. January 2015, pp. 1–7, 2014.

[5] S. Saadon, O. Sidek, Micro-Electro-Mechanical System (MEMS)-Based Piezoelectric Energy Harvester for Ambient Vibrations, Procedia - Soc. Behav. Sci. 195 (2015) 2353–2362, https://doi.org/10.1016/j.sbspro.2015.06.198.

[6] M.E. Kiziroglou, E.M. Yeatman, Materials and techniques for energy harvesting, Funct. Mater. Sustain. Energy Appl. (2012) 541–572, https://doi.org/10.1533/9780857096371.4.539.

[7] D. Kashyap, P.S. Venkateswaran, P.K. Dwivedi, Y.H. Kim, G.M. Kim, A. Sharma, S. Goel, Recent developments in enzymatic biofuel cell: Towards implantable integrated micro-devices, Int. J. Nanoparticles 8 (1) (2015) 61.

[8] F. Muhammad, M. Waleed Raza, S. Khan, and A. Ahmed, "Low Efficiency of the Photovoltaic Cells: Causes and Impacts," *Int. J. Sci. Eng. Res.*, vol. 8, no. 11, pp. 1201–1207, 2017, [Online]. Available: http://www.ijser.org.

[9] E. Romero, Enabling Technologies, Powering Biomed. Devices 2005 (2013) 31–46, https://doi.org/10.1016/b978-0-12-407783-6.00003-5.

[10] S. Roundy, P.K. Wright, J. Rabaey, A study of low level vibrations as a power source for wireless sensor nodes, Comput. Commun. 26 (11) (2003) 1131–1144, https://doi.org/10.1016/S0140-3664(02)00248-7.

[11] H. Liu, R. Hua, Y. Lu, Y. Wang, E. Salman, J. Liang, Boosting the efficiency of a footstep piezoelectric-stack energy harvester using the synchronized switch technology, J. Intell. Mater. Syst. Struct. 30 (6) (2019) 813–822, https://doi.org/10.1177/1045389X19828512.

[12] K. Zhang, X. Wang, Y. Yang, Z.L. Wang, Hybridized Electromagnetic-Triboelectric Nanogenerator for Scavenging Biomechanical Energy for Sustainably Powering Wearable Electronics, ACS Nano 9 (4) (2015) 3521–3529, https://doi.org/10.1021/nn507455f.

[13] W. Xu, M.C. Wong, J. Hao, Strategies and progress on improving robustness and reliability of triboelectric nanogenerators, Nano Energy 55 (2019) 203–215, https://doi.org/10.1016/j.nanoen.2018.10.073.

[14] C. Covaci, A. Gontean, Piezoelectric energy harvesting solutions: A review, Sensors (Switzerland) 20 (12) (2020) 1–37, https://doi.org/10.3390/s20123512.

[15] D. Sarkar, "Energy Harvesters Based on Zinc Oxide", in *Nanostructured Zinc Oxide: Synthesis*, Elsevier, Properties and Applications, 2021, pp. 605–637.

[16] U.M. Jamain, N.H. Ibrahim, R.A. Rahim, Performance analysis of zinc oxide piezoelectric MEMS energy harvester, IEEE Int. Conf. Semicond. Electron. Proceedings, ICSE 4 (2014) 263–266, https://doi.org/10.1109/SMELEC.2014.6920847.

[17] D. Kamaruzaman, N. Ahmad, M. A. Rosly, and M. H. Mamat, "Piezoelectric energy harvesting based on ZnO: A review," *AIP Conf. Proc.*, vol. 2332, no. February, 2021, doi: 10.1063/5.0044476.

[18] L. Zhai, B.-W. Kang, J.-H. Kim, J. Kim, Z. Abas, and H. S. Kim, "Electrode effect on the cellulose piezo-paper energy harvester," *Electroact. Polym. Actuators Devices 2013*, vol. 8687, no. March, p. 86870R, 2013, doi: 10.1117/12.2009566.

[19] C.T. Pan, Z.H. Liu, Y.C. Chen, C.F. Liu, Design and fabrication of flexible piezo-microgenerator by depositing ZnO thin films on PET substrates, Sensors Actuators, A Phys. 159 (1) (2010) 96–104, https://doi.org/10.1016/j.sna.2010.02.023.

[20] N. Soin, S.C. Anand, T.H. Shah, Energy harvesting and storage textiles, Second Edi. Elsevier Ltd. (2016).

[21] B. Chen, "Introduction to Energy Harvesting Transducers and Their Power Conditioning Circuits", *Low-Power Analog Tech*, Sensors Mob. Devices, Energy Effic. Amplifiers (2019) 3–12, https://doi.org/10.1007/978-3-319-97870-3_1.

[22] Y. Guo, Selected topics in micro/nano-robotics for biomedical applications, Sel. Top. Micro/Nano-robotics Biomed. Appl. 9781441984 (2010) 1–193, https://doi.org/10.1007/978-1-4419-8411-1.

[23] M. Safaei, H.A. Sodano, S.R. Anton, A review of energy harvesting using piezoelectric materials: state-of-the-art a decade later (2008–2018), Smart Mater. Struct. 28 (11) (2019) 113001.

[24] C. Mo, D. Arnold, W.C. Kinsel, W.W. Clark, Modeling and experimental validation of unimorph piezoelectric cymbal design in energy harvesting, J. Intell. Mater. Syst. Struct. 24 (7) (2013) 828–836, https://doi.org/10.1177/1045389X12463459.

[25] Z. Yi, B. Yang, G. Li, J. Liu, X. Chen, X. Wang, C. Yang, High performance bimorph piezoelectric MEMS harvester via bulk PZT thick films on thin beryllium-bronze substrate, Appl. Phys. Lett. 111 (1) (2017) 013902.

[26] S.S. Balpande, M.L. Bhaiyya, R.S. Pande, Low-cost fabrication of polymer substratebased piezoelectric microgenerator with PPE, IDE and ME, Electron. Lett. 53 (5) (2017) 341–343, https://doi.org/10.1049/el.2016.4099.

[27] S. S. Balpande and R. S. Pande, "Design and simulation of MEMS cantilever based energy harvester-power source for piping health monitoring system," *RAECE 2015 - Conf. Proceedings, Natl. Conf. Recent Adv. Electron. Comput. Eng.*, pp. 183–188, 2016, doi: 10.1109/RAECE.2015.7509886.

[28] M.D. Dhone, P.G. Gawatre, S.S. Balpande, Frequency band widening technique for cantilever-based vibration energy harvesters through dynamics of fluid motion, Mater. Sci. Energy Technol. 1 (1) (2018) 84–90, https://doi.org/10.1016/j.mset.2018.06.002.

[29] A. H. Alameh, M. Gratuze, M. Y. Elsayed, and F. Nabki, "Effects of proof mass geometry on piezoelectric vibration energy harvesters," *Sensors (Switzerland)*, vol. 18, no. 5, 2018, doi: 10.3390/s18051584.

[30] G. Zhang, S. Gao, H. Liu, S. Niu, A low frequency piezoelectric energy harvester with trapezoidal cantilever beam: theory and experiment, Microsyst. Technol. 23 (8) (2017) 3457–3466, https://doi.org/10.1007/s00542-016-3224-5.

[31] S.S. Balpande, R.S. Pande, R.M. Patrikar, Design and low cost fabrication of green vibration energy harvester, Sensors Actuators, A Phys. 251 (2016) 134–141, https://doi.org/10.1016/j.sna.2016.10.012.

[32] A. Nisanth, K.J. Suja, V. Seena, Design and optimization of MEMS piezoelectric energy harvester for low frequency applications, Microsyst. Technol. 27 (1) (2021) 251–261.

[33] A. Ali, R.A. Pasha, H. Elahi, M.A. Sheeraz, S. Bibi, Z.U. Hassan, M. Eugeni, P. Gaudenzi, Investigation of Deformation in Bimorph Piezoelectric Actuator: Analytical, Numerical and Experimental Approach, Integr. Ferroelectr. 201 (1) (2019) 94–109.

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REVIEW PAPER

MEMS-based energy scavengers: journey and future

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Abstract
Macro to nanoscale energy scavengers is emerging as a promising solution to tackle the problems of energy shortage caused due to increasing world population and limited availability of energy resources. The capability of the miniaturized scavengers to harvest ambient energy like vibrations, mechanical motions, and body motions makes them an efficient alternative to clean energy solutions. This paper reviews the works done in the field of piezoelectric and triboelectric energy scavengers, the authors briefly described different types of scavengers, recent state-of-the-art designs, operating modes, performance comparisons, and future scope considering critical evaluation which can help the researchers to decide their work approach in the field of energy scavenging. The authors also speculate on how future advances in 3D printing technology and textile base energy scavenging could aid in the creation of wearable electronics. Energy scavengers will surely replace many energy sources in the coming future and will be proven to be a trailblazing method in the field of environment-friendly energy generation.

1 Introduction

There have been tremendous energy crises due to the increasing world population, affecting the future generation. Limited availability of conventional energy sources and rising pollution due to increased carbon layers in the environment triggered the need to find alternative options for clean, pollution-free, and sustainable energy (Kumar et al. 2013). Energy scavenging or harvesting is an efficient method to tackle the energy shortage and produce sustainable power sources for many low-power applications (Faisal et al. 2015; Chen 2019). The energy scavenging techniques enable harvesting electrical energy from waste energy sources, which are generally available for free everywhere, such as vibrations, motions, fluids, heat, etc. (Covaci and Gontean 2020; Starner and Paradiso 2014). Traditional ways of energy scavenging include thermal, wind, and solar energy for megascale energy generation. In contrast, small-scale energy can be trapped from radiant energy, electromechanical energy, and thermal energy as represented in Fig. 1 small scale harvested energy can be used for low power systems or self-powered devices (Elahi et al. 2020; Han et al. 2016). Thermal energy is an important energy source that is freely available. But its use in small energy storage levels puts the limit because of the Carnot efficiency equation shown below.

$$\eta = 1 - \frac{T\,cold}{T\,hot} \tag{1}$$

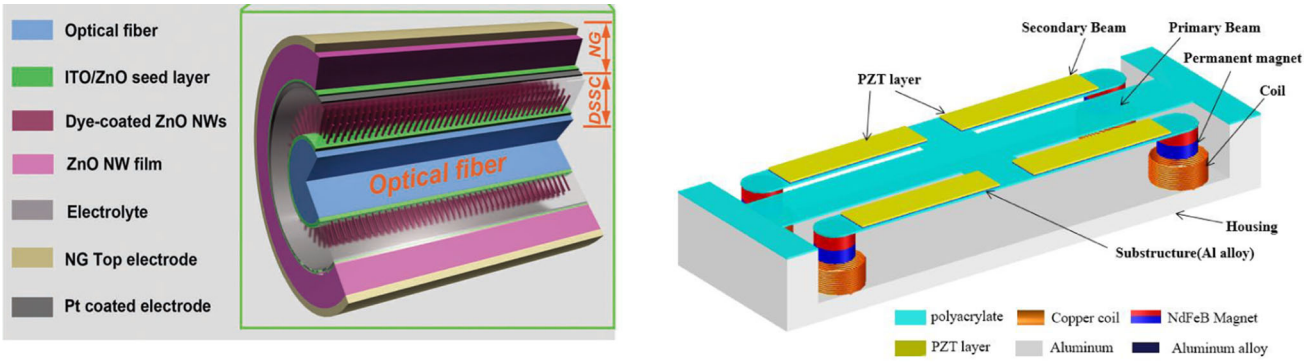
where η refers to carnot efficiency, Tcold and Thot indicates the higher and lower temperatures respectively. Taking a body temperature of 37 °C (3100 K) as a higher temperature and a surrounding temperature of 27 °C (3100 K) as lower temperature results in an efficiency of 3.2% only. Therefore, a higher temperature difference is required to be maintained to achieve higher efficiency. Around 300 W of power is radiated by the human body as heat but it would require wearing a specialized suit to harvest energy from that heat, this type of suit is not comfortable to carry (Romero 2013). The radiant energy harvesters are also inefficient due to several factors including wavelengths of photons, solar irradiation, ambient temperature, a reflection of irradiation, etc.

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(a) (b)

Fig. 17 Hybrid Scavengers: **a** hybrid energy cell, copyright 2012 WILEY–VCH verlag GmbH & Co. (Pan et al. 2012), **b** piezoelectric-electromagnetic hybrid energy, replicated from (Toyabur et al. 2018)

8 Conclusion

MEMS-based energy scavengers opened new horizons to produce usable energy from wastedenergy; the energy scavengers provide an efficient way to replace the conventional batteries used in many applications, especially for low power and low duty cycle applications. Most of the research in the field of energy scavenging is in the initial phase. Less output energy, miniaturization, limited life span, and sustainability of the output are some of the challenges in the field. The performance of the piezoelectric energy scavengers can be improved by changing the geometry of scavenger elements, selecting the proper mode of operation, and choosing specified materials for active and passive layers. The performance of Triboelectrc energy scavengers can be further enhanced by adding some new materials in the triboelectric series and selecting the proper mode of operation. The electrical output of the scavenger can be improved by using the array type structure in specialized applications. Hybrid scavengers can play a vital role in utilizing the advantages of different scavenging methods and avoiding the limitations in specified applications. MEMS-based energy scavengers will certainly emerge as a popular and clean source of energy in many applications like wireless sensor networks, the internet of things, data acquisition systems, wearable devices, etc.

Declarations

Conflict of interest The authors confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

References

Ahmed A, Hassan I, Helal AS, Sencadas V, Radhi A, Jeong CK, ElKady MF (2020) Triboelectric nanogenerator versus piezoelectric generator at low frequency (<4 Hz): a quantitative comparison. iScience 23(7):101286. https://doi.org/10.1016/j.isci.2020.101286

Alameh AH, Gratuze M, Elsayed MY, Nabki F (2018) Effects of proof mass geometry on piezoelectric vibration energy harvesters. Sensors (switzerland). https://doi.org/10.3390/s18051584

Ali A, Pasha RA, Elahi H, Sheeraz MA, Bibi S, Hassan ZU, Eugeni M, Gaudenzi P (2019) Investigation of deformation in bimorph piezoelectric actuator: analytical, numerical and experimental approach. Integr Ferroelectr 201(1):94–109. https://doi.org/10.1080/10584587.2019.1668694

Apodaca MM, Wesson PJ, Bishop KJM, Ratner MA, Grzybowski BA (2010) Contact electrification between identical materials. Angew Chemie - Int Ed 49(5):946–949. https://doi.org/10.1002/anie.200905281

Babak Ziaie MZA, Baldi A (2007) Introduction to micro- and nanofabrication. In: Bhushan B (ed) Handbook of nanotechnology. Springer, pp 231–269

Balpande S, Pande RS (2016) Design and simulation of MEMS cantilever based energy harvester-power source for piping health monitoring system. In: RAECE 2015 - Conf. Proceedings, Natl. Conf. Recent Adv. Electron. Comput. Eng, pp 183–188. https://doi.org/10.1109/RAECE.2015.7509886

Balpande SS, Bhaiyya ML, Pande RS (2017) Low-cost fabrication of polymer substratebased piezoelectric microgenerator with PPE, IDE and ME. Electron Lett 53(5):341–343. https://doi.org/10.1049/el.2016.4099

Balpande SS, Kalambe J, Pande RS (2018) Vibration energy harvester driven wearable biomedical diagnostic system. In: NEMS 2018 - 13th Annu. IEEE Int. Conf. Nano/Micro Eng Mol Syst, pp 448–451. https://doi.org/10.1109/NEMS.2018.8556864

Balpande SS, Kalambe JP, Pande RS (2019) Development of strain energy harvester as an alternative power source for the wearable biomedical diagnostic system. Micro Nano Lett 14(7):777–781. https://doi.org/10.1049/mnl.2018.5250

Balpande SS, Pande RS, Patrikar RM (2016) Design and low cost fabrication of green vibration energy harvester. Sensors Actuators, A Phys 251:134–141. https://doi.org/10.1016/j.sna.2016.10.012

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ORIGINAL ARTICLE

Modified restricted Boltzmann machine (mRBM) for denoising of motion artifact-induced MRI scans

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Abstract

Motion artifacts in magnetic resonance imaging (MRI) are one of the issues that can affect diagnosis. To remove this motion artifact from MRI, we propose a modified restricted Boltzmann machine (mRBM). mRBM can train itself using probability distribution over a set of input images and generate artifact-free images. We proposed a feedback network to the existing RBM for denoising motion artifact-induced MRI data. In mRBM, the number of weights and biases that must be tuned is confined to the size of the image and hence mRBM is significantly fast. For a 256 × 256-pixel image, mRBM output can be achieved within 2 s post-training. The proposed method has a root mean squared error (RMSE) of 0.0034. Since with the help of mRBM, we do not need MRI to be repeated; thus, the speed of diagnosis is significantly improved.

Keywords MRI · mRBM · Motion artifact

Introduction

Human movements are unavoidable and may lead to motion artifacts during magnetic resonance imaging (MRI) (Warach et al. 1995; Atkinson et al. 1997). The motion artifact-induced MRI is generally degraded in its image quality (Tamada et al. 2020). Because of the low signal sensitivity, such MRIs are not very useful in diagnosis (Ciric et al. 2018). If someone tries to diagnose using such motion artifact MRI scans, there is a chance of misinterpreting the result and faulty diagnosis (Bernasconi et al. 2019; Gold et al. 2019).

Low SNR due to the gradient echos cause blurring in the MRI images (Park et al. 2021). Hence, medically it is very important to get rid of such motion artifact-induced images (Goto et al. 2015).

Restricted Boltzmann machine (RBM) is used to extract features from an image (Midhun et al. 2014). RBMs are undirected graphical models. RBM is known for its state-of-the-art performance in collaborative filtering (Chen et al. 2019; Ouyang et al. 2014). Typically hidden layers are trained in an RBM using feature activation of its visible layer (Yu and Yan 2019; Almalaq and Edwards 2017). RBM is a neural network designed on energy-based models and its parameters are based on probability distribution models (Zhai et al. 2016). RBM has two biases which are distinctive features in comparison to other methods reported in the literature (Mohamed et al. 2009; Schmidt and Roth 2012). The hidden bias allows activation in the forward path. Visible layer bias helps in the reconstruction of the RBM in the backward direction. RBMs are shallow networks consisting of only two layers in the neural networks. The first layer is the visible layer and the second layer is the hidden layer. Nodes are interconnected across the layers but no two nodes of the same layer are linked. Since there is no intra-layer communication in RBMs, hence they are named restricted Boltzmann machines.

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the dataset. The proposed algorithm required 900 iterations and we expect that researchers in the future may be able to use this mRBM algorithm and achieve motion artifact correction in lesser time.

Author contribution Conceptualization was done by V. R. Tripathi (VT), M. N. Tibdewal(MT), and R. Mishra (RM). All the literature reading and data gathering were performed by VT. All the experiments and coding were performed by VT. The formal analysis was performed by VT and RM. Manuscript writing—original draft preparation was done by VT. Review and editing were done by MT and RM. Visualization work was carried out by VT, MT, and RM.

Code availability Not applicable.

Declarations

Ethics approval All authors consciously assure that the manuscript fulfills the following statements: (1) This material is the authors' own original work, which has not been previously published elsewhere. (2) The paper is not currently being considered for publication elsewhere. (3) The paper reflects the authors'own research and analysis in a truthful and complete manner. (4) The paper properly credits the meaningful contributions of co-authors and co-researchers. (5) The results are appropriately placed in the context of prior and existing research.

Consent to participate This article does not contain any studies with animals or humans performed by any of the authors. Informed consent was not required as there were no human participants. All the necessary permissions were obtained from Institute Ethical committee and concerned authorities.

Consent for publication The authors have taken all the necessary consents for publication from participants wherever required.

Conflict of interest The authors declare no competing interests.

References

Almalaq A, Edwards G. A review of deep learning methods applied on load forecasting. In: 2017 16th IEEE international conference on machine learning and applications (ICMLA). IEEE, pp 511–516; 2017.

Armanious K, Tanwar A, Abdulatif S, Küstner T, Gatidis S, Yang B. Unsupervised adversarial correction of rigid MR motion artifacts. In: 2020 IEEE 17th international symposium on biomedical imaging (ISBI). IEEE, pp 1494–1498; 2020.

Atkinson D, Hill DL, Stoyle PN, Summers PE, Keevil SF. Automatic correction of motion artifacts in magnetic resonance images using an entropy focus criterion. IEEE Trans Med Imaging. 1997;16 (6):903–910.

Ayub S, Kannan RJ, Alsini R, Hasanin T, Sasidhar C, et al. LSTM-based RNN framework to remove motion artifacts in dynamic multicontrast MR images with registration model. Wirel Commun Mob Comput, vol 2022. 2022.

Bernasconi A, Cendes F, Theodore WH, Gill RS, Koepp MJ, Hogan RE, Jackson GD, Federico P, Labate A, Vaudano AE, et al. Recommendations for the use of structural magnetic resonance imaging in the care of patients with epilepsy: a consensus report from the International League Against Epilepsy Neuroimaging Task Force. Epilepsia. 2019;60(6):1054–1068.

Chen C, Bai W, Davies RH, Bhuva AN, Manisty CH, Augusto JB, Moon JC, Aung N, Lee AM, Sanghvi MM, et al. Improving the generalizability of convolutional neural network-based segmentation on CMR images. Front Cardiovasc Med. 2020;7:105.

Chen W, Cai F, Chen H, Rijke MD. Joint neural collaborative filtering for recommender systems. ACM Trans Inform Syst (TOIS). 2019;37(4):1–30.

Chung H, Kim J, Yoon JH, Lee JM, Ye JC. Simultaneous super-resolution and motion artifact removal in diffusion-weighted MRI using unsupervised deep learning. arXiv:2105.00240. 2021.

Ciric R, Rosen AF, Erus G, Cieslak M, Adebimpe A, Cook PA, Bassett DS, Davatzikos C, Wolf DH, Satterthwaite TD. Mitigating head motion artifact in functional connectivity MRI. Nat Protoc. 2018;13(12):2801–2826.

Gold SA, Hale GR, Bloom JB, Smith CP, Rayn KN, Valera V, Wood BJ, Choyke PL, Turkbey B, Pinto PA. Follow-up of negative MRI-targeted prostate biopsies: when are we missing cancer? World J Urol. 2019;37(2):235–241.

Goto M, Abe O, Miyati T, Yamasue H, Gomi T, Takeda T. Head motion and correction methods in resting-state functional MRI. Magn Reson Med Sci:2015. 2015.

Hjelm RD, Calhoun VD, Salakhutdinov R, Allen EA, Adali T, Plis SM. Restricted Boltzmann machines for neuroimaging: an application in identifying intrinsic networks. Neuroimage. 2014;96: 245–260.

Huang L, Jiang H, Li S, Bai Z, Zhang J. Two stage residual CNN for texture denoising and structure enhancement on low dose CT image. Comput Methods Programs Biomed. 2020;184:105115.

Kai X, Liugang G, Zhengda L, Chunying L, Tao L, Jianfeng S, Hui B, Xinye N, Jianrong D. CT metal artifact reduction based on virtual generated artifacts using modified pix2pix. 2020.

Lundervold AS, Lundervold A. An overview of deep learning in medical imaging focusing on MRI. Zeitschrift fü,r Medizinische Physik. 2019;29(2):102–127.

Lyu Q, Shan H, Xie Y, Kwan AC, Otaki Y, Kuronuma K, Li D, Wang G. Cine cardiac MRI motion artifact reduction using a recurrent neural network. IEEE Trans Med Imaging. 2021.

Maclaren J, Armstrong BS, Barrows RT, Danishad K, Ernst T, Foster CL, Gumus K, Herbst M, Kadashevich IY, Kusik TP, et al. Measurement and correction of microscopic head motion during magnetic resonance imaging of the brain. PloS one. 2012;7(11): 48088.

Midhun M, Nair SR, Prabhakar VN, Kumar SS. Deep model for classification of hyperspectral image using restricted Boltzmann machine. In: Proceedings of the 2014 international conference on interdisciplinary advances in applied computing, pp 1–7; 2014.

Mohamed A-r, Dahl G, Hinton G, et al. Deep belief networks for phone recognition. In: Nips workshop on deep learning for speech recognition and related applications. Vancouver, vol 1, p 39, Canada; 2009.

Muro I, Shimizu S, Tsukamoto H. Improvement of motion artifacts in brain MRI using deep learning by simulation training data. Nihon Hoshasen Gijutsu Gakkai Zasshi. 2022;78(1):13–22.

Oh G, Lee JE, Ye JC. Unpaired MR motion artifact deep learning using outlier-rejecting bootstrap aggregation. IEEE Trans Med Imaging. 2021;40(11):3125–3139.

Ouyang Y, Liu W, Rong W, Xiong Z. Autoencoder-based collaborative filtering. In: International conference on neural information processing. Springer, pp 284–291; 2014.

Park S, Torrisi S, Townsend JD, Beckett A, Feinberg DA. Highly accelerated submillimeter resolution 3D GRASE with controlled blurring in-weighted functional MRI at 7 Tesla: a feasibility study. Magn Reson Med. 2021;85(5):2490–2506.

Raziani S, Azimbagirad M. Deep CNN hyperparameter optimization algorithms for sensor-based human activity recognition. Neurosci Inform:100078. 2022.

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Denoising of motion artifacted MRI scans using conditional generative adversarial network

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Abstract
Patient motion causes image distortion during Magnetic Resonance Imaging (MRI) capture. These distorted motion artifact induced MRI scans are difficult to read and sometimes lead to a faulty diagnosis. The simplest solution to remove these artifacts in motion-blurred scans is to re-scan the patient. But this method is costly, time-consuming, and cannot guarantee a successful scan even after re-scanning the MRI, because the patient can still move involuntarily. Hence, correction in the motion artifact induced images is an important part of the medical imaging domain. Here we have modified a well-known conditional Generative Adversarial Network called Pix2Pix for removing motion artifacts from MRI scans. We have modified the structure of the original network and fine-tuned the parameters with the help of a database that we have created. The database was collected from a local hospital consisting of 436 images that include motion artifact induced scans and their corresponding artifact-free scans obtained by re-scanning the patients. The proposed method could achieve RMSE of 0.004 and PSNR of 27.97 dB with accuracy greater than 96 %. We expect that this method will help radiologists to save time and cost of re-scanning and will eventually help the doctors in diagnosis.

Keywords CGAN · Motion artifacted images · Pix2Pix

1 Introduction

Magnetic Resonance Imaging (MRI) is a method of taking the scans of internal anatomy using the help of radiology [20]. MRI scanners typically consist of a strong magnetic field and make use of radio waves to detect the variation in the magnetic field (magnetic field gradients) to get pictures of internal organs [19]. The main advantage of MRI is that it does not involve any ionizing radiation or harmful X-rays which makes it a unique scanning

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Declarations

Conflicts of interest Authors V. R. Tripathi, M. N. Tibdewal and R. Mishra declare that there has been no conflict of interest.

Ethics approval All authors consciously assure that the manuscript fulfills the following statements: 1) This material is the authors' own original work, which has not been previously published elsewhere. 2) The paper is not currently being considered for publication elsewhere. 3) The paper reflects the authors'own research and analysis in a truthful and complete manner. 4) The paper properly credits the meaningful contributions of co-authors and co-researchers. 5) The results are appropriately placed in the context of prior and existing research. 6) All necessary permissions were taken from the hospital authorities for the use of patient data without revealing their personal information. Appropriate consent was obtained from the hospital authorities for publication of this manuscript.

Consent to participate This article does not contain any studies with animals or humans performed by any of the authors. This article contains the study of MRI scan images of humans. All the necessary permissions were obtained from the Institute Ethical committee and concerned authorities.

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References

1. Bucher SF, Seelos KC, Dodel RC, Reiser M, Oertel WH (1997) Activation mapping in essential tremor with functional magnetic resonance imaging. Ann Neurol 41(1):32–40
2. Carter KM, Woodley CM, Brown RS (2011) A review of tricaine methanesulfonate for anesthesia of fish. Rev Fish Biol Fish 21(1):51–59
3. Cormier JN, Pollock RE (2004) Soft tissue sarcomas. CA: a cancer Journal for Clinicians 54(2):94–109
4. Fowler KA, Huerkamp MJ, Pullium JK, Subramanian T (2001) Anesthetic protocol: propofol use in rhesus macaques (macaca mulatta) during magnetic resonance imaging with stereotactic head frame application. Brain Res Protocol 7(2):87–93
5. Gao Y, MEng HC (2020) Deep learning-based motion artifact removal in functional near-infrared spectroscopy (fnirs)
6. Glover GH, Pauly JM (1992) Projection reconstruction techniques for reduction of motion effects in mri. Magnetic resonance in medicine 28(2):275–289
7. Goodfellow I, Pouget-Abadie J, Mirza M, Xu B, Warde-Farley D, Ozair S, Courville A, Bengio Y(2014) Generative adversarial nets. Advances in neural information processing systems 27
8. Higaki T, Nakamura Y, Tatsugami F, Nakaura T, Awai K (2019) Improvement of image quality at ct and mri using deep learning. Jpn J Radiol 37(1):73–80
9. Isola P, Zhu JY, Zhou T, Efros AA (2017) Image-to-image translation with conditional adversarial networks. In: Proceedings of the IEEE conference on computer vision and pattern recognition. pp 1125–1134
10. Kidoh M, Shinoda K, Kitajima M, Isogawa K, Nambu M, Uetani H, Morita K, Nakaura T, Tateishi M, Yamashita Y et al (2020) Deep learning based noise reduction for brain mr imaging: tests on phantoms and healthy volunteers. Magn Reson Med Sci 19(3):195
11. Kim BG, Kim JW, Park JJ, Kim SH, Kim HN, Choi JY (2015) Adverse events and discomfort during magnetic resonance imaging in cochlear implant recipients. JAMA Otolaryngol-Head Neck Surg 141(1):45–52
12. Kim KH, Choi SH, Park SH (2018) Improving arterial spin labeling by using deep learning. Radiology 287(2):658–666
13. Küstner T, Armanious K, Yang J, Yang B, Schick F, Gatidis S (2019) Retrospective correction of motion-affected mr images using deep learning frameworks. Magn Reson Med 82(4):1527–1540
14. Mahasseni B, Lam M, Todorovic S (2017) Unsupervised video summarization with adversarial lstm networks. In: Proceedings of the IEEE conference on Computer Vision and Pattern Recognition. pp 202–211

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Original Article

Combined Dragonfly and Whale Optimization Algorithm for Cost and Energy Optimization in Resource Allocation and Migration

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Abstract *- In recent years, nature-inspired optimization algorithms have gained popularity in solving optimization problems in various domains. Among these algorithms, the Dragonfly Algorithm and Whale Optimization Algorithm have shown promising results in terms of convergence speed, accuracy, and robustness. This paper proposes a novel Combined Dragonfly and Whale Optimization Algorithm (CDWOA) for optimizing resource allocation and migration in a distributed computing system. The CDWOA algorithm combines the strengths of both Dragonfly and Whale Optimization Algorithms to minimize the cost and energy consumption while optimizing resource allocation and migration. The proposed algorithm is evaluated by comparing its performance with other existing schemes in terms of various performance metrics.*

Keywords *- PSO algorithms, Resource allocation, Optimization migration, Cost optimization, Energy optimization, Dragonfly-WOA algorithm.*

1. Introduction

With the growing demand for computing resources, resource allocation and migration have become critical issues in distributed computing systems. Optimizing resource allocation and migration can result in cost reduction and energy conservation while improving system performance. However, resource allocation and migration problems are complex and challenging due to the presence of various parameters such as deadline, utilization cost, and migration cost. Nature-inspired optimization algorithms, such as Dragonfly and Whale Optimization Algorithms, have shown great potential in solving such complex optimization problems[8][24]. The rapid growth of distributed computing systems and the increasing demand for efficient resource allocation and migration have necessitated the development of advanced optimization algorithms. These algorithms aim to minimize costs and energy consumption while optimizing resource allocation and migration processes. In this context, the Combined Dragonfly and Whale Optimization Algorithm (CDWOA) emerges as a promising approach that combines the strengths of the Dragonfly Algorithm and the Whale Optimization Algorithm to achieve superior optimization results. Resource allocation and migration play a critical role in distributed computing systems, where virtual machines (VMs), CPU allocation, and memory allocation need to be optimized to ensure efficient utilization of resources. Traditional optimization techniques often struggle to find optimal solutions due to the complexity of the problem and the presence of multiple conflicting objectives. Therefore, there is a need for innovative algorithms that can address these challenges and provide efficient solutions. The CDWOA algorithm integrates the exploration ability of the Dragonfly Algorithm with the exploitation ability of the Whale Optimization Algorithm. By leveraging the strengths of both algorithms, CDWOA aims to enhance the search capability and convergence speed, ultimately leading to improved cost and energy optimization in resource allocation and migration. The primary objective of this research article is to introduce the CDWOA algorithm as a novel approach for resource allocation and migration optimization[7][13]. The algorithm considers parameters such as deadline, utilization cost, and migration cost to allocate resources and migrate tasks effectively. The performance of the proposed CDWOA algorithm is evaluated by comparing it with existing schemes using various performance metrics.

Through this research, we aim to contribute to the field of optimization in distributed computing systems by presenting an innovative approach that combines two powerful algorithms [24]. The results of our study demonstrate the effectiveness of the CDWOA algorithm in achieving cost and energy optimization in resource allocation and migration, providing valuable insights for researchers and practitioners in the field.

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Bulletin Web Application

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Abstract : The design and development of a web application to improve business processes and performance in our project. The objective of this project is to create an advertising website for a company using HTML, CSS, PHP, and JavaScript. The website will be designed to showcase the company's products and services and to attract potential customers. The website will feature an intuitive and user-friendly interface, with a focus on responsive design for optimal viewing on various devices. The project will involve developing a custom content management system (CMS) that will allow the company to easily update and manage their website content. Additionally, the website will incorporate various advertising strategies such as search engine optimization (SEO) and social media integration to increase visibility and reach. Overall, this project aims to provide the company with a modern and effective advertising platform to promote their brand and increase customer engagement.

Keywords: HTML, CSS, JavaScript, jQuery, MySQL, PHP

I. INTRODUCTION

In the present-day digital age, it is essential for businesses of all kinds to have a strong online presence. A marketing website can be useful for displaying goods and services, expanding your target market, and increasing consumer loyalty. The objective of this project is to develop a web application that will help advertise our client's business on a global level. The project includes creating a responsive, user-friendly website that offers users an easy-to-use, educational experience. The combination of HTML, CSS, PHP, and JavaScript will be used in the website's construction and current design and development methods to ensure top performance and security.

The project team will employ a systematic development process to accomplish this goal, which entails analyzing the client's requirements, creating the user interface and functionality of the website, putting the code into place, and testing the website for security, usability, and functioning. To guarantee that the website fits the client's requirements and achieves their business goals, the project team will also work closely with them. By improving the client's internet visibility, luring in new clients, and boosting sales, this project has the potential to have a significant positive impact on the client's business. The project team seeks to develop a website that not only satisfies the client's needs but also distinguishes them from their rivals by utilizing the latest web technology and design ideas.

The Objective is to enhance and advertise our client’s business on a global platform through design and development of a web application. The main objective of this web application is to explore the business ideas on global platform using Search Engine Optimization. To boost sales and improve awareness of this brand through a combination of graphic and textual content and contains an internal link to target ad pages using Retargeting. To improve the communication between our client and people on a global level through Chatbot using JavaScript.

II. RELATED WORK

To build this Bulletin Web Application we have studied several research paper , so Following are as describe each .This work "Spider Trap—An Innovative Approach to Analyze Activity of Internet Bots on a Website" was published in the IEEE Access journal in 2020. The authors of this work are P. Lewandowski, M. Janiszewski, and A. Felkner. The study provides a novel "spider trap" method for monitoring the behavior of internet bots on a website. They discovered that the spider trap strategy worked better

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Original Article

Expense Tracker Application using Naive Bayes

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Abstract *- This study introduces an Expense Tracker mobile application that utilizes the Naive Bayes algorithm for automated expense tracking. The app, developed for Android users using Kotlin and XML in Android Studio, allows manual entry of expenses and automatic detection of bank messages. The Naive Bayes algorithm is employed to classify these messages. The app provides visual representations of expenses through Pie Charts for multiple time frames such as monthly, weekly, yearly etc. It helps users gain insights into their spending habits. With Firebase as the online database, data persistence is ensured even if the app is uninstalled. Overall, the Expense Tracker app offers a user-friendly solution for individuals to manage their finances effectively and make informed decisions about their expenses.*

Keywords *- Machine learning, Personal finance management, Expense tracking, Predictive modeling, User interface.*

1. Introduction

The "Expense Tracker" is a mobile application designed for Android users, utilizing Kotlin and XML languages within the Android Studio development environment. Its primary purpose is to assist users in effectively managing their daily expenses, allowing them to gain a comprehensive understanding of their spending habits and maintain better financial control. The app presents expense data through informative Pie Charts and Bar Graphs, enabling users to visualize and comprehend their expenditure patterns quickly. Furthermore, the application offers manual entry options for expenses, including amount, category, and description, and automated functionality to detect and extract relevant information from bank SMS notifications on the user's mobile device. By utilizing Firebase as the online database, the app ensures that data remains securely stored, even if the application is uninstalled. To access the "Expense Tracker" app, users are required to create an account using their email address and password.

2. Literature Survey

In [1], authors aim to classify spam emails from legitimate ones using Naive Bayes and SVM. SVM showed higher accuracy than NB (Naive Bayes) in diverse sizes of training emails. In [2], The results showed that Naïve Bayes had higher accuracy on Spam Data but lower precision than SPAMBASE, where precision was more important for classifying spam emails correctly. The paper [3] focuses on evaluating ML techniques for spam SMS detection and compares 8 different classifiers. The CNNC (Convolutional-Neural-Network-Classifier) achieved the maximum accuracy of 99.19% & 98.25% for the two datasets, surpassing traditional classifiers like SVM and NB. After analyzing several research studies, in [4], it was found that the supervised machine learning approach is highly adopted and produces consistent and accurate results. NB (Naive Bayes) and SVM algorithms are in high demand compared to other ML algorithms. This [5] survey paper provides an impression of different existing spam filtering systems using ML techniques, summarizing their accuracy and effectiveness in filtering email spam. While all the methods are effective, some have better outcomes, and others implement additional processes to increase accuracy. The paper [6] discusses the problem of detecting spamming activities on Twitter and the need to protect user privacy. The Lfun approach is introduced for spam detection, which involves training classifiers with training data and adding detected spam tweets to the training set over time. The paper proposes [7] a new approach called GADT, which uses a hybrid of genetic algorithm and decision tree for email spam detection, with the added benefit of using PCA to reduce high dimensionality. [8] aimed to classify Hindi Poetries using machine learning algorithms.

The task is challenging due to the language's morphological variance. The paper [9] aimed to classify “Aviation Safety Reports” using ML techniques and [26] proposed a framework to improve the prediction by the selection of correct attributes that contributes to better data extraction. The paper [28] presents a systematic literature review of 13 research papers on SMS spam detection, analysing their proposed techniques, advantages, disadvantages, challenges, and evaluation procedures. In [29] author discusses the difficulty of multi-label classification in NLP and text mining and the achievement of finding a solution for this problem in the less explored research domain of the Bengali language. The authors

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Original Article

Python and MySQL-based Transport Management System

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Abstract *- Every transport industry, as we all know, has specific paperwork that the company can complete. Transportation entails that their branches have a lot of paperwork. The entire paperwork in the being trained system is completed manually by the personnel. Everything must be done manually, which is exceedingly time-consuming, delicate to handle, and unreliable due to the high likelihood of error. Due to handmade operations, it could also result in significant data loss. The Transport Management System (TMS) design is a comprehensive software result designed to optimize and streamline transportation operations for businesses. The system automates colorful tasks similar to managing orders, dispatching vehicles, managing workers and generating bills. The Transport Management System (TMS) design using Beaker is a web-based software result that enables effective operation of business transportation operations. This design utilizes Flask, a Python web frame, to develop a robust and scalable TMS.*

Keywords *- Transport management, Operations, Flask, Web-based software, Automates.*

1. Introduction

Transportation plays a crucial role in logistics and supply chain management. The manual handling of various transportation processes can be time-consuming, error-prone, and inefficient. To overcome these challenges, a Transport Management System (TMS) can be implemented to automate and optimize transportation operations. This paper presents a TMS developed using Python Flask and MySQL, providing a comprehensive solution for managing transportation activities. Indeed anon-technical stoner can use the system effectively and without any difficulty. The system is upgradeable. Hence further improvement to the system is possible. The system maintains speed and delicacy with an eye-catching GUI. Applying Information Technology in the Transport Business can help to ameliorate the working process of association. The transport operation system aims to give window grounded, stoner-friendly and effective system to the staff and the guests. Overall, the objectives of a TMS are to optimize transportation operations, reduce costs, enhance client satisfaction, and ensure compliance with regulations and laws. By achieving these objectives, associations can ameliorate their overall profitability and competitive position. TMS should be designed to meet the association's specific requirements and give a comprehensive result for transportation operations that improve effectiveness, reduces costs, and enhances client satisfaction [1]. Python and MySQL have been used for enforcing similar types of systems [2]. The system is erected with the help of beaker technology as its main element and MySQL database with it to get a good system in place. Beaker is easy to apply, as well as its featherlight back-end frame. MySQL is the most trusted and dependable- open-source database platform in use moment [3]. MySQL is one of the most extensively used databases for enforcing similar types of systems [4]. Effective transportation operation plays a vital part in enhancing force chain operations. The homemade running of transportation processes can be time-consuming, error-prone, and expensive. To address these challenges, developing a Transport Management System(TMS) exercising Python Flask and MySQL provides a comprehensive result. This paper aims to outline the design, perpetration, and advantages of the Python Flask and MySQL- grounded TMS in the environment of transportation operation.

2. Literature Survey

The paper acknowledges web services' significant role in people's daily lives and emphasizes how technological advancements have shaped the world. With the evolution of networks, the demand for internet connectivity has increased, as it has become essential for communication and various activities. To ensure a smooth experience, high-speed internet and sufficient bandwidth are necessary to prevent poor connections. Furthermore, this paper emphasizes the impact of advancements in computing technology and network infrastructure, which have enabled individuals to stay updated with the latest trends. This, in turn, has led to the rise of web development as a prominent avenue for accessing and gathering information [5].

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Design and Development of Android News App

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ABSTRACT

Over the past few years, mobile news applications have become an extremely hyped thing for mobile users from all over the world. And, it is no wonder to learn that with the passage of time, their popularity and demand continue to enhance. The paper, the “Android Application for News" is a cutting edge and versatile mobile news application fundamentally designed to help people connect with the world in a very friendly, easy and hassle-free manner. With this application phones will touch the base with people via images and headlines. It is very simple to use and easy to install that can be downloaded directly. In today’s busy routine life, the users of this mobile news application will be just a click away to access all the basic current affairs in today’s day to day routine of the society.

1. INTRODUCTION

In today’s world people cannot go a day without technology and social sites. In the past few decades, people were familiar with the social News sites, but in recent years, the need of features has been increased so as to make the lives of people much simpler, better and handy. The rapid progress in the mobile technology field has created a new zeal in the many new young minds of the software engineers and developers. There have been many attempts made to develop a freeware and cross platform instant news service for smart phones. A pilot case study was carried out to trace the support of the features of news applications. The prototype developed includes the testing module. Using web services over the internet that offers latest news helps the process of development in a standardized way of the clients. It is research on how to use and develop new features in the smart phones for bringing the world to the hands of the people and making every update of the world easily accessible and user friendly. In the research we intend in developing a mobile news application which can connect the whole world in just a tap on the smart phones and

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Review of Warehouse Management System

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Abstract: *In warehouse management, modern companies and distribution center are overflowing with information about the transportation and storage of goods and services. Warehouse Management systems (WMS) are often used and fulfil these goals. Current work examines the program as a useful tool for finding and using a WMS. In addition, a research methodology is provided to guide upcoming research on WMS and logistics information (LIS) in general. Meanwhile, inventory management is, in general, the study of determining the structure and location of items in stock. It goes beyond the normal and deliberate manufacture and packaging of goods at different locations on the ground or at different locations in the community. It contributes to Warehouse as we see the latest technology evolve in the field. These studies may be extended from time to time to determine the correct and best practice of WMS at any given time.*

Keywords: Warehouse Management Systems, WMS Implementations, Inventory management system, supply chain

I. INTRODUCTION

A warehouse management (WMS) is a software solution that offers visibility into a business' entire inventory and manages supply chain fulfillment operations from the distribution center to the store shelf. The following year in 1975, J.C. Penney created the first real-time WMS. This was a game-changer. With warehouse stock software that updates stock inventory in real-time, J.C. Penney reduced time spent looking for a product that wasn't there and focused efforts on other areas to grow their business.

Research Background: Warehouses play an important role in any shipping process. This article will discuss the key elements required for warehouses to gain value and efficiency in thesupply chain and offer some reflection on current and future tensions. What is clear is that theconstant changes and changes/challenges in areas such as reverse logistics, environmental security, information technology, and sharing the entire chain together are changing the ideas, roles,and responsibilities of the home. In fact, the term "distribution center (DC)" may be appropriate to represent the many activities in a modern warehouse that go beyond meeting customneeds to provide value-added services. The Inventory Management Widget is a real-time inventory management tool for businesses.

Warehouses sit at the center of producing, manufacturing, and supply chain operations because they keep all the materials used or produced in the one’s approaches, from raw materials to completed items. A WMS handles many functions that permit these actions, along with stock tracking, selecting, receiving, and setting away. A computerized warehouse management system simplifies everything from inputting facts to taking inventory. The most effective warehouse system products raise your operating performance, main to extra productiveness It ensures smooth manufacturing operations by using preserving reasonable stocks of substances. It allows normal and timely delivery to customers thru good enough shares of completed products.

The principle purpose of the challenge is to extensively range warehouse management device model software program applications wherein all of the facts regarding the warehouse of the corporation can be furnished. This software provides stability of the warehouse for stable data. Each new stock is created and named with the stock’s receipt date and it can be updated at any time as needed based on business or income. The project warehouse management system is a complete computer application developed in Python on the Tkinter framework based on the Turtle library. Use of code visual studio in addition to working with code. This project works with the DB browser and SQLite3.

The widget only collects and adds sales data and provide slow-stock notifications in a specific area in C language. The goal is to focus attention, to solve all the store's problems. Allocation Inventory Control System is a complete computer application developed in Python time using the Tkinter framework of Pycharm Community Edition. WAMP is software

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Abstract: *In warehouse control, modern companies and distribution centers are overflowing with information about transporting and storing goods and services. The Warehouse Management System is a warehouse database that can work on small inventories of an organization or group. It is used to keep track of the products sold in a single store or to control the distribution of goods between several different stores. But the system only collects and stores sales data and provides low reports in a particular area at a particular time. The aim is not to control all load changes but to facilitate mind maintenance. The purpose is to reduce the pressure of monitoring rather than handling all hold renovation. The goal is to lessen the strain of monitoring instead of managing all keep maintenance. The aim of this project is to expand computer software programs on the way to allow the user to store and manipulate their statistics effectively and successfully. A WMS target is to help ensure that goods and materials circulate via warehouses in the greenest and most cost-powerful way.*

I. INTRODUCTION

Warehouses sit at the center of producing, manufacturing, and supply chain operations because they keep all the materials used or produced in the one's approaches, from raw materials to completed items. A WMS handles many functions that permit these actions, along with stock tracking, selecting, receiving, and setting away. A computerized warehouse management system simplifies everything from inputting facts to taking inventory. The most effective warehouse system products raise your operating performance, main to extra productiveness It ensures smooth manufacturing operations by using preserving reasonable stocks of substances. It allows normal and timely delivery to customers thru good enough shares of completed products.

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Review on Efficient Virtual Education System

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ABSTRACT—

Virtual Education System are gaining popularity since last decade. Due to covid-19 Lockdown where people where locked in there houses there was no way to get offline education. Mostly all educational institutions shifted their offline classes to virtual classes. This made Education little simple. Students where able to study remotely in there college/school hours. Virtual Education provides flexibility to students. A student can apply for any course remotely and conveniently. There has been seen a good amount of growth for virtual learning platforms. To deliver education virtually we need a robust platform which is designed and developed efficiently. There has been analysis which states that there has been 49% of growth in using virtual education platform among students for last five years.

Keywords — Virtual Learning, Education, Academics, Analysis.

Introduction

In the 1800s, the United States developed distance education when professors and students connected through correspondence programs while they were located in dispersed locations. The advent of television in the 1950s allowed teachers and students who did not live in the same area to interact visually. One such institution was the School of the Air in Wisconsin. Visual instruction between teachers and students who were not in the same areas became possible for the first time with the rise of television in the 1950s. Distance learning rapidly increased in the 1970s and 1980s as computer and emailing technology advanced. In 1981, As a result, the Western Behavior Sciences Institute launched its first online program the following year. A number of colleges and schools launched online undergraduate and graduate courses in the 1980s.During the late 1980s, K–12 schools struggled to find math, science, foreign language, and other teachers, so they turned to commercial courses provided through satellite technology, which dramatically expanded distance learning. Over the past five years, there has been an increase in online learning. Online learning attendance in public institutions has increased in INDIA despite a fall in higher education has grown as well as the amount of online learning research. Review studies have been done on specific facets of online learning, such as problem-based learning in e-learning and online learning environments, innovations in learning strategies, empirical MOOC literature, quality in online education, accessibility in online higher education, synchronous online learning, K-12 preparation for online teaching, and polychronicity in online learning. Whileresearch and evaluations have been conducted on specific online learning topics, there have been very few studies that look at study themes in relation to online learning as a whole.

With the development of the internet and COVID-19, online learning has become a widely used means of delivery for distance education, moving from offline to online environments.

There are different study themes for assessments of online learning. Some topics appear repeatedly in the numerous evaluations, while other themes also appear. Althoughreviews have been done in the 1990s and the early 2000s, no study has been done in the recent ten years that looks at the larger aspect of research themes in online learning.

Numerous educational advantages have resulted from the A number of educational advantages have been derived fromthe rapid expansion of the World Wide Web (WWW) and Internet. Online learning has opened up new markets for higher education institutions. When they must juggle obligations to their families, work, and studies, many adult learners could appreciate the flexibility. According to Bell and Fedeman (2013), the extensive use of different technology advancements by universities' online programmes may improve communication between students and instructors as well as among staff as a whole. Additionally, because of the anonymity offered by the online setting, more students who would otherwise avoid attending face-to-face classes due to their shy personalities may be able to participate in online education.

Research themes in online learning.

The "Learner" domain captures traits and results associated with students and their participation in the course. The "Course and Instructor" domain gathers information about the overall course design and the instructor's facilitation, whereas the "Organization" domain recognizes the affects of the course's environment.

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Student's Management Booklet

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Abstract: In the latest rapid-paced world, handling the instructional records of students has come to be a hard project for academic establishments. With the arrival of technology, dealing with the instructional information of students has come to be more convenient green, and effective. The aim of this assignment is to expand a student management system that permits admin, students, and teachers to get entry of academic records, which include grades, attendance, fees details, and profiles, and so on., through a person-pleasant website. The proposed system is designed to make sure easy accessibility, statistical accuracy, and statistical security. The student management system is built with HTML, CSS on the front-end and Django on the returned end. The forum lets students access their instructional data, add pictures of events taking place within the schools, and examine different important details related to their academic life. Teachers can upload marks, fees details, attendance information, and pictures of events at the internet site and get admission to the academic data of their students. The device is designed with a consumer-pleasant interface, making it easy for all customers to navigate and get entry to the specified facts. The usage of Django programming language for the lower back-cease guarantees the efficient and powerful management of instructional statistics. The proposed device's objectives to beautify the efficiency of educational report control, lessen manual work, and make sure records accuracy and safety. This research paper ambitions to spotlight the significance of student control structures in instructional establishments and the benefits that may be done through the implementation of such systems. The paper can even talk about the technique, architecture, and implementation of the proposed device. Moreover, the paper will highlight the capability demanding situations and barriers of the proposed system and offer suggestions for future studies on this area.

Keywords: HTML, CSS, MySql, Django

I. INTRODUCTION

The current system was more manual, requiring that data be written on various papers and sent to various departments. Because it was paper-based, this system was prone to human error, and retrieving files required time-consuming manual searching for files, some of which were even lost, making it difficult to find specific information. According to the statistics, 90% of users were not satisfied with the system because it was not secure in terms of security and storage and was vulnerable to damages like the loss of crucial information, deteriorated paper, and fire outbreak [16]. It is no longer acceptable or cost-effective to continue using the outdated paper-based techniques to manage processes in today's information technology culture. Therefore, it is not unexpected that substantial efforts were made to use the Information Technology (IT) that was available at the time to automate repetitious processes from the beginning. When compared to the file-based method, the latest combination of web technologies offers many benefits [15].

Teachers and students may find the information system to be highly useful for learning and daily living. The administration and sharing of information between schools and universities as well as the improvement of student management are all made possible by the student information management system. Information maintenance is time-consuming and challenging due to the existing student information management system's excessive complexity. This study develops a straightforward student information management system that not only accomplishes the system's fundamental functions but also satisfies the fundamental criteria for managing students. Users find the interface to be welcoming, functional, and convenient.

The standard of student management needs to be raised due to the growth in enrolment. So that the student management system might be created. Information technology is used to enhance managerial operations. The demand for and design process for the students' management system are discussed in this essay. The student management system's numerous functional requirements are first defined, and then the function modules are carefully created. Next, the demand for students, teachers, and administrators is analysed [3].

A web-based tool called Student Management System (SMS) makes it easier to handle students' academic data. With the development of technology, keeping track of students' academic records has become more effective and efficient. The goal of this project is to create a student management system that will enable teachers, and students to access academic

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Cryptocurrency Price Prediction using FB Prophet Model

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Abstract: *This project focuses on using the Facebook Prophet model for predicting cryptocurrency prices. Specifically, we investigate the accuracy of this time-series forecasting model in predicting the prices of two cryptocurrencies, Bitcoin and Litecoin. We obtain the necessary data from yahoofinance.com for BTC-INR, LTC-INR and ETH-INR implement the Facebook Prophet Model for analysis. In addition, we compare our model's performance with other popular machine learning algorithms such as Linear Regression, SVM, and Random Forest. Our study demonstrates that the Facebook Prophet Model can accurately forecast the prices of bitcoin cryptocurrencies, and this could be a valuable tool for traders and investors in making informed investment decisions.*

Keywords: Cryptocurrency, Machine Learning, Forecasting

I. INTRODUCTION

The prediction of cryptocurrency prices is a crucial area of research for investors and traders in the digital asset space. In recent years, machine learning algorithms have emerged as a popular method for forecasting prices due to their ability to detect patterns in large datasets. This project focuses on the use of the Facebook Prophet model, a time-series forecasting algorithm, for predicting the prices of two popular cryptocurrencies, Bitcoin and Litecoin. We obtain the necessary data from yahoofinance.com for BTC-INR, LTC-INR and ETH-INR and compare the performance of the Facebook Prophet Model with other popular machine learning algorithms such as Linear Regression, SVM, and Random Forest. [6] Our study aims to determine the accuracy of the Facebook Prophet Model in forecasting the prices of cryptocurrencies, and how this could be a valuable tool for traders and investors in making informed investment decisions. Machine learning is a method of teaching machines without the need for explicit programming, it improves machine execution by portraying the consistency and pattern of information. [20]

Cryptocurrencies have become increasingly popular in recent years as a new asset class for investors and traders. The decentralized nature of cryptocurrencies, coupled with their potential for significant returns, has attracted a wide range of investors and traders, from individuals to institutional investors. However, due to the volatile nature of cryptocurrency prices, it is challenging to predict their future prices accurately.

As a result, researchers and practitioners have turned to machine learning algorithms to help forecast cryptocurrency prices. [7] Machine learning algorithms are a class of artificial intelligence that can detect patterns and trends in large datasets. Machine learning algorithms have demonstrated their ability to improve the accuracy of cryptocurrency price predictions by analyzing large amounts of historical data, identifying patterns and trends, and making predictions based on those trends.

Among the various machine learning algorithms available, the Facebook Prophet model has emerged as a popular choice for time-series forecasting. The Facebook Prophet model is an open-source time-series forecasting algorithm that uses an additive model to decompose a time-series into its component parts, including seasonality, trend, and noise. The model can then predict future values based on these decomposed components. The Facebook Prophet model has been shown to be highly accurate in predicting time-series data, including cryptocurrency prices.

In this project, we investigate the effectiveness of the [3] Facebook Prophet model in predicting the prices of two popular cryptocurrencies, Bitcoin and Litecoin. We obtain historical price data from yahoofinance.com for BTC-INR, LTC-INR and ETH-INR and use the Facebook Prophet model to forecast future prices. [10] We compare the performance of the

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Restaurant Management System

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Abstract: ***The project focuses on developing an Android application that allows customers to easily book tables and menus of their choice at a restaurant according to their convenience.***
The traditional manual system for table reservations in restaurants is becoming obsolete, and digital systems are gaining popularity. The manual system relies on waiters and booking diaries, with no automated record-keeping. Main objective of the project is creating the Reservation System that addresses the shortcomings of the manual system, such as inefficiencies in time and cost management.
The current generation prefers high-tech services, especially those available online. Therefore, the project aims to efficiently automate restaurant operations for owners. The proposed reservation system offers customers the convenience of reserving tables, menus, or both.
For menu bookings, customers are required to pay 50% of the total amount in advance. Customers can cancel their bookings if they are unable to arrive on time, and can rebook for the next available time slot, provided that the cancellation is made at least 30 minutes before the selected time. However, if the cancellation is made after this timeframe, the advance payment will not be refunded.
Keywords: Restaurant Management, Recommendation, Tablet, Menu, Intelligent, Android application.

I. INTRODUCTION

This application serves as a convenient self-service system for table and menu bookings in restaurants. The system allows for customization of booking the process and efficient management of restaurant reservations and availability reservations. An admin portal, which has access to the owner, facilitates checking of availability and bookings for customers. The services provided include table and menu bookings, all managed through the system, with the main objective of providing ordering and reservation services to customers.

he restaurant management system allows admin(only one admin) to easily edit, add, and delete reservation, track availability and manage client data.

The primary goal of this task is to enable restaurant owners to directly interact with clients. Additionally, the application allows clients to place requests to find free tables based on their specific seating requirements in their preferred area. This concept is designed to address the inconvenience people often face in finding desired restaurants and making bookings, which can be time-consuming. Managers also benefit from the application as it helps them digitally track bookings through the provided admin portal, instead of analyzing paper receipts.

Customers are required to register and become members in order to access the full features of the application. They can then check seat availability at specific timings and make bookings accordingly.

Customers also have the option to view booking details and cancel bookings if needed. In case of any confusion about restaurant locations, the application provides location maps and contact details for clearing queries via email or other contact information provided. This approach ensures a seamless and user-friendly experience for customers while providing efficient management tools for restaurant owners.

II. METHODOLOGY

The main objective of our project is to enhance the efficiency of ordering food while minimizing human error & providing quality services to restaurant customers. The application on the tablets should be capable of seamless communication with other devices.

The process begins with the customer or visitor opening the application and searching for food items from nearby locations. The customer can view the categorized menu card by scanning the QR code available on the table and order food items, either with or without logging in or registering. Selected food items are added to the cart which is available at hotel side for temporary storage.

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LITERATURE REVIEW ON RESTAURANT MANAGEMENT SYSTEM

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ABSTRACT

In our system offers an online food ordering platform that provides convenience for customers and addresses the limitations of traditional queueing systems. It offers a hassle-free way for customers to order food from restaurants and mess services. The system enhances the process of taking customer orders by providing an online food menu, which allows customers to easily select their desired items and track their orders. Additionally, customers can provide feedback on their food items, which helps to inform hotel staff of areas for improvement in quality. The system can also recommend hotels and food based on user ratings. Payment options include online payment orpay-on-delivery, with separate accounts for each user, which ensures secure ordering through individual IDs and passwords.

Keywords: Food Ordering System, Dynamic Database Management, Smart Phone.

I. INTRODUCTION

The restaurant industry has been greatly transformed by technological advancements, particularly in point-of-sale operations. The use of e-menus has revolutionized the way customers interact with menus, providing them with more detailed information about menu items and drinks compared to traditional paper menus. This has improved the ordering process by making it simpler and more accessible.

The benefits of e-menus go beyond just improving the ordering process. Restaurants can now build their e-reputation and engage with customers in real-time. With digital tablets and touch screen technology, menus have evolved from simple chalkboards and printouts to detailed and colorful displays. Orders can be taken accurately the first time, reducing the need for servers to run back and forth to a distant terminal.

E-menus also enable orders to be associated with individual seats at a table, ensuring greater accuracy and reducing errors. Modifications to orders can easily be made, and the cost can be calculated in real-time. Recommendation algorithms can even suggest dishes based on previous orders, making it easier for customers to build their orders and view the most popular dishes. Various filters, such as price, taste, and quantity, can be used accordingto individual preferences.

In summary, e-menus have transformed the restaurant industry by providing customers with more detailed information and simplifying the ordering process. They havealso enabled restaurants to engage with customers in real-time and build their e-reputation.

II. LITERATURE REVIEW

[1]A snack organizing scheme has existed grown to organize the process of identifying orders in miscellaneous outlets. The system is devised to capably control consumer orders by providing the alternative to order pre-set parts or custom-make orders accompanying just individual click. This whole has existed executed as an Android use for Tablet PCs. The program that controls display was founded utilizing JAVA and Android, while the backend promotes a MySQL table.

[2]The system adopts that consumers will be utilizing smartphones to place their orders. Once the consumer lands at the outlet, they can prove their preserved order completely by affecting their smartphone screen. The list of pre-picked articles will open or fan out on the room for cooking food screen, and upon ratification, an order slip will be impressed for further deal with. This answer facilitates the pre- order process for clients, making it a more nearby alternative.

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Survey of Bike Showroom Management System

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ABSTRACT: This study describes a management system for bike showrooms that includes several modules, including bill calculation, employee detail, stock information, quotation, and automatic email. By only allowing certain personnel from specified departments access to each module, the system has been created to protect the security of data. Employees can access historical records of bills and the total bill is determined in the bill calculation module. The ability to add, examine, and delete staff data is part of the staff detail module's management of all personnel details. The stock management module allows for the addition, deletion, and viewing of stock data. The automatic email feature sends bills to customers and acts as a reminder for vehicle servicing. This paper also discusses the challenges faced by managers and provides recommendations for future research in this area.

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KEYWORDS: Automobile showroom, Automatic Mail, Bill calculation, Staff details

I. INTRODUCTION

Systems for managing bike showrooms are getting more and more well-liked since they make the procedures involved in operating a showroom more efficient. This survey paper's objective is to investigate the many modules that have been included in a bike showroom management system, such as automatic email, bill calculation, staff detail, stock information, and quotation. The limitation of access to each module to personnel of certain departments is one of the major components of this system, which helps to ensure the security of data. Total bills are computed in the bill calculation module, and a new option has been provided to view previous bills' records.

All personnel details, including adding, viewing, and removing staff details, are managed via the staff detail module. All stock data is managed through the stock management module, which also permits the addition and deletion of stock. Last but not least, the automatic email option automatically emails customers their bills and notifies them when their vehicle is due for service.

The administration system for a bike store appears to be extremely complete, covering a number of crucial areas. Data security is greatly improved by the security feature of limiting access to specified modules. Both administrators and employees can benefit from the prior record viewing option in the bill calculating module. The freedom to manage employee data effectively is provided by the view, add, and remove options in the staff detail module. The ability to add, examine, and delete data in the stock management module can aid in maintaining correct stock records. A great approach to give consumers timely reminders for servicing and paying is using an automatic email option. You can think about integrating advanced analytics capabilities to analyse sales data and improve business operations in order to improve the system's features. Creating a web portal can also give administrators and employees more accessibility and ease. Finding research gaps and implementing these features will make the system run more smoothly and benefit the company even more.

A software programme is called a bike showroom management system, and it is used to handle many parts of a bike showroom. The system is made up of many modules, including those for automatic email, quotation, stock detail, staff detail, and bill calculation. By only allowing specific department employees access to each module, the system assures data protection.

The bill computation module computes the overall bill and offers the option to view earlier bills' data. The staff detail module controls all personnel details and offers features for adding, viewing, and deleting staff data. All stock data is managed through the stock management module, which also offers options for viewing, adding, and deleting

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Bike Showroom Management System

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Abstract: *The bike showroom management system is a piece of software created to make running a bike showroom more efficient. This system includes modules for managing employee details, stock information, quotations, and an automatic mailing system in addition to bill calculation. Specific departments are only permitted access to various modules, and only the administrator has access to all of them. Users can compute bills, print them, and view previous bills in the bill calculation module. Users can add new staff details, see all staff details, and delete staff details as necessary using the staff details module. Through the automation of operations and the real-time delivery of correct data, this system seeks to increase the effectiveness and efficiency of managing bike showrooms.*

Keywords: Automobile showroom, Automatic Mail, Bill calculation, Staff details

I. INTRODUCTION

The management of bike showrooms efficiently and properly calls for a strong system because they have long been a crucial component of the automotive industry. The Bike Showroom Management System (BSMS) is an all-inclusive tool for operating a bike showroom that addresses numerous issues. It has modules for stock information, quotations, employee detail administration, bill computation, and an automatic mailing system. exclusively the administrator has access to all of these modules, which are exclusively available to one department.

We can compute bills, print our bills, and view previous bills in the bill computation module. We can add new staff details, see all staff details, and delete staff details as necessary using the staff details module. We can monitor the inventory levels of various bike models and their spare parts using the stock information module. The automatic mailing system sends emails to the customers for a variety of reasons, and the quotation module generates quotes for customers. The comprehensive Bike Showroom management system offers a number of modules for handling various aspects of a showroom. The technology seeks to increase security while maximising efficiency and accuracy. Bill computation, which enables users to compute bills, print invoices, and view previous bills, is one of the crucial modules. employee details is a further crucial module that lets users add new employee details, see all staff details, and delete staff details as necessary.

Users are able to monitor the supply of bikes that are accessible in the showroom thanks to the stock information module. Users can examine the current stock, add new stock, and update existing stock using this module. Customers interested in buying bikes can generate quotes with the assistance of the quotation generation module. This module is crucial since it enables the showroom to promote openness and give clients correct information. Another crucial component that enables the showroom to send clients automated emails is the automatic mailing module.Customers can receive promotional emails from this module as well as follow-up and feedback emails. exclusively the administrator has access to all of these modules, which are exclusively available to one department. This guarantees the safety of the system and guards against any unauthorised access.

II. TECHNOLOGY USED

At front end we have used ‘HTML’ and ‘CSS’, at the backend we have used ‘Sql’, with core Java framework. In this we embedded JSP programming tool with frontend technology HTML,CSS to connect it with backend technology

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Analysis of Accelerometer Applications

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Abstract: *An accelerometer is a digital tool that measures modifications in velocity, acceleration, or vibration of a bodily object. It is typically used in various packages, along with smartphones, vehicles, aerospace, and healthcare. The accelerometer measures the acceleration of the object via detecting modifications within the capacitance, piezoelectric impact, or other phenomena resulting from the motion of the item. Here we have studied and analysed various accelerometer applications to identify their capabilities and usability, based on this we have concluded that accelerometer can be used for the design and development of an Epilepsy Patient Fall Detection and Alert System using Accelerometers.*

Keywords: accelerometer, ardunio Nano 33 BLE, applications

I. INTRODUCTION

An accelerometer is a digital tool that measures modifications in velocity, acceleration, or vibration of a bodily object. It is typically used in various packages, along with smartphones, vehicles, aerospace, and healthcare. The accelerometer measures the acceleration of the object via detecting modifications within the capacitance, piezoelectric impact, or other phenomena resulting from the motion of the item.

Acceleration has two factors; one is static pressure and the other is a dynamic force. Static force is the pressure appearing on an object (consisting of friction or gravity) and dynamic force is the pressure acting on an item at one-of-a-kind speeds (including vibration or the pressure implemented to the cue ball). In billiard video games, this is why accelerometers are used.

For example, in the prevention and protection of car accidents. When a strong force is applied to the vehicle, the accelerometer detects acceleration and sends an electrical signal to the trip computer, which then activates the airbags. There are three different types of accelerometers, and each one of them is designed to work well in a specific condition.

When two or more accelerometers are connected, they provide a different measurement of the required acceleration. Gravity pulls them apart, especially in space, the gradient of the gravity field. The gravitational force is the weak force that relies upon the gravity of the Earth. This is very different, so a gravity gradiometer is used.

Accelerometers are electronic devices that are used to measure acceleration. Acceleration can be resulting from various factors, consisting of gravity, changes in motion, or external forces. These forces can be static like gravity, or it can detect vibration and motion like many mobile phones.

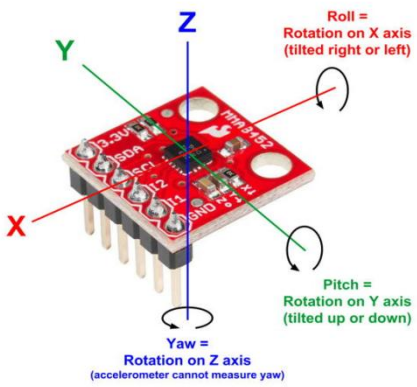


Fig .1: Accelerometer Circuit with Possible Directions

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Machine Learning and IoT Applications in Agriculture

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Abstract: *Agriculture is an industry that has historically relied on traditional methods for crop production, but with the advent of new technologies, it is now possible to integrate machine learning and Internet of Things (IoT) applications to improve agricultural practices. Machine learning algorithms and IoT devices can be used to analyze data collected from agricultural fields to optimize crop yield, reduce resource consumption, and improve farm management. In this review paper, we explore the various applications of machine learning and IoT in agriculture, specifically focusing on their use in crop monitoring, disease detection, and water management. We examine the challenges associated with implementing these technologies in agriculture, including issues related to data collection, privacy, and security. Finally, we discuss the potential benefits of integrating machine learning and IoT in agriculture and identify future research directions that can help advance this field. Overall, this review highlights the potential of machine learning and IoT technologies to revolutionize agriculture and improve food security in the years to come.*
The Internet of Things (IoT) network must be integrated with sensors in order for "smart agriculture" to be a reality. At many layers of the IoT system architecture, machine learning (ML) techniques are incorporated to increase usefulness and capabilities. For agricultural systems to properly integrate with information technology, intelligent agricultural systems must be established, and all types of information created by agricultural systems must be integrated and analysed.The agriculture sector might undergo a transformation thanks to the fusion of machine learning (ML) and internet of things (IoT) technology. Precision agriculture and more economical resource usage are made possible by using IoT sensors to collect data on a variety of factors, including soil moisture, temperature, and nutrient levels. Then, using these data, ML algorithms may be used to forecast outcomes and improve decision-making. For example, they can forecast agricultural yields, spot disease or insect infestations, and suggest the best dates for planting and harvesting.

Keywords: Soil NPK Sensor, Soil Moisture Sensor, Random Forest

I. INTRODUCTION

Machine learning and Iot technologies have been used in agriculture to conduct innovative researches1. Using iot-based data-driven farm management strategies, agricultural yields may be improved. The key benefits of machine learning and iotin agriculture are the reduction of issues, crop and yield predictions, management of livestock, and identification of databases of agricultural output in India. By using these technologies to accurately automate agricultural cultivation practices, management, and production, researchers are assisting farmers. Agriculture is a crucial sector that plays a vital role in global food security. In recent years, there has been an increasing demand for sustainable and efficient agricultural practices that can meet the growing food demands of the world's population. Machine learning (ML) and Internet of Things (iot) are two technologies that have gained significant attention in the field of agriculture. These technologies have the potential to transform traditional farming practices by enabling farmers to make data-driven decisions, optimize crop yield, and reduce resource consumption.

In this review paper, we explore the applications of ML and IoT in agriculture, with a specific focus on their role in crop monitoring, disease detection, and water management. We discuss the challenges associated with implementing these technologies in agriculture, such as the need for large amounts of data, privacy and security concerns, and the cost of deploying and maintaining IoT devices.[1]

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Crop prediction and fertilizer recommendation system using machine learning and IoT

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Abstract - Agriculture is of utmost importance for survival, and machine learning (ML) and IoT can provide valuable solutions for crop selection issues. Therefore, this study aims to predict crops suitable for farmers' soil by utilizing various ML and IoT techniques. The classification model employed is Random Forest as its showing the highest accuracy. The application of ML algorithms to predict crops and suggest which fertilizers to use can aid farmers in making decisions regarding which crops to grow based on factors such as NPK values, humidity, temperature, and rainfall thereby bridging technology and the agricultural sector.

***Key Words*:** soil moisture sensor, npk sensor, random forest

1.INTRODUCTION

Agriculture occupies 60% of India's landmass and provides for the fundamental necessities of 1.4 billion individuals. For the well-being of the farmers, modernization of agriculture is carried out today. The production of crops is heavily reliant on weather conditions, environmental shifts, rainfall (which can often be unpredictable), water management, and the use of pesticides. This makes it difficult for farmers to achieve their desired crop. To address this issue, researchers have turned to machine learning techniques to improve crop yield and quality.[2]

Machine learning is a method of teaching machines without the need for explicit programming, it improves machine execution by portraying the consistency and pattern of information. In this work various machine learning methods such as Decision Tree, Naïve bayes, Logistic Regression, and Random Forest were employed to predict crops for different states.[7]

Since agriculture is the most dominant activity across all cultures and civilizations throughout history. It's not only a significant aspect of the growing economy but is also crucial for the survival and the future of humankind. It is a major contributor to employment and has seen an exponential increase in production requirements over time. However, people are misusing They can also be used in landscaping and gardening to conserve water and avoid over-watering. Moreover, soil moisture sensors are extensively used in research to monitor variations in soil moisture over time and analyze the correlation between soil moisture and plant growth. Soil moisture sensors operate within a voltage range of 3.3 to 5 volts.
technology to produce mass quantities, resulting in the creation of new hybrid varieties that do not provide the essential contents found in naturally produced crops, ultimately leading to environmental damage. Most of these unnatural techniques are employed to avoid losses, but with accurate information on crop, producers can minimize losses.[7] Machine learning, a rapidly growing approach, is spreading to every sector and helping make viable decisions to maximize its applications. Most gadgets today are worked with by models examined before the arrangement. The primary objective is to use machine learning models to boost agricultural sector throughput. Due to the relatively high number of parameters, the prediction is influenced by the knowledge provided during the training period. Precision agriculture, which prioritizes quality over unfavorable environmental factors, is the primary focus. Different machine learning classifiers, like logistic regression and random forest, are used to find a pattern in order to make accurate predictions and combat the erratic trends in temperature and rainfall. We came to the conclusion that the random forest algorithm provides the most accurate value by utilizing the aforementioned machine learning classifiers.[8] By collecting historical data on temperature, weather, and other factors, the system predicts which crops will be grown. The application runs the calculation and showcases the rundown of reasonable harvests for the entered information with the anticipated yield.

2. Methodology

The system relies on sensors to sense the soil parameters in real time and use an external dataset. The data obtained in real-time is stored on a local machine, and machine learning algorithms are employed for subsequent analysis.

A. Soil Moisture Sensor

A device designed to measure the moisture content of soil is known as a Soil Moisture Sensor. It is an electronic device that calculates the amount of moisture present in the soil.

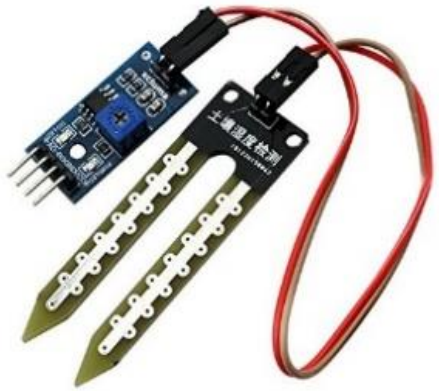


Figure 1: Soil Moisture Sensor

It typically comprises a probe that is placed in the soil to gauge its moisture content based on its electrical

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Human Detection in Surveillance Video

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Abstract - In recent years, there has been a lot of focus on the crucial task of human detection in surveillance footage. Security, public safety, traffic monitoring, and healthcare are just a few areas where it might be used. This paper provides an overview of the technique, as well as its uses and problems. Several processes are involved in the human detection process, including object detection, face detection, and tracking. The Face-recognition Library is a versatile tool that contains face detection and recognition algorithms that may be used to identify people in photos and videos. It can be used for duties such as criminal investigations and traffic monitoring for safety infractions, allowing for precise and efficient human detection in surveillance video.

Key Words: human detection, surveillance video, face detection

1.INTRODUCTION

This Human detection in surveillance video is the problem of locating and identifying humans in video streams captured by cameras. Human detection in surveillance video is important for various domains and applications, such as security, safety, public services, healthcare, entertainment, etc. Human detection in surveillance video can help to identify and track criminals or suspects, verify and authenticate civilians or citizens, detect and alert abnormal or suspicious events, analyze and understand crowd characteristics and dynamics, re-identify and recognize persons of interest, estimate and classify gender or age groups, characterize and model human gait or posture, detect and prevent falls or injuries, etc.

There are three main groups of methods for human detection in surveillance video: pixel-based methods, edge-based methods, and part-based methods. Pixel-based methods use low-level features such as color, intensity, texture, or motion to segment the foreground pixels from the background pixels, and then group them into human regions or blobs. Edge-based methods use edge features such as gradients, contours, or corners to detect human silhouettes or shapes. Part-based methods use high-level features such as body parts or landmarks to model the human appearance and structure.

Pixel-based methods are fast and simple, but they are sensitive to noise, illumination changes, occlusion, and background clutter. Edge-based methods are robust to illumination changes and color variations, but they are sensitive to noise, occlusion, and pose variations. Part-based methods can handle pose variations and partial occlusion, but they require more computational resources and prior knowledge of human anatomy.

Some examples of pixel-based methods are background subtraction, optical flow, and spatio-temporal filtering. Some examples of edge-based methods are shape discrimination using Fourier descriptors, human detection based on a probabilistic assembly of robust part detectors, and detecting human motion with support vector machines. Some examples of part-based methods are histograms of oriented gradients, monitoring of cyclists and pedestrians, and pedestrian detection using boosted features.

There are some open challenges and limitations for human detection in surveillance video research, such as scalability, robustness, privacy, etc. Scalability refers to the ability to handle large-scale and high-resolution data efficiently and effectively. Robustness refers to the ability to handle various variations and uncertainties in human appearance, camera settings, environmental conditions, and scene complexity. Privacy refers to the ability to protect the privacy and security of the personal data and biometric information of the civilians or citizens who are detected and recognized by the surveillance systems.

There are some possible future directions and opportunities for improving human detection in surveillance video research, such as multimodal fusion, domain adaptation, explainable AI, etc. Multimodal fusion refers to the use of complementary and supplementary information from multiple sources and modalities, such as thermal cameras, infrared cameras, depth cameras, audio sensors, etc. Domain adaptation refers to the adaptation of learned models or features from one domain or scenario to another, such as indoor vs outdoor, day vs night, crowded vs sparse, etc. Explainable AI refers to the provision of explainable and interpretable results by revealing the underlying logic or rationale behind the detection decisions or predictions.

2.LITERATURE REVIEW

Human Identification Using Human Body Features Extraction, Martino C. Khuangga & Dwi H. Widyantoro [1]

This work offers a human-identification-system that uses human body feature extraction and can monitor a room's occupants' presence. To eliminate the requirement for particular action, the system employs a camera as an input device. Features on the human body are choose because they are often simpler to identify and serve as a strong identification to label people who enter a place. This system uses two primary processes. The system first notices when someone enters a room. Additionally, it notices when the same individual leaves the room. Utilising image processing methods including HOG descriptor-based person recognition, HSV colour conversion, and template matching, this application was created.

Human Identification Recognition In Surveillance Videos, Kai Jin, Xuemei Xie , Fangyu Wang, Xiao Han, Guangming Shi [2]

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Design and Development of Ecommerce Website

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Abstract: *In today's, world of Internet e-commerce have seen immense growth and popularity. Ecommerce also known as Electronic-Commerce is nothing but companies and individuals who sell and buy tangible products and services over the Internet. Ecommerce allow businesses to reach wider audiences in more efficient and cost-friendly way. Today ecommerce sells almost every product and service online and is available on many varieties of electronic devices like laptop, computer, PC, smartphones, tablets. But along with all the benefits of ecommerce it is often highly competitive. For this very reason creation of customer interactive and developing a website with customer pleasing design is very much important. Design and development of a website which has a potential to catch the attention of the customer, retain their interest , showcase product and services in a positive light and attract more new customer. In order to achieve all these targets design and development of website becomes a topic of at most importance. Website plays a major role in the success of ecommerce business. This paper discusses the design and development of an ecommerce website.*

Keywords: Ecommerce, Ecommerce Website, HTML, CSS, Bootstrap, JavaScript, PHP, MySQL, Online Shop.

I. INTRODUCTION

Now a days people order goods and products online over the internet with the help of ecommerce. Ecommerce allow people to purchase from a vast pool of products and goods in considerable prices. Products get delivered to their home. Payment options like cash on delivery, bank deposit, UPI transaction are available which makes transaction a smooth experience. During pandemic more and more people turned to ecommerce. Ecommerce has successfully changed the behavior of the consumer the way they purchase and consume goods and services.

Many ecommerce platforms like Amazon, Flipkart, Nykaa, Meesho has gained popularity in India. According to Forbes ecommerce market is expected to increase up to $8.1 trillion worldwide by the end of 2026. Also 20.8% of retail purchases are going to shift toward ecommerce and online purchases in 2023. One of the greatest benefits of ecommerce is the visibility it provided. Small businesses can also reach out to the worldwide consumers and sell their goods worldwide.

As many ecommerce websites are available today it is very easy for customers to switch between different ecommerce websites and prefer one over the other. So understanding what affects the consumer behavior is very important. One study showed that 48% of the consumers leave ecommerce website because of the extra cost or fees on the goods. 24% because they are required to create an account, 18% because they don't trust the site with credit card information , 17% because of complicated checkout process. So giving attention to the design of the ecommerce website is crucial for the success of the ecommerce website.

II. FEATURES

To design and develop the ecommerce website which will stand out from all the crowd require following features. User friendly interface is the most important feature to have in an ecommerce website. Search bar, clickable images help to create user friendly interface. High-resolution visual content help to attract customer. Website design should be adaptable with the mobile web as 2/3 of the worlds population prefer their mobile devices to make online purchases. When it comes to ecommerce it is very important that the customer is getting the product he wanted in the least amount of steps for this reason website should have a good search and filtering functionality. Match the theme of website with

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Design and Development of Variable Flow of Pesticide Sprayer for Agriculture Purpose

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Abstract: *Agriculture is India's economic engine. In order to protect crops from becoming rotten and contaminated by harmful organisms including fungi, bacteria, parasites, and insects, pesticides must be sprayed on the crops. At the moment, pesticide spraying is a manual process that uniformly covers a variety of crops with varying sizes and forms. Our farmers continue to spread the chemicals using an antiquated technique that damages their skin, requires a lot of time and effort, and involves carrying the chemicals on their backs and using their hands. So, our goal is to make the pesticide application process simpler. Considering that herbicides are sprayed, installing a removable farmer will only need to drive the cart with simple operation and spray a variable amount of pesticide based on the form and size of crops as a result of the introduction of a detachable setup for pesticide spraying.*

Keywords*:* Nozzle, Sensors, Arduin, Battery, Pump, Tank

REFERANCES

[1] Lakshminara Simha N “Design and Development of Trolley type Agrochemical Sprayer” Researchgate 326156341,pp 2465-3289
[2] Hongbin Dou, Chengliang Zhang a , Lei Li, Guangfa Hao, Bofeng Ding , Weike Gong, Panlin “Application of variable spray technology in agriculture” doi:10.1088/17551315/186/5/012007
[3] Mansoor Alam, Muhammad Tahir Khan ,Muhammad Roman, Muhammad Tufail, Muhammad Umer Khan “Real Time Machine Learning Based Crop/ Weed Detection and Classification For Variable Rate Spraying In Precision Agriculture” 978-1-7281-6788,2020,IEEE, pp 273-280
[4] Aishwarya.B.V,Archana.G, C.Umayal “Agriculture Robotic Vehicle Based Pesticide Sprayer With Efficiency Optimization” 978-1-4799-7758-1,IEEE,2015,pp 59-65
[5] Bhavani Shankar Y,Cariappa A.B, “Design of Sprinkler for Agciculture Purpose”DOI 10.17148/IARJSET.2021.8698,pp 565-567

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Design and Development of Multipurpose Agriculture Equipment

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Abstract: *The design and development of a multipurpose automated agriculture equipment utilizing a Bluetooth module with a hopper for fertilizer, spraying, and grass cutting is presented in this paper. The objective of this project is to enhance the efficiency and productivity of agricultural practices by incorporating automation technology. The equipment consists of a robust chassis with wheels for mobility, powered by an electric motor. It is equipped with a hopper for storing fertilizers, a spraying mechanism, and a grass-cutting attachment. Additionally, a Bluetooth module is integrated into the system to enable wireless communication with a smartphone or a central control unit. The Bluetooth module allows the user to remotely control and monitor the equipment. Through a dedicated mobile application, the user can set parameters such as the amount of fertilizer to be dispensed, the spraying pattern, and the cutting height. Real-time feedback from sensors on the equipment, such as soil moisture sensors and obstacle detection sensors, can be displayed on the mobile application, providing valuable information for decision-making. The hopper is designed to hold a significant amount of fertilizer, ensuring uninterrupted operation for extended periods. The spraying mechanism utilizes adjustable nozzles to enable precise and controlled application of pesticides or herbicides. The grass-cutting attachment incorporates a high- speed rotating blade for efficient cutting of grass and weeds. The development of this multipurpose automated agriculture equipment offers several advantages. It reduces the labor-intensive tasks associated with traditional agriculture practices while improving accuracy and efficiency. The remote control and monitoring capability provided by the Bluetooth module enhances convenience and enables intelligent decision-making. Furthermore, the integration of the hopper, spraying mechanism, and grass-cutting attachment into a single equipment simplifies the farming process, resulting in cost savings and increased productivity.*

Keywords: Hooper, Spraying, Grass Cutting, Microcontroller and Bluetooth Module

REFERENCES

[1] "Development of Multipurpose Agriculture Machine", International Journal of Advanced Engineering and Research Development, 2017 Narendra Patel, Himanshu Patel, Utsav Patel.
[2] Agribot: Arduino Controlled Autonomous Multi-Purpose Farm Machinery Robot for Small to Medium Scale Cultivation (IEEE), 2018 Md. Didarul Islam Sujon, Rumman Nasir.
[3] "Automated Farming Using Microcontroller and Sensors", International Journal of Scientific Research and Management Studies (IJSRMS), 2015 Abdullah Tanveer, Abhish Choudhary, Divya Pal.
[4] "Design And Development Of Semi- Automated Multipurpose Agricultural Wheel", (IEEE), 2017 K.Karthikeyam, S.Shyam Sundar, C.B. Selva Subramaniam, P.S. Sivakumar

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Effect of Rectangular Fins on Heat Transfer Characteristics of Domestic Cookware

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cookware, rectangular fin, heat transfer ability

ABSTRACT

Working process of domestic gas stoves primarily depends on the heat transfer phenomenon between gas flame and the bottom of the cookware. Various energy losses during this heat transfer results in low thermal efficiency. This work focuses on improving heat transfer ability of cookware, thus enhancing thermal-efficiency. Increase in rectangular fin height H causes increase in thermal efficiency value up to a certain limit after which a decreasing trend is observed by both numerical and experimental results. The fin height H=14.6 mm is considered optimum value for thermal efficiency. After H=14.6 mm, the maximum temperature value of fins shows a constant trend up to certain limit. Fin width variation follows a linear increase trend as the width increases up to 5 mm where fluctuation in efficiency stops. Max temperature of fins shows good agreement with increase in fin width in both numerical and experimental values up to W= 4.8 mm after which 10c temp loss occurs due to localized heat losses. Lastly fin spacing is verified against overall thermal efficiency and gradual; decrease is found in efficiency with increasing spacing due to formation of hotspots in between each fin. Lowest efficiency of 57% observed at fin spacing of 7 mm.

1. INTRODUCTION

From ancient ages, energy remains as the foundation for the continuous evolution and development of living things on earth, which gives rise to the developed human era nowadays. This energy in the form of LPG needs to be saved and conserved as it plays a vital role in cooking methodology all over the globe. Enhancing the ability of cooking in general cookware finds a crucial place in today's context. Wang et al. [1] done the investigations on enhancing the ability of cookware by adding fins on base of wok and observed that when 42 fins are considered for study, overall efficiency of cookware wok is enhanced by approx. 8% from the basic simple cookware which is without such heat exchange surfaces. Their experiment results hold good agreement with numerical. Wae-hayee et al. [2] studies the effect of distance between plate and burner on LPG consumption and heat transfer. They found the highest heat transfer rate at H/d between 25 and 35, KB-5 LPG burner is employed in this work by the authors. Bansal et al. [3] focusses on current status of the technology used in five major household equipment for the sake of energy savings and proposes founding minimum performance standards for all cooking appliances based on their rating and also asked for government initiatives in this undiscovered field of cooking where availability of government authorities puts check on overall energy utilization scenario in market. Boggavarapu et al. [4] done the comparative study of different burners using LPG as a fuel and done comparative study with PNG fuel burner by considering factors like loading height, and found augmentation in thermal efficiency of burner of about 2.5% when burner uses LPG along with modification, and 10% for burner using PNG as a fuel, their numerical simulation results found good agreement with the experimental one. The paper [5] studied the performance on cooking pots and evaluated their thermal efficiency on electric stoves. Author's experimental and numerical results found with a difference of not greater than 15% for all geometries evaluated. Adding insulating materials to cooking pots on electric stoves reduces losses up to 6.64%. The average thermal efficiency value of the electrical stove top enhances up to approx. 87% when they add outer insulation to the cookware.

2. UNCERTAINTY ANALYSIS

Uncertainty analysis is done by Pointing out uncertainty value & writing down value at midpoint of uncertainty interval along with difference to upper and lower limit. Experimental measurements are done using equipment with following accuracies: The water temperature, mass of water & consumed gas volume is ± 1°C, ± 2 gm., and ± 1.62 kg respectively.

3. EXPERIMENTAL SETUP

Figure 1 shows overall arrangement of test methodology setup used in the experimentation process. Waghole et al. [6] clearly mentions the usage of water as a better heat transfer fluid for experimentation of different heat transfer characteristics. In this experimentation, water at room temperature is to be allowed to test due to its better heat conductivity compared with other mediums which are costlier and impracticable for use in kitchen cookware otherwise. This water is used for Performing water boiling tests. Flow rate of gas which is required to be measured for efficiency

https://www.chinesestandard.net/PDF.aspx/GB16410-2007, accessed on 1 July 2022.
[6] Waghole, D.R., Warkhedkar, R.M., Kulkarni, V.S., Shrivastava, R.K. (2014). Experimental Investigations on heat transfer and friction factor of silver nanofliud in absorber/receiver of parabolic trough collector with twisted tape inserts. Energy Procedia, 45: 558-567. https://doi.org/10.1016/j.egypro.2014.01.060
[7] Boggavarapu, P., Ray, B., Ravikrishna, R.V. (2014). Thermal efficiency of LPG and PNG fired burners: experimental and numerical studies. Fuel, 116: 709-715. https://doi.org/10.1016/j.fuel.2013.08.054
[8] Das, M., Ganguly, R., Datta, A., Verma, M.M., Bera, A.K. (2020). Computational fluid dynamic analyses of flow and combustion in a domestic liquefied petroleum gas cook stove burner Part II: burning characteristics and overall performance. J Therm Sci Eng Appl., 12(3): 031011. https://doi.org/10.1115/1.4044861
[9] Tatsuguchi, N., Shibukawa, S. (2000). Effect on cooking of the quality and thickness of cooking pots. J-Stage, 157-165. https://doi.org/10.11402/cookeryscience1995.33.2_157
[10] Wichangarm, M., Matthujak, A., Sriveerakul, T., Sucharitpwatskul, S., Phongthanapanich, S. (2020). Investigation on thermal efficiency of LPG cooking burner using computational fluid dynamics. Energy, 203: 117849. https://doi.org/10.1016/j.energy.2020.117849
[11] Paul, K., Balagizi, I.K. (2009). The form of the cooking vessel and the energetic efficiency of cooking. Journal of Engineering Science and Technology, 4(3): 282-291.
[12] Motghare, K.A., Rathod, A.P., Waghmare, S.S., Wasewar, K.L., Labhsetwar, N.K. (2015). Performance evaluation and heat transfer studies on biomass gasifier cook-stove. International Journal of Application or Innovation in Engineering & Management (IJAIEM), 4(5): 352-361.
[13] Bhattacharya, S., Albina, D.O., Khaing, A.M. (2002). Effects of selected parameters on performance and emission of biomass- fired cook- stoves. Biomass Bio Energy, 23(5): 387-395. http://dx.doi.org/10.1016/S0961-9534(02)00062-4
[14] Incropera, F.P., Dewitt, D.P., Bergman, T.L., Lavine, A.S. (2002). Introduction to Heat Transfer. Wiley & Sons, Inc., New York.
[15] Cernela, J., Heyd, B., Broyart, B. (2014). Evaluation of heating performances and associated variability of domestic cooking appliances (oven – baking and pan - frying. Appl. Therm. Engg., 62: 758-765. https://doi.org/10.12102/cookingforum1992.33.2_157
[16] Ashman, P.J., Junus, R., Stubington, J.F., Sergeant, G.D. (1994). The effects of load height on the emissions from a natural gas-fired domestic cooktop burners. Combustion Science and Technology, 103(1-6): 283-298. https://doi.org/10.1080/00102209408907699
[17] Krishnan, S.M., Barath, P., Manoj, V., Joseph Stalin, M. (2012). Energy conservation by improving the design of cook pot. International Journal of Mechanical Engineering and Technology (IJMET), 3(3): 638-644.

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COMPARISON OF CONVENTIONAL AND MICROWAVE–ASSISTED SYNTHESIS OF 3-THIO-4-ARYL-5-PHENYLIMINO-[1,2,4]-DITHIAZOLIDINES

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ABSTRACT

Series of 3-thio-4-aryl-5-phenyl-imino-[1,2,4]-dithiazolidines have been synthesised by the interaction of ammonium aryl dithiocarbamates with N-phenyl-S-chloro isothiocarbamoyl chloride under microwave irradiation followed by the basification with dilute ammonium hydroxide solution. These compounds were synthesized also by conventional heating for comparison. Initially ammonium aryl dithiocarbamates have been prepared by the interaction of different amines with carbondisulphide and ammonium hydroxide. Constitution of synthesized compounds have been delineated on the basis of chemical transformation elemental analysis, equivalent weight determination, IR and ^{1}H-NMR spectral studies. The title compounds were evaluated for their antimicrobial activity against the microorganisms like *S. typhi, E. coli, B. subtilis* and *S. aureus.*

KEYWORDS: Synthesis, antimicrobial activity, substituted-[1,2,4]-dithiazolidines.

I. INTRODUCTION

Microwave-assisted synthesis is a branch of green chemistry. Microwave-assisted synthesis has gained much attention in recent years. Microwave irradiation-assisted chemical transformations are pollution free, eco-friendly and offer high yields together with simplicity in processing and handling.

Synthesis, structural properties and bactericidal activities of various [1,2,4]-dithizolidines have been reported earlier.[1-5] The literature has been enriched with progressive finding about the synthesis of [1,2,4]-dithizolidines by using the reagent N-phenyl-S-chloro isothiocarbamoyl chloride.[6-9] and by oxidative cyclization using bromine and iodine.[10,11] [1,2,4]-dithizolidines have been also found to have potent anti-inflammatory and anti-tumor properties as they down regulate the NF-kB transcription factor.[12] In view of the utility of N-phenyl-S-chloro isothiocarbamoyl chloride in the synthesis of heterocyclic compounds and as a part of wider programme to provide alternative routes of synthesis both by conventional and microwave assisted, the method for synthesis of substituted 3-thio-4-aryl-5-phenyl-imino-[1,2,4]-dithiazolidines are reported.

II. MATERIALS AND METHOD

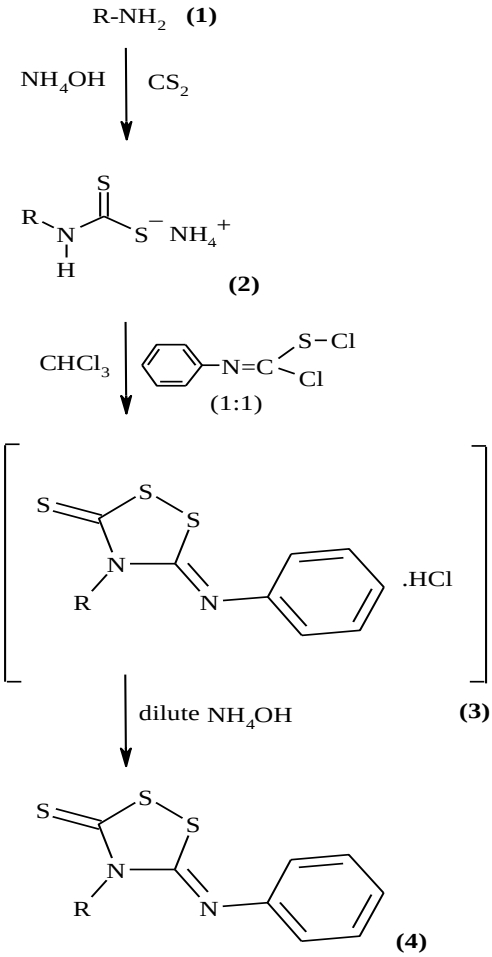
The melting points of all synthesized compounds were recorded using hot paraffin-bath and are uncorrected. Chemicals used were of A.R. grade.[1] H-N.M.R. spectra were recorded with TMS as internal standard using $CDCl_3$ and DMSO-d_6 as solvents. IR spectra were recorded on Perkin-Elmer spectrophotometer in the range 4000-400 cm^{-1} in nujol mull and as KBr pellets. Purity of the compounds was checked on silica gel-G plates by TLC.

Synthesis of ammonium phenyl dithiocarbamate (2a)
The compound ammonium phenyl dithiocarbamate (2a) was prepared by dropwise addition of aniline (1a) (9 ml) in ice cold mixture of ammonia (15 ml, density 0.88) and carbondisulphide (7.5 ml) followed by the vigorous shaking. The reaction mixture was allowed to stand for 30 minute, heavy precipitate of ammonium phenyl dithiocarbamate (2a) separates out. This reaction was extended to synthesize other substituted dithiocarbamates (2b-g) using different amines (1b-g) by reported method.[13]

Synthesis of 3-thio-4-phenyl-5-phenyl-imino-[1,2,4]-dithiazolidine (4a)
Ammonium phenyl dithiocarbamate (2a) (0.01 mol) was suspended in chloroform (15 ml). To this a solution of *N*-phenyl-*S*-chloro isothiocarbamoyl chloride (0.01 mol) in chloroform was added. The reaction mixture was microwaved at 1800W for 2 Min.30Sec. The evolution of hydrogen chloride gas was observed and chloroform was evaporated, a sticky mass was obtained. It was repeatedly washed with petroleum ether ($40\text{-}60^0$) followed by addition of ethanol, a solid acidic to litmus was isolated, crystallized from ethanol (80%), m.p. 149^0 and identified as 3-thio-4-phenyl-5-phenyl-imino-[1,2,4]-dithiazolidine hydrochloride (3a).

Similarly, other compounds (3b-g) were prepared from (2b-g): 3b (75%), m.p. 167^0; c (70%), m.p. 184^0; d (75%), m.p. 181^0; e (85%), m.p. 174^0; f (70%), m.p. 188^0; g (80%), m.p. 193^0.

On basification of (3a) with dilute ammonia solution a free base (4a) was obtained, it was crystallized from aqueous ethanol, m.p. 130^0 (Found: C, 55.48; H, 3.28; N, 9.19; S, 31.66. Calcd. for $C_{14}H_{10}N_2S_3$: C, 55.62; H, 3.31; N, 9.28; S, 31.78%); ν_{max} 1550 (C=N), 1342 (C-N), 1239 (C=S), 758 (C-S), 483 cm^{-1} (S-S); δ ($CDCl_3$+DMSO-d_6) 7.14-7.46 (10H, m, Ar-H).[14,15] Similarly, free base (4b) was prepared from (3b): 4b, m.p. 149^0 (Found: C, 56.82; H, 3.73; N, 8.73; S, 30.32. Calcd. for $C_{15}H_{12}N_2S_3$: C, 56.96; H, 3.79; N, 8.86; S, 30.37%); ν_{max} 1538 (C=N), 1332 (C-N), 1263 (C=S), 763 (C-S), 458 cm^{-1} (S-S); δ ($CDCl_3$+DMSO-d_6) 6.90-7.41 (9H, m, Ar-H), 2.32 (3H, s, Ar-CH_3). This reaction was extended to synthesize other free bases (4c-g): 4c, m.p. 152^0 (Found: C, 56.70; H, 3.76; N, 8.81; S, 30.23. Calcd. for $C_{15}H_{12}N_2S_3$: C, 56.96; H, 3.79; N, 8.86; S, 30.37%); d, m.p. 158^0 (Found: C, 56.93; H, 3.69; N, 8.63; S, 30.38. Calcd. for $C_{15}H_{12}N_2S_3$: C, 56.96; H, 3.79; N, 8.86; S, 30.37%); e, m.p. 160^0 (Found: C, 49.52; H, 2.60; N, 8.21; S, 28.42. Calcd. for $C_{14}H_9N_2S_3Cl$: C, 49.92; H, 2.67; N, 8.32; S, 28.52%); f, m.p. 159^0 (Found: C, 49.63; H, 2.64; N, 8.29; S, 28.47. Calcd. for $C_{14}H_9N_2S_3Cl$: C, 49.92; H, 2.67; N, 8.32; S, 28.52%); g, m.p. 161^0 (Found: C, 49.88; H, 2.55; N, 8.30; S, 28.31. Calcd. for $C_{14}H_9N_2S_3Cl$: C, 49.92; H, 2.67; N, 8.32; S, 28.52%).



Where,

1-4a, R =

1-4b, R =

1-4c, R =

1-4d, R =

1-4e, R =

1-4f, R =

1-4g, R =

Scheme I

Table 1: Yields, Melting Points And Total Reaction Time For Synthesised [1,2,4]-Dithiazolidines (For All Synthesis 180 W Mw Was Used).

Compound	% Yield		MP (^{O}c)		Total Reaction Time	
	Conventional	MW	Conventional	MW	Conventional	MW
1-4a	78	80	129	130	2h.10 min.	4min. 30 s.
1-4b	70	75	147	149	2h.15 min.	5min. 20 s.
1-4c	65	70	150	152	2h.10 min.	4min. 40 s.
1-4d	72	75	157	158	2h.15 min.	4min. 50 s.
1-4e	80	85	159	160	2h.10 min.	4min. 30 s.
1-4f	68	70	160	159	2h.15 min.	4min. 40 s.
1-4g	74	80	160	161	2h.10 min.	4min. 50 s.

Antimicrobial Activity

The synthesized compounds (4a-g) were screened for their antibacterial activity using cup plate diffusion method.[16,17] The bacterial organisms used included both gram-positive as well as gram-negative strains like *S. typhi, E. coli, B. subtilis* and *S. aureus*. Sensitivity plates were seeded with a bacterial innoculum of $1x10^6$ CIU ml^{-1} and each well (diameter 10 mm) was loaded with 0.1 ml of test compound solution (1000 µg ml^{-1}) in dimethylformamide, so that concentration of each test compound was 100 µg ml^{-1}. The zones of inhibition were recorded after incubation for 24 h at 37^0, using Vernier caliper. Inhibition zone record of the compounds clearly indicated that 4d and 4g were highly active against *E. coli* and moderately active against *S. aureus*. Majority of the compounds were found inactive against *S. typhi* and *B. subtilis*.

To determine minimum inhibitory concentration (MIC), the serial dilution technique,[18] was followed using nutrient broth medium. The MIC values of compounds 4d and 4g were determined against *E. coli* and *S. aureus*, which were found to be 80 and 75 µg ml^{-1} respectively.

III. RESULTS AND DISCUSSION

The compounds ammonium aryl dithiocarbamates (2a-g) were prepared by dropwise addition of different amines (1a-g) (0.6 mole) in ice cold mixture of ammonia (15 ml, density 0.88) and carbondisulphide (7.5 ml) followed by the vigorous shaking. The reaction mixtures were allowed to stand for 30 minute, heavy precipitate of ammonium aryl dithiocarbamates (2a-g) separates out.

Compounds (2a-g) were then reacted with *N*-phenyl-*S*-chloro isothiocarbamoyl chloride in boiling chloroform for 2 h. The evolution of hydrogen chloride gas was clearly noticed as tested with moist blue litmus paper. Cooling the reaction mixture and distilling off chloroform afforded sticky masses, which on washing with petroleum ether gave granular solids. These were acidic to litmus and on titrimetric analysis identified as 3-thio-4-aryl-5- phenylimino-[1,2,4]-dithiazolidine hydrochlorides (3a-g). These on basification with aqueous ammonia solution afforded free bases (4a-g) respectively.

All the Dithiazolidines derivatives were synthesized by both conventional synthesis (above method) and microwave- assisted synthesis (Table-1) and compared.

The synthesized compounds (4a-g) were screened for their antibacterial activity using cup plate diffusion method. The bacterial organisms used were *S. typhi, E. coli, B. subtilis* and *S. aureus*. Inhibition zone record of the compounds indicated that 4d and 4g were highly active against *E. coli* and moderately active against *S. aureus*. Majority of the compounds were found inactive against *S. typhi* and *B. subtilis*. The MIC values of compounds 4d and 4g were determined against *E. coli* and *S. aureus*, which were found to be 80 and 75 µg ml^{-1} respectively.

REFERENCES

1. V. K. Verma, *Indian J. Chem.*, 1963; 1: 116.
2. R. Singh, V. K. Verma and C. V. Agrawal, *J. Indian Chem. Soc.*, 1975; 52: 444.
3. R. Singh and V. K. Verma, *Indian J. Chem.*, 1997; 15B: 192.
4. S. Urszula and B. George, *J. Hetero. Chem.*, 1984; 21: 241.
5. B. N. Singh, *Acta Cienc. Indica (Chem.)*, 1998; 24C: 113.
6. N. K. Khandelwal, B. N. Berad and M. G. Paranjpe, *J. Indian Chem. Soc.*, 1987; 64: 321.
7. P. P. Deohate, J. P. Deohate and B. N. Berad, *Asian J. Chem.*, 2004; 16(1): 255.
8. M. K. Burghate and B. N. Berad, *Asian J. Chem.*, 2007; 19(5): 3601.
9. R. T. Jadhav and M. G. Paranjpe, *J. Indian Chem. Soc.*, 1982; 59: 1004.
10. C. P. Joshua and V. K. Verma, *J. Indian Chem. Soc.*, 1975; 38: 988.
11. S. K. Rai, K. Srivastava and V. K. Verma, *Indian J. Chem.*, 1981; 20B: 521.
12. P. Manna, R. Singh, K. K. Narang and S. K. Manna, *Indian J. Chem.*, 2005; 44B: 1880.
13. B. S. Furniss, A. J. Hannaford, P. W. G. Smith and A. R. Tatchell, "*Vogel's Textbook of Practical Organic Chemistry*", Longman, U.K., 2006.
14. N. B. Colthup, L. H. Daly and S. E. Wiberly, "Introduction to Infrared and Raman Spectroscopy", Academic Press, New York, 1964.
15. R. M. Silverstein, G. C. Bassler and T. C. Morril, "Spectrometric Identification of Organic Compounds", 4th ed., John Wiley & Sons, New York, 1981.

A. L. Barry, "The Antimicrobial Suspectibility test: Principle and practices", ed., Illus Lea and Fibiger, Philadephia, Pa., U.S.A., 180.

16. F. Cavanagh, "Analytical Microbiology", ed., Academic Press, New York, 1963; 126.

Ag-Nb_2O_5: Synthesis, Characterization and Ethanol Selective Sensitivity Measurements

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Abstract

In the present study undoped and silver doped Nb_2O_5 films were synthesized by the aqueous chemical method. The samples were subjected to various techniques: like XRD, FESEM, EDAX, TEM and FTIR to know the stoichiometry, crystal structure, morphology and optical properties respectively. The silver content was varied from 0 to 4 at.% and its effect on the structural, morphological and the gas sensing behavior have been studied with respect to different operating temperatures. The gas sensing properties of silver doped Nb_2O_5 sensor exhibits highest sensitivity towards ethanol and has been discussed.

Key-words: Nb_2O_5, Ag doped Nb_2O_5, Gas Sensor, Ethanol Sensors.

1.Introduction

The application of metal oxides as a gas sensing material has been widely investigated for their capability to sense numerous types of gas species. In the past decades, a tremendous improvement has been demonstrated in the performance of metal oxide-based gas sensors via the transformation of the first-generation thick film devices to ones incorporating nanostructured metal oxide films. The nanostructured metal oxides allow the target gases to penetrate into and have access to the entire volume of the films. This maximizes the interaction of the exposed surface of the nanostructured films with the gas species and results in large changes in their physical and chemical properties.

There are many reports on the gas sensing properties of nanostructured metal oxides such as SnO_2, ZnO, TiO_2, WO_3, In_2O_3, CuO, NiO, Ga_2O_3, and V_2O_5[1–10]. However, a much smaller number of papers address the feasibility of Nb2O5 for gas sensing [11–20]. Nb_2O_5 is known as a wide band-gap n-type metal oxide and has desirable properties such as good chemical stability, low film stress, and a high refractive index (n = 2.4 at 550 nm) [21]. Due to the remarkable properties of Nb_2O_5, it has been used in a variety of applications such as in catalysis and as a biocompatible material [22], in electrochromic coatings [23,24], batteries [25] and solar cells [26, 27].

The first report on Nb_2O_5 gas sensors dates back to the early 1980s, however, comprehensive reports on Nb_2O_5 mostly belong to the mid to late 1990s [28-32]. In these works, techniques such as radio frequency magnetron sputtering were used for the deposition of dense Nb_2O_5 films and operating temperatures as high as 500°C were implemented to sense gases such as O_2, NH_3 and CO. Porous Nb_2O_5 films for gas sensing were later reported. The first example is the work of Hyodo et al. who successfully developed a gas sensor based on anodic micro porous Nb_2O_5 synthesized in aqueous acidic electrolytes [33].

In this Chapter, we have presented the outcomes of the investigations on the development of the silver doped Nb_2O_5semiconducting gas sensors synthesized by the chemical method. Ag concentration values in the range of 0.0–4.0 wt.% were selected as to understand the effect of metal dopant on the



[10] K.J. Choi, H.W. Jang, "One-dimensional oxide nanostructures as gas-sensing materials: review and issues", *Sensors,*10(4) (**2010**) 4083–4099.

[11] H.T.H. Kondo, T. Takeuchi, I. Igarashi, "Nb_2O_5 thin-film oxygen sensor, in: Proceedings of the 3rd Sensor Symposium", *Japan* (**1983)**185–190.

[12] D. Rosenfeld, P.E. Schmid, S. Széles, F. Lévy, V. Demarne, A. Grisel, "Electrical transport properties of thin-film metal-oxide-metal Nb_2O_5 oxygen sensors", *Sensors and Actuators B,* 37(1-2) (**1996**) 83–89.

[13] L. Chambon, C. Maleysson, A. Pauly, J.P. Germain, V. Demarne, A. Grisel, "Investigation for NH_3 gas sensing applications, of the Nb_2O_5 semiconducting oxide in the presence of interferent species such as oxygen and humidity", *Sensors and Actuators B,*45(2) (**1997**) 107–114.

[14] L. Chambon, A. Pauly, J.P. Germain, C. Maleysson, V. Demarne, A. Grisel, "A model for the responses of Nb_2O_5 sensors to CO and NH_3 gases", *Sensors and Actuators B,*43(1-2)(**1997**) 60–64.

[15] L. Chambon, J.P. Germain, A. Pauly, V. Demarne, A. Grisel, "A metallic oxide gas sensor array for a selective detection of the CO and NH_3 gases", *Sensors and Actuators B,*60(2-3)(**1999**) 138–147.

[16] T. Hyodo, J. Ohoka, Y. Shimizu, M. Egashira, "Design of anodically oxidized Nb_2O_5 films as a diode-type H_2 sensing material", *Sensors and Actuators B,*117(2) (**2006**) 359–366.

[17] U. Cvelbar, K. Ostrikov, A. Drenik, M. Mozetic, "Nanowire sensor response to reactive gas environment", *Applied Physics Letters,* 92 (**2008**) 133505-133503.

[18] T. Hyodo, H. Shibata, Y. Shimizu, M. Egashira, "H_2 sensing properties of diode type gas sensors fabricated with Ti- and/or Nb-based materials", *Sensors and Actuators B,* 142(1) (**2009**) 97–104.

[19] H.G. Moon, H.W. Jang, J.-S. Kim, H.-H. Park, S.-J. Yoon, "A route to high sensitivity and rapid response Nb_2O_5-based gas sensors: TiO_2 doping, surface embossing, and voltage optimization", *Sensors and Actuators B*, 153(1) (**2011**) 37–43.

[20] Z. Wang, Y. Hu, W. Wang, X. Zhang, B. Wang, H. Tian, Y. Wang, J. Guan, H. Gu, "Fast and highly-sensitive hydrogen sensing of Nb_2O_5 nanowires at room temperature", *International Journal of Hydrogen Energy,* 37(5) (**2012**) 4526–4532.

[21] X. Xiao, G. Dong, C. Xu, H. He, H. Qi, Z. Fan, J. Shao, "Structure and optical properties of Nb_2O_5 sculptured thin films by glancing angle deposition", *Applied Surface Science*, 255(5) (**2008**) 2192–2195.

[22] J. Choi, J. Lee, K.J. Kim, "Porous niobium oxide films prepared by anodization–annealing–anodization", *Nanotechnology* 18(5) (**2007**) 055603-055609.

[23] M.S. Michel, A. Aegerter, Y. Guo, "Sol–gel niobium pentoxide coatings: applications to photovoltaic energy conversion and electrochromism", *International Journal of Photoenergy,* 4(1) (**2002**) 1–10.

[24] S.H. Mujawar, A.I. Inamdar, C.A. Betty, V. Ganesan, P.S. Patil, "Effect of post annealing treatment on electrochromic properties of spray deposited niobium oxide thin films", *Electrochimica Acta,* 52(15) (**2007**) 4899–4906.

[38] B. Baruwati, D.K. Kumar, S.V. Manorama, "Hydrothermal synthesis of highly crystalline ZnO nanoparticles: A competitive sensor for LPG and EtOH",*Sens.Actuators B*, 119(2) (**2006**)676-682.

[39] X.Jiaqiang, C.Yuping, L.Yadong, S.Jianian, "Gas sensing properties of ZnO nanorods prepared by hydrothermal method",*Journal of Materials Science,* 40(2) (**2005**)2919-2921.

[40] K.Fukui, M .Nakane. "CO gas sensor based on Au-La2O3 loaded SnO2 ceramic", *Sens. Actuators B: Chem*.,25(2) (**1995**)486-490.

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3.3.1 - Number of research papers published per teacher in the Journals notified on the UGC website during the last five years

Sr. No.	Title of paper	Name of the author/s	ISSN No.	Name of Journal
1.	A Study of Self-Help Groups And Women Empowerment In A Rural Area Of The Akola Region	Puja Awatirak Dr. S. M. Mishra	0973-0087	Rabindra Bharati Journal of Philosophy
2.	Prospect Of Financial Inclusion Of Rural Customers-A Study Of Lanjud Village	Priya Dhomode Dr. S. M. Mishra	0973-0087	Rabindra Bharati Journal of Philosophy
3.	Impact Of Stress On Employees Behavior In Organization - A Study of Khamgaon Region	Vaishnavi Sahu Dr. S. M. Mishra	0973-0087	Rabindra Bharati Journal of Philosophy
4.	Systematic Study On Attrition Of Workers Of Unorganised Sector In Khamgaon Region	Madhuri Chandwani Dr. S. M. Mishra	0973-0087	Rabindra Bharati Journal of Philosophy
5.	Comparative analysis of key players in dairy industry – A study of Khamgaon region	Hari Mohan Jha Bidyarthi and Ku. Prachi Lalit Pande	2349-9249	Technix International Journal of Engineering Research
6.	Comparative Analysis of the Financial Performance of Select Public Sector and Private Sector Banks from 2017 - 2022	Ishan Sandip Shah and Hari Mohan Jha Bidyarthi	2582-5208	Ishan Sandip Shah and Hari Mohan Jha Bidyarthi
7.	A Comparative Study of Select Insurance Companies and their Products in Buldhana Region	Hrutik Shah and Hari Mohan Jha Bidyarthi	2582-5208	International Research Journal of Modernization in Engineering Technology and Science
8.	A Study of Consumer Behavior for Insurance Policies in Buldhana Region	Mahesh Gawande, Hari Mohan Jha Bidyarthi and Wechansing Suliya	2582-5208	Mahesh Gawande, Hari Mohan Jha Bidyarthi and Wechansing Suliya
9.	India Post Payments Bank – Problems and Prospect in Akola Region	Hari Mohan Jha Bidyarthi and Gaurav M. Deshmukh	2395-7852	International Journal of Advanced Research in Arts, Science, Engineering and Management,

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10.	A Study of Marketing Strategy of Maharaja Masala Udyog in Buldhana District	Hari Mohan Jha Bidyarthi and Rahul Baban Chunekar	2582-5208	International Research Journal of Modernization in Engineering Technology and Science
11.	Dimensions Of Work From Home Culture- A Study	Hari Mohan Jha Bidyarthi and Ku. Komal Deolal Ghyare	2347-7075	International Journal Of Advance & Applied Research
12.	An Analysis Of Buying Decision For Electric Two Wheelers -A Study Of Vidarbha Region	Dr. Laxmikant B. Deshmukh, Ku.Shivani Gautam Damodar	2395-7852	International Journal of Advance Research in Arts, Science, Engineering & Management
13.	Distribution Analysis Of Agro Business Marketing In Vidarbha Region	Dr. Laxmikant B. Deshmukh, Rohit Gajanan Shekokar	2395-7852	International Journal of Advance Research in Arts, Science, Engineering & Management
14.	Critical Analysis Of Petroleum Swap Of Oil Giants In Maharashtra	Dr. L. B. Deshmukh	2456-2165	International Journal of Innovative Science and Research Technology
15.	A Study On Consumer Behaviour Towards Purchase Decision Of Bajaj Two Wheelers Bikes With A Special Reference To Tirupati Bajaj Showroom Pvt.Ltd In Akola City	Tushar Makode Dr. L. B. Deshmukh	2582-5208	International Research Journal Of Modernization in Engineering Technology and Science
16.	Perception About Mobile Banking – A Study Of Buldhana Region	Dr. Pavan M. Kuchar*1, Avinash Shrikrushna Bochare*2	2582-5208	International Research Journal of Modernization in Engineering Technology and Science
17.	A Study Of Socio - Economic Impact Of Road Traffic Congestion In Nandura	Dr. Pavan Kuchar*1, Ku. Dipali Onkar Jawkar*2	2582-5208	IRJMETS

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18.	Employee Participation In Management: A Study Of Implications On Employee'S Performance And Organisational Productivity Wrt Work From Home Employees	Dr. Pavan Kuchar*1, Ku. Juie Ulhas Sakalkale*2	2582-5208	International Research Journal of Modernization in Engineering Technology and Science
19.	Havmor And Top And Town Customer Preference Towards Icecream In Malkapur Region	Kapil S. Talreja*1, Dr. Pavan Kuchar*2	2349-9249	TIJER - INTERNATIONAL RESEARCH JOURNAL
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22.	Espousal Of Digital Banking Services And A Study Of Customer Satisfaction In Akola	Pournima Subhash Gawali*1, Dr. Pavan Kuchar*2	2582-5208	International Research Journal of Modernization in Engineering Technology and Science
23.	Adaptability of Digital Marketing by the Retailers in Shegaon Region – A Study	Dr. Pavan M. Kuchar, Vitthal Arun Tale	2395-7852	International Journal of Advanced Research in Arts, Science, Engineering & Management
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25.	Study of GST and its impact on manufacturing industry	Darpan Rathi Dr. S. M. Mishra	2349-9239	TIJER - International Research Journal
26.	A Study Of Brand Switching In Case Of Of Smartphone.	Swapnil Bondre Dr. S. M. Mishra	2395-7852	International Journal of Advanced Research in Arts, Science, Engineering & Management
27.	Changing The Scenario- An Enquiry Into Couples At Work	Dr. Mayur A. Dande, Dr. Pavan M. Kuchar, Dr. Satya Mohan Mishra	2347-7075	International Journal of Advance and Applied Research
28.	Rejuvenation of non- profits through idealism	Dr. Satya Mohan Mishra, Dr. Mayur A. Dande, Dr. Pavan M. Kuchar	2347-7075	International Journal of Advance and Applied Research
29.	Accelerating Family Businesses- A case of Treasure Trove "Khandelwal Jewelers"	Dr. Pavan M. Kuchar, Dr. Satya Mohan Mishra, Dr. Mayur A. Dande	2347-7075	International Journal of Advance and Applied Research
30.	Effective Recruitment Processes For Effective Organizational Culture - A Study	Prof. Wechansing Zyamsing Suliya, Ku. Gauri Yogesh Chikte, Dr.Mayur Anil Dande3	2347-7075	International Journal of Advance and Applied Research
31.	A Study Of Satisfaction Of Teachers Is Need For Better Learning Culture	Prof. Wechansing Zyamsing Suliya, Ku. Nikita Gopal Jadhal & Dr.Mayur Anil Dande	2347-7075	International Journal of Advance and Applied Research
32.	A Study of Marketing Mix Strategies of FMCG Products in Rural Market with Special Reference to Amaravati District	Amit Nandkishor Bhange, Prof. M.A. Dande	2395-7852	International Journal of Advanced Research in Arts, Science, Engineering & Management (IJARASEM)
33.	"Expanding Knowledge Horizons- A Study of Social Media With Reference To Farmers"	Dhanashri V. Waghole, Dr. Mayur A. Dande	2320-2882	International Journal of Creative Research Thought

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34.	Predicting Consumer Behaviour- An Enquiry of Domestic Water Purifiers Market	Girish M. Sathe, Dr. M. A. Dande	2395-7852	International Journal of Advanced Research in Arts, Science, Engineering & Management
35.	A Study of Customer Satisfaction In Banking Industry With Special Reference To Private Sector Bank In Buldhana District	Jyotsna Dilip Hiwale*, Dr. Mayur A. Dande*	2582-5208	International Research Journal of Modernization in Engineering Technology and Science
36.	Invigorating Inherent Capacities- A Study of Womanhood And Small-Scale Businesses	Prerana S. Sonankar, Dr. Mayur A. Dande	2320-2882	International Journal of Creative Research Thought
37.	A Comparative Study of Customer's Perception Regarding	Surekha Gajananrao Sarnaik, Dr. M. A. Dande	2582-5208	International Research Journal of Modernization in Engineering Technology and Science
38.	A Deep Analysis of Motivation For Study And Work Amongst Students Of Management	Wechansing Suliya, Ku. Divya Phopse	2395-7639	International Journal of Multidisciplinary Research in Science, Engineering, Technology & Management
39.	A Need Analysis of Competency Mapping For Improvement In Effectiveness And Culture Of Organization	Wechansing Suliya, Ku. Purva Fuse, Dr. L.B. Deshmukh	2582-5208	International Research Journal of Modernization in Engineering Technology and Science
40.	'Mutual Entrepreneurship Model' – The Approach of Rural And Economic Development For Rural Nimad Region, Madhya Pradesh	Wechansing Suliya and Dr.G.S.Gaikwad	2582-7219	International Journal Of Multidisciplinary Research in Science, Engineering and Technology

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42.	Employee Engagement- A way of sustainable Productivity	Wechansing Suliya, Ku. Vaishnavi Khandare	2395-7639	Internal Journal of multidisciplinary research in science, engineering, Technology and Management
43.	Effective recruitment process for effective organizational culture	Wechansing Suliya, Ku. Gauri Chikte,	2347-7075	International Journal of Advanced Applied Research(IJAAR)
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50.	Knowledge Management And Human Resource Management Practices In It Sector A Study On Selected It Companies	Dr. R. Sabitha, Shail Bains, Dr. Suman R. Barman, Vishal V. Patil	1226-4741	KOREA REVIEW OF INTERNATIONAL STUDEIS
51.	A Study Inclination Of Stakeholders Towards Equity Based Mutual Fund In Akola Region	Rushabh Sardeshmukh Prof. Bilal Husain	2395785 2	IJARASEM
52.	A Study on Satisfaction Level of Employees with Special Reference to Shivangi Bakers Private Limited (Parle-G Biscuit Company) Khamgaon	Prof. Bilal Husain, Kamlesh Santosh Umbarkar	2582-7421	IJRPR
53.	Competitive analysis of organizations involved in networking services	Mr. Vishal Isal , Mr. Bilal Husain	2582-5208	IRJMETS
54.	"A Study on Investment Behavior of Students Pursuing Higher Education With A Special Focus On Engineering Students In Amravati"	Renuka V. Wankhade, Bilal T. Husain	2582-5208	IRJMETS
55.	A Study on Investment Pattern of Investors in Gold with Special Reference to Middle-Class People	Ayush S. Saraph, Dr. Bilal T Hussain	2582-5208	IRJMETS
56.	A Study on Stress Management Techniques of Labours with Reference to Paras Thermal Power Station	Pooja Ingle, Dr. Bilal Husain	2582-5208	IRJMETS
57.	A Study on Understanding Customer Satisfaction Level regarding E-Money in Karanja Region.	Kishor Chavhan, Dr. Bilal Husain.	2582-5208	IRJMETS
58.	A Study of the factors influencing the decisions of the investors to invest in SIP of the Buldhana Region	Yogesh Katre, Dr. Bilal Husain	2581-7175	IJSRED

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A STUDY OF SELF-HELP GROUPS AND WOMEN EMPOWERMENT IN A RURAL AREA OF THE AKOLA REGION

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ABSTRACT

The concept of Self-Help Groups (SHGs) was introduced by Prof. Mohammad Yunus through the Bangladesh Grameen Bank in 1975. Women empowerment and SHGs play a significant role in economic development, particularly in India. The Indian government has taken several initiatives and launched various schemes to promote women development and empowerment. In the 2023-24 Budget, the government introduced a scheme specifically for SHG members, the Mahila Samman Bachat Patra Yojana 2023. In this research, primary data was collected through personal interviews with 100 respondents in the Akola rural area, using stratified sampling techniques. The study focused on women's empowerment, including financial independence, education, decision-making, freedom, and problems faced by SHG members. The study found a strong relationship between SHGs and women's empowerment. The results showed that SHGs successfully increased women's participation in various activities, increased their confidence levels, and helped establish their identity in society. These findings suggest that Self-help groups can contribute to the empowerment of women in rural areas.

KEYWORDS: SHG, Women Empowerment, financial independence, Decision making, Education.

INTRODUCTION

A statement by Mahatma Gandhi, a society's degree of civilization can be gauged by the status of its women. According to him, "Train a woman and you build a nation, train a man and you train an individual." suggests that compared to investing in men, investing in women's education and development might have a bigger positive influence on society as a whole.

Women may be effective change agents in their communities when they have access to education and training. On the other hand, when men obtain training, their specific education and training may assist them. They may increase their personal employment opportunities and financial potential, but this does not always have a positive effect on society as a whole. With nearly 69% of India's population living in rural areas, and 55% in the state of Maharashtra, the empowerment of women and the promotion of Self-Help Groups (SHGs) play a crucial role in the country's development. In 1991-92, the National Bank for Agriculture and Rural Development (NABARD) began the propagation of awareness of SHGs in rural areas. Furthermore, the Reserve Bank of India (RBI) allowed the opening of savings accounts in banks in 1993. To develop India, it is crucial to first develop rural areas, where poverty, lack of employment opportunities, and low awareness about government benefits are common. SHGs play a small but significant role in rural development by increasing the income of poor individuals.

SELF-HELP GROUP

A Self-Help Group (SHG) is a voluntary group of 10-15 individuals, both men, and women, who collect and circulate money within the group to solve their economic problems. SHGs promote capital formation and provide better credit access for their members. They primarily focus on

women development, poverty alleviation, and social empowerment. SHGs function like mini-banks for village women and not only increase their income but also improve their social status. SHG is part of financial inclusion and it's like microfinance. Currently, India has a total of 79,45,898 SHGs, with Maharashtra having 581,483 and the Akola region having

12,480 SHGs. SHGs operate under the Ministry of Rural Development and are governed by government organizations such as UMED, MSRLM, and NRLM.

WOMEN EMPOWERMENT

According to the concept of Women Empowerment, women should have power and authority that leads to freedom, their own position, and identity. The term "women's empowerment" refers to the ability of women to make their own choices for both social and personal development. Advising women to be resourceful and independent would be a form of empowerment for them. Empowering women is crucial for the social and health development of both families and countries. SHG plays an important role in improving the status of women in society. In order to achieve developed nation status, women's empowerment is a must. Family support, financial independence, education, and decision-making are all key factors in women's empowerment. SHG provides rural women with a platform to enter into business, make decisions, utilize their skills, participate in a social environment, gain respect in society, become financially independent, and be self-motivated. Women are role models and the soul of the household, and they are the roots of the house

Financial Independence: Financial independence is crucial for women as it provides them with security and autonomy. Being financially independent means that women do not have to rely on others for their basic needs. It enables them to make their own decisions, confidently spend money on themselves, and not compromise in any situation**.**

Family Support: Family Support is an important factor in women's empowerment. When a women gets support from her family women feels confident, happy, and motivated, the opportunity to achieve goals and dreams, and encouragement. When family members financially support women then women start their own businesses and achieve their goals and aims.

Education: Education is one of the key factors of Women's empowerment. Education is help in to increase knowledge and skills. Skills and knowledge provided the women to earn for themselves and their families, involved in the workforce. Education is increased the decision- making power at the household level and in the community. Education is helping to improve health issue self and their family. In Marathi, there is a Phrase "*शिकलेली आई घरालाा पढ नेई*" that shows emphasizes the importance of education for females.

Decision-making: Women have the ability to take the right decision. Women can take the right decision on the household level. In society, women do not have decision-making power as compared to men. But the women take good decisions for their family and their life. In the rural area taking a decision man as compared to women.

REVIEW OF LITERATURE

Dhanalakshmi and Rajini (2013) conducted a literature review on the self-help groups (SHGs) movement in India. The review aimed to provide insights to researchers in this field and provided historical context on the development of SHGs in India. The paper revealed that most literature on the subject focuses on empowerment as an outcome rather than a process, and studies exploring the connection between SHGs and the empowering process are few and far between.

According to Kondal's (2014) study on women's empowerment through Self-Help Groups in the Gajwel Mandal of the Medak District in Andhra Pradesh, straightforward statistical methods were employed. The study found that the Gajwel Mandal area's self-help groups have a positive impact on women's empowerment.

According to Pradeep and Rai's (2019) research on "Women empowerment through self- help groups in Bolar village of Karnataka," the self-help group participants were respected by their families and the larger community because they contributed to the family's income generation, consumption, and savings.

Self-help groups (SHGs) are a Peoples Education and Development Organisation programme, according to sentence. Self-Help Groups (SHGs) are a programme that aims to empower women. Singh, S., and Kaur, S. (2019), 18 have edited a book titled "Empowerment of Women Through Self-Help Group: Impact of Self-Help Groups on Empowerment of Women in Ludhiana and Hoshiarpur District of Punjab" that examines the SHGs programme and attempts to evaluate the social and economic impact on households of SHG members. "They saw that SHGs programme participants were more involved in decision-making and aware of a variety of organizations and programmes," the report reads. The members also receive information on the many credit choices and report having some documentation of their household's income, food security, and better level of living.

Singh, P., & Kumar, A. (2020). Self-Help Groups and Women Empowerment In rural Uttarakhand,India, this empiricastudyinvestigates the effectof self- help organizations on women's emancipation. The authors discover that SHGs can boost women's participation in income-generating activities and enhance their financial literacy. The authors do note some difficulties SHGs face, though, including poor member support and restricted access to credit.

Mohanty, P., & Nayak, N. (2020). Self-help groups and social capital: Empowering women in Odisha, India. In India, SHGs have been shown to support women's social empowerment. According to a study done in the state of Odisha, women who belonged to SHGs had higher levels of social capital, including better access to resources and knowledge as well as more involvement in local decision-making

Bhowmik, S. K., & Mukherjee, S. (2021). Women's Empowerment and Self-Help Group (SHG): An Exploratory Study in Rural India. The study found that the SHGs can give Women a forum to express their issues and fight for their rights, which may result in more women taking part in local government decision-making.

(Chakrabart etal, 2021). Rural India's self-help organizations, women's empowerment,and financial inclusion. For promoting women's economic empowerment, SHGs have proven to be very effective. In research conducted in rural India, SHG members had higher levels of income, savings, and financial inclusion than non-members.

OBJECTIVE

a. To study the need for self-help groups in the Akola region

b. To study the problems faced by SHG women

c. To analyze the contribution of SHG to women empowerment.

d. To study the women participation in household-level decision-making.

RESEARCH METHODOLOGY

The current research is a descriptive type of research because the study was only limited to the Akola region. The population and sample in this study were all women of the SHG members in different forms in the Akola region and the sampling technique used a saturated sample. The

38 questionnaires were distributed to 100 respondents but the questionnaire returned as many as 95 respondents who could be analyzed further. The questionnaires were on the Likert scale, direct questions, and some case studies.

DATA SOURCES AND TOOLS

Primary data: Primary data collection by the self through a questionnaire and structured questionnaire. Using following methods

Interviews by using a questionnaire: - Open-ended Questions

Close-ended questions

Observation

Direct communication

Secondary Data: - Secondary data is obtained from publications, Articles, Books, Websites, and Journals.

Sampling: In the study selected Stratified Sampling Technique for the research of the Self- help Group of the Akola region of rural area.

Sample size: Around 100 persons

Sampling Area: Akola Region

Sampling Element: Only SHG women Members

ANALYSES OF STATISTICAL TOOLS

For simplicity of study, the data was tallied using percentages and presented as straightforward analytical tables. Figures were used to depict certain facts so that they could be understood visually. For tabulations and executing the various tests, MS Excel was utilized. The T-test in pairs and chi-square.

LIMITATION

1. The present study considers selected respondents in the rural area of the Akola region.
2. The research work based on the primary data which are collected from the respondents.
3. The respondent is from a rural area and due to their illiteracy and Sensitive nature it was very difficult to get answers to sensitive questions.

RESULT AND DISCUSSION

Table: 1 **Demographic variable of the respondent**

Variables		**No. of Respondents**	**Percentage**
Age	20-30 yrs	19	20
	30-40 yrs	36	37.9
	40-50 yrs	19	20
	50 yrs Above	21	22.1
	Total	**95**	**100**
Education Qualification	1st-0th	33	34.7
	SSC	22	23.2
	HSC	26	27.4
	Graduate	10	10.5
	Illiterate	4	4.2
	Total	**95**	**100**
Occupation	Household	30	31.6
	Self-Employed	25	26.3
	Farmer	3	3.2

	Labor	37	38.9
	Total	**95**	**100**
Type of Family	Nuclear Family	78	82.1
	Joint Family	17	17.9
	Total	**95**	**100**

Data Source: Calculated from primary data

Table 1 shows the demographic-wise data from respondents. The majority of the women are from the 30-40 yrs age group and most of the women are a primary and higher secondary education to other education. The majority of the respondent occupation is labor.

Table 2 **Benefits derived by Members through SHG**

Nature of Benefits	No. of Respondent	Percentage
Status in Society	75 out of 95	76.8
Financial Independence	81 out of 95	85.3
Instant Availability of Money	80 out of 95	84.2
Feeling Fearless, Self-confidence	63 out of 95	66.3

Table 2 shows the benefits derived by members through SHGs the data reveals that the majority of the respondent were getting the benefit is Financial Independence and Instant Availability of money.

Table 3 **Beneficiary of Government Scheme**

Response	No. of Respondent	Percentage
Yes	21	22.1
No	67	70.5
sometimes	7	7.4
Total	95	100

Sources: Primary Data

Table 4 **Problems Face by the SHGs Members**

Problems	No .of Respondent	Percentage
Lack of adequate knowledge	83	87.3
Lack of training Facilities	70	73.7
Less marketing knowledge	70	73.7
Lack of support from family	86	90.5
Group Conflict	8	8.4
Lack of education	81	85.2

Data Source: Calculated from primary data

The table shows the problems faced by the SHGs members. The majority of the respondent problem faced which is a lack of support from family.

STUDY OF HYPOTHESIS

1. **H0:** After joining SHGs, women's income does not significantly increase.
2. **H1:** After joining SHGs, women's income does significantly increase..

Table 5 the table shows the paired simple test for hypothesis testing which is the t-test

t-Test: Paired Two Sample for Means		
	Income after joining in the SHGs	Income before joining in the SHGs
Mean	1.747368421	1.494736842
Variance	0.807838746	0.550503919
Observations	95	95
Pearson Correlation	0.84346909	
HypothesizedMean Difference	0.1446	
df	94	
t Stat	2.179663232	
P(T<=t) one-tail	0.015890389	
t Critical one-tail	1.661225855	
P(T<=t) two-tail	0.031780777	
t Critical two-tail	1.985523442	

Data Source: Calculated from primary data

The tabulated number is less than the significant value (0.05), with the one-tail value being 0.015 and the two-tail value being 0.031. The alternative hypothesis is accepted, and the null hypothesis is disproved. After joining SHGs, rural women in Akola earn more money. An increase in income leads to more oney and a higher standard of living for women and their families, which ultimately leads to the empowerment of women in these areas.

H0: Women's participation in household decision-making on women's empowerment and education do not significantly correlate.

H1: Women's participation in household decision-making on women's empowerment and education do not significantly correlate.

Table 6 **Education and Participation in household decision-making**

						Grand
1st-9th	3	3	3	10	14	33
12th	5	5	2	9	5	26
10th	4	3	6	5	4	22
Graduate	6	2	1	1		10
Illiterate				2	2	4
Grand Total	**18**	**13**	**12**	**27**	**25**	**95**

Data Source: Calculated from primary data

RESULT OF CHI-SQUARE ABOVE TABLE

	Calculated value	DF	Table Value
Chi-square test	28.68	16	26.3

As a result, the alternative hypothesis is accepted and the null hypothesis is rejected. The estimated value exceeds the value in the table. The result is that women participation in household-level decision-making increases. Now women take a decision on the household level for the family. Educated women take the right decisions for their families.

H0: Women's empowerment is not significantly impacted by education.

H1: Women's empowerment is significantly impacted by education.

Variable	Original Sample	Sample Average	Standard Deviation	T statistics	P value	Discerption
Education> Communication Skill	95	0.190817469	0.4368	217.491	0.000423	H1= Accepted
Education> Money Management	95	0.214333707	0.4629	205.227911	0.003564	H1= Accepted

Data Source: Calculated from primary data

The tabulated value is 0.000423, which is less than the significant value (0.05), and the p-value is 0.05. The alternative hypothesis is accepted, and the null hypothesis is disproved. Women's empowerment is significantly influenced by education. Rural women's communication, money management, and self-confidence all rise with the aid of SHGs.

H0: SHGs women are not financially independent

H1: SHGs women are financially independent

Variable	Original Sample	Sample Average	Standard Deviation	T Statistic	P value	Discerption
Financial Independent>Ability to return Loan	95	0.371108623	0.0625	1520	0.000762	H1=Accepted
Financial Independent>spend money on themselves	95	2.103695409	1.4504	65.49917264	0.0000	H1=Accepted

Data Source: Calculated from primary data

The tabulated value is 0.000762, which is less than the significant value (0.05), and the p-value is 0.05. The alternative hypothesis is accepted, and the null hypothesis is disproved. SHGs women have achieved financial independence through company ownership. Financial independence enables women to improve their financial situations and spend money on themselves without their husbands' consent.

FINDING

The age range of the respondents is predominately 30 to 40. The majority of respondents are from labor. The majority of respondents are in primary school (grades 1–9). The majority of respondents reported financial freedom, enhanced self-confidence, and elevated social status as benefits of the SHG. For the government scheme for beneficiaries, the majority of respondents said no. After joining SHGs, the majority of respondents saw an increase in their level of income. Lack of support from the respondent's family is the primary cause of their issues. Decision-making at the household level has included women**.**

CONCLUSION

The current study on the Self-help group and women empowerment in rural areas of the Akola region. The study saw the positive relationship between SHG and women empowerment. In the study all null hypothesis is rejected and a significant increase in income after joining the SHGs. Through these studies, the researcher finds out that SHGs benefited women through various participation in decision-making, increased levels of confidence, financial independence, and increase status in society. The result of the study changes the life of rural women through the self-help group and also changes the men perception toward women position in society, to respect women work. Rural women live fearless and free, in society.

Since women play a crucial role in the nation's economic growth, the government should place equal emphasis on the contributions that women make to society and on ensuring their welfare.

SUGGESTIONS

1. Various Plans and Schemes of the government should be initiated for encouraging women.
2. Skill development training programs should be provided to improve their work efficiency.
3. Programs, workshops, and seminars should be conducted for women to create awareness regarding education, training, marketing skill, and management of money.

REFERENCES

1. Kondal, K. (2014). Women Empowerment through Self-Help Groups: A Study of Gajwel
2. Mandal of Medak District in Andhra Pradesh. Journal of Humanities and Social Science, 19(6), 56-67.)
3. Dhanalakshmi, R., & Rajini, K. (2013). Self-help groups movement in India: A review of the literature. International Journal of Scientific Development and Research, 4(12), 14-16.
4. Pradeep, M., & Rai, S. K. (2019). Women empowerment through self-help groups in Bolar village of Karnataka. International Journal of Community Medicine and Public Health, 6(11), 4848-4852.
5. Bhowmik, S. K., & Mukherjee, S. (2021). Women's Empowerment and Self-Help Group (SHG): An Exploratory Study in Rural India. Journal of Rural Studies, 81, 74-84.
6. Singh, P., & Kumar, A. (2020). Self-Help Groups and Women Empowerment: An Empirical
7. Study in Rural Uttarakhand. International Journal of Community and Cooperative Studies, (1), 1-14.

8. Mohanty, P., & Nayak, N. (2020). Self-help groups and social capital: Empowering women in Odisha, India. International Journal of Gender and Entrepreneurship, 12(2), 178-192.
9. Chakrabarty, S., Kumar, S., & Pradhan, S. (2021). Self-help groups, women's empowerment and financial inclusion in rural India. Journal of Asian and African Studies, 56(1), 50-66.

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PROSPECT OF FINANCIAL INCLUSION OF RURAL CUSTOMERS - A STUDY OF LANJUD VILLAGE

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ABSTRACT

The Indian government periodically takes attempts to extend financial services to people who are excluded by including clients in distant places. The current situation for the nation's economic development and inclusive growth has a large and crucial role in financial inclusion. Financial inclusion is the provision of inextensible financial services, such as banking, insurance, savings, credit, access to payments, and compensation facilities, to individuals who are excluded by formal financial services. The goal of financial institutions is not only to supply a sizeable cash flow to expand the Indian economy, but they may also be able to assist the government in promoting development for those living at the base of the economic scale. In this research, we are going to study the problems faced by people in rural areas due to the lack of financial institutions. The study of financial literacy, raising public awareness of financial inclusion, identifying concerns with KYC, examining the main goal of financial inclusion, and examining the factors that contribute to obstacles with financial inclusion are all major objectives of this research. The research employs a descriptive research design, and an interview schedule has been used to collect data. For this purpose, a customer from the rural sector was chosen. A questionnaire with 33 items with Likert Scale was developed and tested for its trustworthiness and validity prior to the distribution of the questionnaire and the collection of the responses through personal interviews. 100 respondents were selected from rural areas using a convenient sampling technique. Out of 100 people selected for gathering data, 83 people responded. The statistical instrument of the t-test assuming unequal variances is utilized for data analysis. There was a conclusion made from it. And it is concluded that people in rural areas are unfamiliar with financial institutions and do not utilize their services as a result of their lack of awareness.

KEYWORDS: Financial System, Bank, Financial Institution, Financial Services.

INTRODUCTION

In India, equality of opportunity has been the most crucial factor during the last ten years. Without financial inclusion, inclusive growth is impossible. The importance of financial inclusion in the country's economic development is crucial. Since a sizable segment of the rural population doesn't participate in the growing process, economic progress cannot be considered without financial inclusion. Financial inclusion is the dissemination of an economy's financial system to its citizens (Chakravathy, 2010). Financial inclusion, according to the Rangarajan Committee, is "the process of ensuring that vulnerable groups, such as weaker portions and low-income groups, have access to financial services and timely and enough credit when needed at an affordable cost" (Rangaragan Committee, 2008). Although a sizable portion of India's urban population also experiences financial exclusion despite having affordable access to banks, the majority of the country's underbanked or financially excluded population resides in rural areas. The availability of formal banking systems in rural areas is influenced by a number of factors. These include things like age, gender, financial literacy, income, poverty, severe documentation requirements for starting an account KYC, absence of a nearby financial institution branch, moneylenders, and so on. They also include things like high minimum balances or opening account balance requirements.

Financial inclusion aims to support sustainable growth and create jobs for the majority of people, particularly in rural areas. The group in rural areas lacks access to formal financial services. Groups such as weaker sections and low-income groups at an affordable cost" (Rangarajan

RURAL POPULATION CHARACTERISTICS

The people who cohabit in the witches' village and are undeveloped and uncultured make up the rural population. These individuals fit the overall description of sparsely populated areas outside of urban centers.

The rural population has the following traits:

1. Reduced population density: Compared to urban areas, rural communities have a lower population density.
2. Smaller median income: Compared to metropolitan areas, rural inhabitants earn less on average.
3. Older population: Senior adults and retirees make up a larger portion of the population in rural areas.
4. Greater poverty rate: Compared to metropolitan areas, rural areas have a higher rate of poverty.
5. Dependency on agriculture: Rural inhabitants are more dependent on agriculture for jobs and income.
6. Reduced educational attainment: Compared to metropolitan areas, rural communities have poorer educational attainment.
7. Restricted access

IMPLICATION OF BEING FINANCIALLY EXCLUDED

Financial exclusion is defined as having trouble accessing, being unable to obtain, or not having access to basic financial products and services including savings accounts, credit payment methods, or insurance. This idea is one of the key risk factors for poverty, according to the World Bank. The idea of financial exclusion, on the other hand, is described as a global issue that disproportionately affects the poorest person because of low income, limited access to the administrative process, geographic barriers, a lack of resources, financial literacy, KYC-related issues, socioeconomic barriers, and the moneylender.

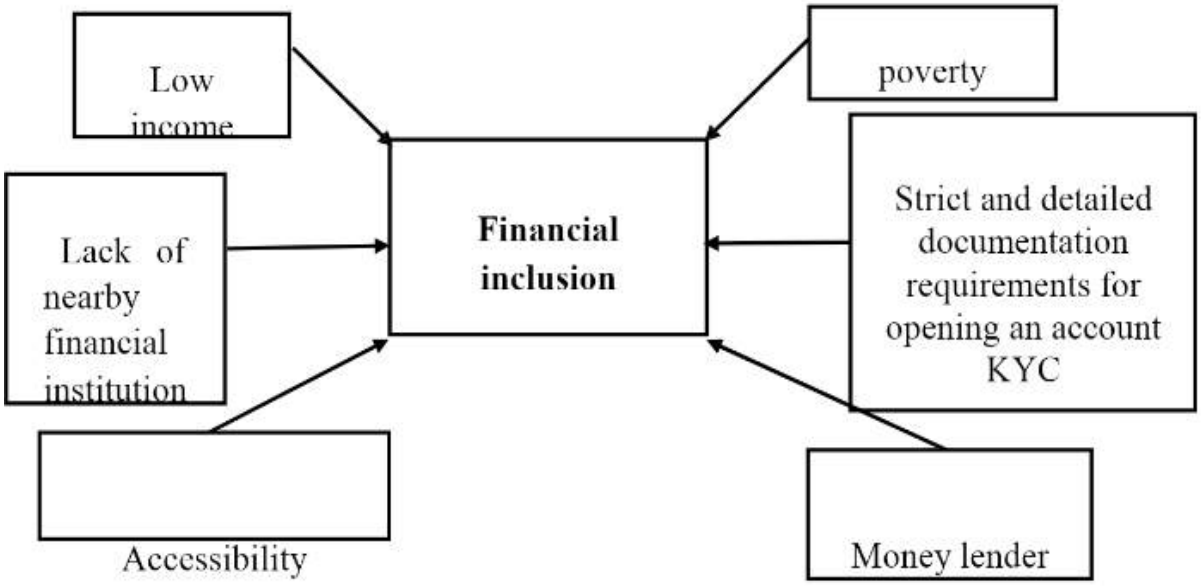


Figure 1. Model Conceptualizing the Factors Affecting Successful Financial Inclusion

LOW INCOME AND FINANCIAL INCLUSION

The only source of possible income stream uncertainty and irregularity, as well as limited access to financing and investments, is having a low income. The ability of people and enterprises to access and use financial services is defined as low income. Financial inclusion can be impacted by low income in a variety of ways, including limited access to financial services, limited knowledge of financial goods, lack of faith in financial institutions, expensive financial services, and limited access to technology.

POVERTY AND FINANCIAL INCLUSION

Financial inclusion is significantly impacted by poverty. Financial inclusion is impacted by poverty in rural areas. resources, education, and documentation are insufficient. Poorer communities have lower levels of financial literacy. Some communities' residents are unaware of the financial institution.

LACK OF NEARBY FINANCIAL INSTITUTIONS AND FINANCIAL INCLUSION

Financial inclusion may be hampered by the absence of nearby financial institutions, particularly for residents of rural or remote locations. Financial inclusion refers to people in rural areas having affordable access to financial services and goods. People won't know about the new plan or be aware of the bank if there isn't a bank nearby.

STRICT AND DETAILED DOCUMENTATION REQUIREMENTS FOR OPENING AN ACCOUNT KYC AND FINANCIAL INCLUSION

KYC requirements are stringent and comprehensive when creating a bank account. Rural residents, however, typically have poor incomes and limited financial awareness. This procedure is expensive and time-consuming. Financial inclusion may be harmed by stringent KYC standards in ways like the exclusion of vulnerable communities and a lack of financial awareness.

ACCESSIBILITY AND FINANCIAL INCLUSION

Accessibility is defined as physical characteristics, such as the absence of adjacent bank branches, ATMs are not available, and the required paperwork, among many others (Paramasivam & Ganeshkumar, 2013). Easily accessible banking

Accessibility is defined as the physical characteristics, such as the absence of adjacent bank branches, ATMs are not available, and the required paperwork, among many others (Paramasivan & Ganeshkumar, 2013). Innovative and accessible financial inclusion contributes to national development (Shafi & Medabesh, 2012). Easily accessible services help for complete inclusion (Kelkar, 2010), and it gives people more economic power (Lal,

2017). From the perspective of financial inclusion, accessibility primarily refers to how easy and convenient it is to help with the availability of banking solutions. Consumers can always find products and services, but not all services are accessible for a variety of reasons that differ from consumer to consumer. The adequacy of the financial services supplied is taken into account in the study when determining accessibility.

MONEYLENDER AND FINANCIAL INCLUSION

In rural places, moneylenders can pose serious obstacles to financial inclusion. Both positive and bad effects on financial inclusion can be caused by moneylenders. On the one hand, people who would not be able to access them through conventional financial institutions, such as banks in distant places, can use moneylenders to get access to credit and financial services. This may be more crucial in places with a lack of access to official financial institutions or where borrowers might not be eligible for borrowing from conventional lenders.

LITERATURE REVIEW

RJangra(2014) examines the actual state of financial inclusion in India in her research. Exclusion is a severe issue in India compared to other nations. Lack of bank branches, low income, and low literacy

are the driving forces behind her research. It was stated that in order to promote inclusive economic growth, it was necessary to focus on the loan delivery mechanism, with the liftmen of the weaker segment playing a key role.

Singh and Roy (2015) researched the idea of financial inclusion for their research report. They concentrated on the use of financial products and services like money transfers, loans, microloans, payment services, and insurance facilities. Based on the findings of this study, it is concluded that more effective policy actions can eliminate financial exclusion.

Dr. Ramakrishnan's (2011) Financial inclusion and financial literacy were explored in the research. It alludes to farmers who commit themselves as a result of their inability to pay off debt. Even if they lack the means to repay loans, the poor still take them out. It has been determined that financial inclusion in India places a larger emphasis on financial literacy.

Karthikeyan Kothandaraman Madurai (2011) In the research, financial literacy in India was examined. The primary goals of financial inclusion in India are to boost economic expansion and create jobs in rural areas. It is established that financial inclusion aids the growth of underdeveloped urban regions as well as disadvantaged places. The conclusion is that every Indian should participate in India's financial inclusion.

Monalisa(2015) The study assessed the degree of financial inclusion in the rural parts of the district of Hisar and gathered some strategies for accelerating the process. It also emphasized the issues with the current banking system that respondents in the chosen sample had, along with their solutions. There are 367 responders total in the sample size. Convenient and random sampling is the mechanism employed in the study to pick respondents as a sample.

Yashwant Kumar Vaid(2020) outlines the elements that promote financial inclusion in the research that is provided. In doing so, he researched several aspects and examined the theory. It looked at technology, availability, and accessibility. financial literacy, trust, perceived usage benefits, adequate revenue, and outreach. He conducted descriptive research.

Kumar(2014) explored financial inclusion, its status in India today, and the barriers standing in its way, along with potential solutions. According to a survey, the total number of scheduled Commercial bank branches climbed from 15273 in 2009 to 19327 in 2013, with an incredibly high average population of 12,100 people per bank branch.

Risen over the past ten years. There were 114014 ATMs nationwide as of 2013. The study's findings show that the majority of Indians continue to experience financial exclusion; factors contributing to this include illiteracy, unemployment, a lack of awareness, and the absence of local banking services. According to research, the government can improve financial services in rural areas of the nation by setting up a business correspondence and holding awareness campaigns.

RESEARCH METHODOLOGY

DATA TYPE, SOURCE, AND METHOD OF COLLECTION

Both primary data and secondary data are used to support this research work. Surveys and in- person interviews are used to gather essential information. The survey was chosen for Lanjud village. During this survey, 100 residents of Lanjud village were chosen. For the in-person interview and survey, a systematic questionnaire was created. The Likert Scale was used to assist create this questionnaire. where 5 stood for 'strongly agree', 4 for 'agree', 3 for 'neutral',

2 for 'strongly disagree', and 1 for 'disagree' served as its foundation. They questioned the populace in an indirect manner using this questionnaire. Those who are illiterate, have poor incomes, or fall below the poverty line are the people chosen for this survey. Selected individuals are those who fall below the poverty level. collected data from these individuals and then examined that data. Data gathering for the study continued after achieving satisfactory results that matched the study's goals. The secondary data source served as a theoretical foundation for the creation of the study report and

survey design. Books, periodicals, a website, and a newspaper are all included.

SAMPLING TECHNIQUE AND SAMPLE SIZE DETERMINATION

The t-test: assuming unequal variances is a statistical test used in the investigation.

Depending on the p-value for each variable, the null hypothesis (H0) is either accepted or rejected. The alternative hypothesis (H1) is accepted and the null hypothesis is rejected if the p-value is less than the significance level which is typically (0.05). The null hypothesis is accepted and the alternative hypothesis is disproved if the p-value is greater than the significance level.

Bank Account

Variables	Original Sample (O)	Sample Average (M)	Standard Deviation (STDEV)	t- statistic	P Value	Description
Bank Account > Financial Institution	83	2.4667	1.5706	52.8473	0.0012	H0 - Rejected **H1 - Accepted**
Bank Account > Documentation > Financial service	83	0.2398	0.4897	169.4978	0.0030	H0 - Rejected **H1 - Accepted**
Education > Technology > Financial inclusion	83	1.9374	1.3919	59.6304	0.0001	H0 - Rejected **H1 - Accepted**

Source: primary data calculated by author

Table 1. The result shows a statistical analysis of three variables related to financial inclusion

From the preceding table, it can be deduced that the alternative hypothesis is accepted and the null hypothesis is rejected for each of the three variables because the p-value is less than the significance level (0.05). According to the information given, it appears that statistical tests have been done to investigate three separate topics: bank accounts, financial institutions, bank accounts, documentation and financial service, education technology, and financial inclusion The alternate hypothesis (H1) has been accepted in place of the null hypothesis (H0) for the first hypothesis (Bank Account > Financial Institution). It follows that there is proof that there is a significant relationship between bank accounts and financial inclusion. The alternative hypothesis (H1) has been accepted in place of the null hypothesis (H0) for the second hypothesis (Bank Account > Documentation > Financial Service), demonstrating that there is a substantial connection between possessing the right documentation and being able to obtain financial services. The alternative hypothesis (H1) has been accepted in place of the null hypothesis (H0) for the third hypothesis (Education > Technology > Financial Inclusion). This shows that there is proof of a strong connection between financial inclusion, technology, and education.

FINANCIAL SERVICES

Variables	Original Sample (O)	Sample Average (M)	Standard Deviation (STDEV)	t- statistic	P Value	Description
KYC formalities > Financial institution	83	1.2230	1.1059	75.0513	0.0038	H0 - Rejected **H1 - Accepted**
Financial service > Satisfaction	83	1.7993	1.3414	61.8767	0.0028	H0 - Rejected **H1 - Accepted**
Financial inclusion > Low income	83	1.9374	1.3919	59.6304	0.0021	H0 - Rejected **H1 - Accepted**

Source: primary data calculated by author

Table 2. The result shows a statistical analysis of three variables related to financial inclusion

From the preceding table, it can be deduced that the alternative hypothesis is accepted and the null hypothesis is rejected for each of the three variables because the p-value is less than the significance level (0.05).

According to the information given, it appears that statistical tests have been done to investigate three separate topics: KYC formalities and financial institutions, financial services, and satisfaction, and financial inclusion and low income.

The alternate hypothesis (H1) has been accepted in place of the null hypothesis (H0) for the first hypothesis (KYC formalities > financial institution). It follows that there is proof that there is a significant relationship between KYC formalities and financial institutions.

The alternative hypothesis (H1) has been accepted in place of the null hypothesis (H0) for the second hypothesis (financial service > satisfaction), demonstrating that there is a substantial connection between financial services and satisfaction.

The alternative hypothesis (H1) has been accepted in place of the null hypothesis (H0) for the third hypothesis (financial inclusion > low income). This shows that there is proof of a strong connection between financial inclusion and low income.

FINDING AND CONCLUSION

Accessing financial services in rural areas is always challenging because people have limited income, limited financial services, education, and advanced technology are the barriers to financial inclusion.

According to the results of the t-test assuming unequal variances, the results showed good sampling quality and sufficient importance of the variables employed in the questionnaire. The findings of this research paper support the need for policies and programs that foster financial inclusion and accessibility to financial services in rural areas. By lowering the hurdles to KYC formalities, enhancing financial services, and fostering financial inclusion, rural communities can gain access to credit and other financial services, increase economic opportunities, and improve financial outcomes.

The significant relationship between KYC formalities and financial institutions is one of the main findings of this study. KYC formalities, such as confirming customers' identities and keeping track of transactions, are crucial for financial institutions to mitigate risks and comply with regulatory requirements, but they can also be a barrier to financial inclusion, especially for those who live in rural areas and may have limited access to financial services.

The second important discovery is how closely financial services and satisfaction are related. This emphasizes how crucial it is to offer customers high-quality financial services that cater to their needs and interests. This is crucial since customers may have few options for financial services in rural locations. Financial institutions can raise customer satisfaction and encourage financial inclusion by enhancing financial services and modifying them to the needs of rural communities.

The third important finding is that there is a significant relationship between financial inclusion and low income, which emphasizes the significance of promoting financial inclusion as a means of reducing poverty and improving financial outcomes for low-income individuals and families in rural areas. Rural communities help in ensuring economic opportunities and financial stability by enhancement of credit services, savings accounts, and other financial services

REFERENCES

1. Gadewar, A.U, “Financial Inclusion: Issues and Challenges”, Vinimaya, Vol.XXVII (4), 2006-07, Pp.49-56 4.
2. Yashwant Kumar Vaid, Vikram Singh and Monika Sethi, Determinants of Successful Financial
3. Inclusion in Low-Income Rural Population
4. Subba Roa, D (2009), “Financial Inclusion Challenges and Opportunities”, speech delivered

by Shri Duvvuri Subba Rao, Governor, RBI, at the Bankers' Club in Kolkatta on December 9, 2009. 20. "A Study on Financial Exclusion in Australia" a Report by Chant Link

5. Rana Mitra (2007), "Financial Inclusion meeting the Challenge", People's Democracy, Vol.XXXI-II, No.17, April 29, 2007
6. Someshwar Babar "Financial Inclusion in Rural Area: A Case Study" February 2016 VK Shrivastava "Financial inclusion: a study of rural area of Udaipur" 2016
7. Serrao, M. V., Sequeira, A. H. (2012). Role of Financial Inclusion in Rural Transformation-A Need for Multidimensional Approach. In K.V.M. Varambally (Ed.), Rural Transformation and Development Perspectives- Managerial Challenges (pp 85-92). New Delhi: Excel India Publishers Joseph Massey "Role of Financial Institutions in Financial Inclusion" (2010) FICCI's Banking & Finance Journal.
8. Assocham: Summit on "Financial Inclusion & Growth" 10th May 2010.

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IMPACT OF STRESS ON EMPLOYEES BEHAVIOR IN ORGANIZATION - A STUDY OF KHAMGAON REGION

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Abstract

The fast-paced workplace of today has made stress a common occurrence. Stress' detrimental effects on employee behavior in the workplace are a major concern for managers and employers equally. This research will examine how stress affects employee behavior in companies, including the causes, signs, and ways that stress can result in undesirable behavior. The goal of the research is to explore and analyze stress's effects on employees' behavior and performance in the organization. This study used a Quantitative method by describing questions as to 100 employees of the organization and a Qualitative using a semi-structured interviewing technique with 100 employees from diverse organizations across several industries. Purposive sampling was used to choose the participants, guaranteeing that different demographics, including age and work experience, were represented. Saturated sampling, which takes the same number of samples as the population, was applied in this investigation.

100 respondents made up the final sample that satisfied the requirements. The research explores the role of organizational ionfactors such as management style and work environment. The findings of this research will expand our knowledge of how stress affects worker behavior in workplaces. The results can aid organizations in creating efficient plans for decreasing staff turnover and absenteeism, enhancing employee involvement, and managing employee stress. This research is significant because it emphasizes how crucial it is for businesses to focus on employee well-being and deal with workplace stress in order to encourage positive employee behavior and achieve organizational goals.

Key Word:- Employee behavior, Job performance, Job satisfaction, Work engagement, Micro-management, Employee turnover, Employee retention

IMPACT OF STRESS ON EMPLOYEE'S BEHAVIOR IN ORGANIZATION" - A STUDY OF THE KHAMGAON REGION

Introduction:-

According to(Jallow& Lawrence, n.d.), individuals may experience anxiety in response to pressure or threats. This reaction is particularly common in situations where individuals perceive a lack of control. Stress can manifest in different forms, including severe anxiety, and occasionally both short-term and long-term worry. The term "stress" originates from the Latin word "strictus," meaning "to tighten," and refers to a state of mental or physical strain resulting from various life circumstances or events. Such strain may give rise to feelings of frustration, helplessness, or anger(Jallow& Lawrence, n.d.).

Stress is a universal problem faced by individuals that has a negative impact on the productivity of the organization they work for. While stress is inevitable, it is not clearly understood and has different definitions depending on the person. This causes issues for employers, such as employee retention and disengagement, decreased efficiency and productivity, and work-life balance problems. Workplace stress has been increasing for decades due to the pressure from personal lives and work demands. Employers are responsible for managing their stressed employees, who face stress in their pursuit of improving their skills to succeed in a highly competitive global market. *(Beulah Viji Christiana .M),(Michie, 2002;John H. Rizzo, Stephen J. Carroll, and Henry L. Tosi, 1994; Jeremy Stranks, 2005)*

Stress is a common experience among employees in many organizations, which can be caused by various factors such as workload, interpersonal conflicts, job insecurity, and lack of support from supervisors. The impact of stress on employee behavior is a significant concern for employers and employees alike. This qualitative study aims to investigate how stress affects employee behavior and what that means for organizational performance. In addition, chronic stress can lead to exhaustion, a state of emotional, mental, and physical weariness. This can cause employees to feel cynical, detached, and less motivated. This can result in decreased job satisfaction and increased turnover rates as employees may look for less stressful and more fulfilling work opportunities elsewhere. Employers need to recognize the signs of stress in their employees and take steps to reduce its effects. This may include providing resources such as employee assistance programs or wellness initiatives, encouraging a healthy work-life balance,

and developing a helpful and positive atmosphere at work. By addressing stress in the workplace, employers can help their employees remain engaged, productive, and healthy(Padhi& Kumar Panda, n.d.). *Adams, M. (2023). Exploring the impact of stress on employee behavior and its implications for organizational effectiveness.*

LitterateurReview:-

a) Workplace stress can have negative effects such as physical ailments, emotional imbalance, and lifestyle disturbances, which can lead to decreased productivity, low commitment, increased absenteeism, and more turnovers.(Padhi& Kumar Panda, n.d.)

b) The father of stress, Hans Selye, defined stress as the body's general reaction to any demand for change 1936. Later, in 1979, he added to this concept by stating that people only sense concern as a result of the demands imposed on them as a result of having too many options. (Selye, 1979)According to *Margot (1979)*, worry is any stimulus that disrupts an individual's body or mind homeostasis, such as changes in lifestyle or life situations like marriage, divorce, pregnancy, or job loss. *Nweze (1984)* stated that stress isa procedure that is threatened by environmental occurrences or factors an individual's welfare, such as economic instability, religious intolerance, and insecurity.

c) The strategy for new hires should include a permanent provision for stress reduction. The most effective technique for addressing orientation and stress reduction is ROPES (Realistic Orientation Programs for New Employees' Stress). During orientation, new hires should be made aware of potential setbacks and how to handle them. Although stress can be harmful to organizational advancement and worker productivity, it can be managed with the right policymaking and source identification. *(Christian, 2016)*

d) *Levi's (1996)* research found that anxiety is brought on by various orders or stresses, like an improper fit between an individual's needs and capabilities and the demands of their environment.

e) Various people may interpret stress in various ways. *Davis (1981)*defined tension as a source of worry on an individual'sbodily functions, feelings, and mental states, while *Di Martino (2003)* succinctly stated stress as the emotional and physical response that occurs when job requirements do not match an individual's capabilities.

Objective of Study:-

1. To investigate the effects of stress on employee attitudes and behavior towards colleagues and customers.
2. To understand how stress affects employee absenteeism, turnover, and job satisfaction.
3. To investigate how micromanagement practices affect employee stress levels and job satisfaction.
4. To understand the relationship between work-life balance and stress among employees.

ResearchMethodology

At the organization, this research employs a quantitative method. All organization personnel from various industries made up the population and sample for this study, which employed a saturated sample methodology. The questionnaire was given to 100 responders, however it only returned as many as 70 who could be further examined. This study used a questionnaire as its primary method of data collecting, and each answer point was assigned a Likert score.

Table no.1: Measurement scale, operational definition, items, and variables

No.	Variables	Operational definition	Item	Measurement scale
1.	**Retention**	A company's capacity is determined by its ability to retain personnel or by the number of people who leave their jobs in a certain period of time, whether freely or involuntarily.	a. Employees feel overloaded and unsupported are more likely to leave their jobs. b. Poor support from the work environment more likely to leave their job. c. The poor leading style gives the wrong direction and affects employees preference to switch. d. Employees feel insecure in their job. e. Poor communication between employees and management. f. Lack of compensation would be the reason for leaving an organization. g. There is still a dearth of workplace employee empowerment.	Likert scale with score; 1= Most unlikely; 2= Unlikely; 3= Neutral; 4= Likely; 5= Most likely .

2.	**Work–life Balance**	Stress can have a negative impact on an employee's capacity to maintain a healthy balance between work and home life, leading to burnout and poor job satisfaction.	a. Having the ability to control one's work schedule and workload can help employees achieve a better work-life balance. b. A healthy balance between work and personal life depends on the workplace environment. c. Employees may be able to combine their personal and professional lives by having a flexible work schedule. d. Personal life activity and family commitments, can impact work-life balance. e. Managers who understand and support can help employees manage their workload and reduce stress levels.	Likert scale with the score; 1= Strongly disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly agree.
3.	**Micro-management**	Micromanagement is a type of managerial approach in which the manager excessively monitors and regulates the work of their subordinates, often	a. The lack of trust can make employees feel undervalued and can contribute stress. b. The lack of autonomy can contribute to feelings of	Likert scale with score; 1= Strongnegative; 2= Slight negative; 3= Neutral; 4= Slight positive;

		to the point of interfering with even the minutest details.	helplessness and frustration which decrease motivation. c. Employees feel like they can never meet their manager's expectations.	5= Strong positive.

Statistical Analysis

The different variables have different analyses by applying different tests. Therefore, as the sample size is 100 from the population, here the t-test is appliedto the given data to prove the research.

1. **Retention**

H0 = There is no discernible effect of stress on the organization's ability to retain employees.

H1= The organization's employee retention is significantly impacted by stress.

Authors used the "t-Test: Two Sample for Means" to examine their hypotheses. A significant influence exists if the p-value is less than 5% (0.05). Assuming a two-tailed test with a 95% confidence level, if the t-statistic value is higher than 1.96, it means that the computed p-value is less than or equal to 0.05. This indicates that there is sufficient evidence to reject the null hypothesis and draw the conclusion that there is a statistically significant difference between the variables under study or a link between them.

Table no.2: Hypothesis Test

Variables	Original Sample (O)	Sample Average (M)	Standard Deviation (STDEV)	t-statistic	P Value	Description
Retention > Recognition	100	1.776162	1.3327	75.0341	0.3819	**H0 - Accepted** H1 - Rejected

Compensation>Recognition> Work environment	100	9.8771	3.1427	74.7056	0.0243	H0 – Rejected **H1 – Accepted**
Retention > work-life balance	100	1.5863	1.2595	79.3985	0.0028	H0 - Rejected **H1– Accepted**
Retention > Stress > WLB	100	0.4463	1.0118	98.8290	0.0009	H0 - Rejected**H 1 – Accepted**
Retention > work environment	100	1.9292	1.3890	71.9966	0.2944	**H0 - Accepted** H1 - Rejected

Source: Calculated by Author

2. Work–life balance

The authors used the "t-Test: Two Sample for Means" to examine their hypotheses. A significant influence exists if the p-value is less than 0.05 (5%). The computed p-value is less than or equal to 0.05 if the t statistic value is greater than 1.96, assuming a two-tailed test with a 95% confidence level. This indicates that there is sufficient evidence to reject the null hypothesis and draw the conclusion that there is a statistically significant difference between the variables under study or a link between them.

H0 = Work-life balance and employee job satisfaction have no link.

H1 = The association between work-life balance and job satisfaction among employees is considerable.

Variables	Original Sample (O)	Sample Average (M)	Standard Deviation (STDEV)	t-statistic	P Value	Description
Workload> Working hours	100	1.4621	1.2092	82.7005	0.0200	H0 - Rejected **H1 - Accepted**

Workload>Work-life balance	100	1.5863	1.2372	80.8290	0.0261	H0 - Rejected **H1 - Accepted**
Workload> Stress	100	1.1277	1.0619	94.1689	0.0E+00	H0 - Rejected **H1 - Accepted**
Work-life balance>stress>oversensitive	100	2.0011	1.4193	70.4570	0.0000	H0 - Rejected**H1 - Accepted**
Workload> Hobbies	100	1.4678	1.2028	83.1398	0.0003	H0 - Rejected **H1 - Accepted**

Source: Calculated by Author

3. Micro-management

Authors used the "t-Test: Two Sample for Means" to examine their hypotheses. A significant influence exists if the p-value is less than 0.05 (5%). Assuming a two-tailed test with a 95% confidence level, if the t-statistic value is higher than 1.96, it means that the computed p-value is less than or equal to 0.05. This indicates that there is sufficient evidence to reject the null hypothesis and draw the conclusion that there is a statistically significant difference between the variables under study or a link between them.

H0= In an organization, there is no discernible connection between stress and employee behavior.

H1= Micromanagement and stress have a substantial impact on employee behavior in an organization.

Variables	Original Sample (O)	Sample Average (M)	Standard Deviation (STDEV)	t-statistic	P Value	Description

Delegation> Micro-management	100	1.0590	1.0291	97.1749	0.0016	H0 - Rejected **H1 - Accepted**
Delegation> Stress > Behavior	100	1.0606	1.0140	98.6200	0.0038	H0 - Rejected **H1 - Accepted**
Delegation>Behavior >Communication	100	1.0481	1.0238	97.6793	0.1083	**H0 - Accepted** H1 - Rejected

Source: Calculated by Author

Finding & Discussion

The objective of the research is to investigate how stress impacts the behavior of employees working in organizations in the Khamgaon area. Stress is a common problem experienced by individuals, and workplace stress has been on the rise due to personal and work-related demands. Both employers and employees are concerned about the effect of stress on employee behavior, which can lead to reduced productivity, low commitment, increased absenteeism, and employee turnover. Burnout, which is a state of physical, mental, and emotional exhaustion resulting from prolonged stress, is also a significant concern. The study seeks to examine how stress affects employee attitudes and behavior toward colleagues and customers, absenteeism, turnover, and job satisfaction. Additionally, it aims to investigate how micromanagement practices impact employee stress levels and job satisfaction, as well as the link between work-life balance and stress among employees. The research methodology employed in the study is quantitative, and a sample of 100 employees from various industries in the Khamgaon region was analyzed using a Likert scale questionnaire.

1. **Retention: -** The given data support the acceptance of the hypothesis (H1) that stress has a huge impact on deciding employee retention in the organization, as indicated by a t-statistic of 98.8290 and a p-value of 0.0009. These findings imply that the level of

stress experienced by employees has a considerable influence on their decision to continue working with the organization or leave.The primary determinant affecting retention is stress, which can impact an employee's work-life balance and ultimately lead to their decision to stay or leave.

Variables	Original Sample (O)	Sample Average (M)	Standard Deviation (STDEV)	t-statistic	P Value	Description
Retention > Stress > WLB	100	0.4463	1.0118	98.8290	0.0009	H0 - Rejected **H1 - Accepted**

Source: Calculated by Author

2. **Work-life balance :-** Based on the provided data, it appears that the null hypotheses (H0) for all the tested variables have been rejected. This indicates that there is a meaningful correlation between each variable and the job satisfaction of employees. Furthermore, the alternative hypotheses (H1) have been accepted for all the variables. Therefore, it can be concluded that workload, work-life balance, stress, oversensitivity, and hobbies all have a significant relationship with employee job satisfaction. However, it is essential to note that statistical significance alone does not necessarily translate to practical significance. Additional analysis may be necessary to determine the practical impact of these relationships. The main factor that influences work-life balance is oversensitivity, which can result in stress and have an adverse effect on the balance between work and personal life for employees.

Variables	Original Sample (O)	Sample Average (M)	Standard Deviation (STDEV)	t-statistic	P Value	Description
Work-life balance>stress>oversensitive	100	2.0011	1.4193	70.4570	0.0000	H0 - Rejected**H1 - Accepted**

Source: Calculated by Author

3. **Micro-management:-** According to the statistical research, there is a strong correlation between micromanagement and stress as well as delegation and stress on employee behavior in an organization. This is because for these variables, the alternative hypothesis is accepted and the null hypothesis is rejected. There is no evidence of a significant relationship between delegation, behavior, and communication; hence the null hypothesis is accepted for this relationship. The alternative theory is therefore disproved for this variable.

Scope for further research

The specific causes of workplace stress and how they change across various industries and job positions might be explored in more detail. Additionally, to gain a deeper understanding of how stress affects employee behavior and attitudes towards work, qualitative research techniques like focus groups or interviews could be used. The study could also look at how different stress management practices and regulations affect employee satisfaction and stress levels. Future studies could also look into how organizational culture and leadership practices affect stress levels and work satisfaction among employees. Finally, longitudinal research could be done to find out how stress affects worker health and happiness over time.

References:-

Nethravathi, P. S., Aithal, P. S., Babu, J. G., Soans, S., &Jayaraj, H. (n.d.). A Study on Employee Retention as a Tool for Improving Organizational Effectiveness.

Lewis II, A. V. (n.d.). Effectiveness of Employee Retention Strategies in Industry.

Jallow, Y. A., & Lawrence, O. A. (2020). Management within Organizations and Its Effects on Employees' Performance: A Case Study on Three Different Organizations in The Gambia. College of Management and Information Technology (CMIT) American International University West Africa.

Christiana, B. V. (n.d.). Impact of Stress Management on Human Competencies. Institutional Affiliation: Panimalar Engineering College, Bangalore Trunk Road, Nasarethpettai, Poonamallee Chennai - 602103.

Padhi, B., & Panda, A. K. (n.d.). A Study on Employee Engagement Models for Sustainability of Organisation. Gandhi Engineering College, Bhubaneswar & International Society for Social Services (ISSS) Sahid Nagar, Bhubaneswar-7 (Odisha).

Simon, N., &Amarakoon, U. (2015). Impact of Occupational Stress on Employee Engagement. Proceedings of 12th International Conference on Business Management.

Kamila, M. N., &Muafi, M. (2023). The influence of job stress and job boredom on employee performance mediated by cyberloafing behavior: Evidence in Indonesia. International Journal of Research in Business and Social Science, 12(1), 99-109.

Robbins, S. P., & Judge, T. A. (2013). Organizational Behavior (15th ed.). Pearson.

Salsabilla, A., Setiawan, M., &Juwita, H. A. (2022). The effect of workload and job stress on job satisfaction mediated by work motivation. International Journal of Research in Business and Social Science (2147- 4478), 11(9), 97–106. https://doi.org/10.20525/ijrbs.v11i9.2209

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SYSTEMATIC STUDY ON ATTRITION OF WORKERS OF UNORGANISED SECTOR IN KHAMGAON REGION

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ABSTRACT

The objective of this research is to systematically investigate the attrition of workers in the unorganized sector in the Khamgaon region and reasons behind it. The study examines unorganized sector in Khamgaon consists of workers who are engaged in various activities such as working with retail business and wholesale business, agriculture, and construction, among others. As unorganized sector is facing, high attrition of workers, is big human resource challenge. Most of the retail and wholesale businesses are suffering from an issue of high attrition amongst workers. The research methodology involves the use of both qualitative as well as quantitative data collection techniques, including surveys, interviews, and focus group discussions. This study used a quantitative and qualitative method by describing to 100 workers of this sector and using a structured interviewing technique with 71 responses from diverse organizations across several businesses. Random sampling technique was used in this study. The study finds it out, the factors responsible for high levels of attrition in this sector, such as long working hours, low wages, job insecurity and poor work culture. The findings of the study, has implications for policymakers, labor organizations, and workers in the region. The ultimate aim of the study is to present a better understanding of the problems faced by workers in the unorganized sector and promote the development of a more equitable and sustainable economy in this region. The conclusion of the study has provided insights into the challenges faced by

workers in the unorganized sector and inform policies and interventions to address their concerns.
Keywords: Labor, Unorganized Sector, Attrition, Turnover.

INTRODUCTION

"The Unorganized Workers' Social Security Act of 2008", defines unorganized workers as those people who work from home, are independent contractors, or are engaged for pay in an unorganized area. Private businesses with less than 10 employees that sell and produce goods and services using exclusive or cooperative methods might be included in the unorganized sector, which in general works outside of government rules. Wholesale and retail businesses fall under this sector, as well as workers who face challenges such as low wages, poor working conditions, long hours, health risks, and job insecurity.

Attrition refers to a deliberate reduction in staff numbers in a business, often through downsizing. Workers may leave a business due to reasons such as retirement, resignation, or elimination of a position, among others. A company's success and growth depend largely on the performance and dedication of its workers, making manpower a crucial component of any business.

'Worker turnover' is the number or percentage of workers who leave a business and are replaced by new workers. High workload, job insecurity, lack of career opportunities, low pay, insufficient incentives, and inadequate job satisfaction can all contribute to worker turnover. Job

satisfaction is one of the most significant factors in worker turnover. Workers make up the workforce of a business or economy and their performance is crucial to an organizations success. An important section of the workforce in India is employed in the unorganized sector, which is a part of the Indian economy. The sector is known for its informality, with workers frequently missing social security benefits and other types of protection that are provided to workers in the formal sector. As a result, unorganized sector workers frequently endure unfair working conditions and inadequate compensation.

The necessity to address the difficulties faced by workers in the unorganized sector has recently gained more attention. “The Unorganized Workers' Social Security Act of 2008”, which established a legal framework for the social security and welfare of unorganized workers, was a step in the right direction. However, the Act's implementation has been sluggish, and many industry workers still face major obstacles.

Job uncertainty is one of the main problems that workers in the unorganized economy deal with. Workers in the sector are sometimes not covered by formal employment contracts, making them susceptible to a sudden change in employment status. This is especially true in industries like construction and agriculture, where activity is frequently seasonal and influenced by demand changes.

Low pay is another significant issue that unorganized sector workers must deal with. Many sector workers receive pay that is far less than the minimum wage and do not have access to essential social security benefits like healthcare and pension plans. This not only has an impact on how workers and their families make a living, but it also has wider economic ramifications because it reduces the spending power of a sizeable percentage of the population.

A multifaceted strategy will be needed to overcome the difficulties faced by workers in the unorganized sector. This might entail taking steps to formalize the sector, increase worker protection and benefits, and raise pay and working conditions. Such actions could not only enhance the quality of life for industry workers, but also advance the Indian economy.

LITERATURE REVIEW

a) De Nisi, A.S., & Gryphon, R.W. (2009). The primary cause of employees leaving their occupations: dissatisfaction with their positions. In Research in Personnel and Human Resources Management (Vol. 28, pp. 266-268). Emerald Group Publishing Limited.

b) Armstrong, M. (2009). Employee or worker wastage index. In Armstrong's Handbook of Human Resource Management Practice (11th ed., p. 498). Kogan Page.

c) Ramani, V., & Raghu Nandan, K.S. (2008); Misra, S. (2007); Prakash, J., & Chowdhary, N. (2004). Causes of growing attrition issue: a survey of the literature and solutions. International Journal of Human Resource Management, 15(3), 444-454.

d) Porter, L.W., & Steers, R.M. (1973). Job happiness. In Organizational Effectiveness: A Comparison of Multiple Models (pp. 207-255). Academic Press; Sharma, P. (2006). Attrition and its causes and challenges: an overview. Indian Journal of Industrial Relations, 42(4), 655-670.

e) Tiwari, Y., & Srivastava, A. (2005). Causes of attrition and retention, employee engagement, motivation, and satisfaction levels: a model for maximizing retention. Indian Journal of Industrial Relations, 40(2), 185-200.

f) Ranjitham, D. The organizational performance has suffered greatly from the staggering increase in attrition rates. The organization's costs are significantly increased by the high attrition rate. Despite its constant growth, the business confronts some inconveniences or issues specific to this sector.

g) Employee attrition and retention may be caused by the influences of numerous causes, both good and bad (Zhang, 2005). Voluntary attrition, according to F. Casico and W. Bourdeau (2008), occurs when an employee leaves a company, he may do so for personal reasons, to pursue another job opportunity, to move with his family to a new location, or both. Due to the growing importance of experienced and intellectual capital for sustainable competitiveness (Boudreau & Ramstad, 2007; Lepak & Snell, 2002), voluntary turnover is a significant problem for contemporary organizations.

h) Job security and salary & benefits are occupational stresses in the business sectors, according to Coetzer and Rothman (2002), while target pressure, work-life balance, and job security are stressors that could cause attrition (Pathak and Tripathi, 2010).

i) Job satisfaction by itself, according to Howard and Homma (2001), is insufficient to predict attrition intentions. They advised making organizational commitment a significant component of the attrition model and treating it as an independent variable.

RESEARCH METHODOLOGY

a) Problem Identification:

1. Unorganized sector is facing, high attrition of workers is big human resource challenge.
2. Most of retail and wholesale businesses suffering high attrition of workers problem.
3. In smaller regions like Khamgaon, appropriate workers are not easily found and if found won't stay for longer time period in unorganized sector.

b) Objectives:

1. To study business wise voluntary workers turnover and attrition in khamgaon region.
2. To study background of workers and socio-economic condition behind joining business organization.
3. To study work environment of business organization.
4. To study or to understand factors which are leading to attrition.
5. To come up with proper solution framework regarding the problem.

c) Data Analysis:

a. Primary Data Collection Method

   i. Primary data is collected through structured questionnaire.

   ii. By personal interview.

   iii. By discussion.

b. Secondary Data Collection Method

i. The secondary data is collected through internet and literature from books and brochure.
ii. From journals and research works.
iii. Research type: Descriptive type of research.

d) Sampling:

i. Sample size: 71
ii. Sampling technique: The sampling technique used is random sampling technique.

e) Limitations:

i. Some of the respondents want to hide the fact that they did not respond and participated in the survey wholeheartedly.

ii. Findings depend upon the willingness and mental condition of the respondents.

iii. It was challenging to find accurate information on attrition rates in the unorganized sector, which frequently lacks proper record-keeping procedures.

iv. Access to unorganized sector workplaces and employees was challenging for a variety of reasons, including safety concerns, legal limitations, and employers and employees lack of cooperation.

f) Hypothesis of the study:

For different factors different hypothesis is being considered,

Hypothesis1:

H0: Work pay have no relation with attrition of workers.

H1: Work pay have relation with attrition of workers.

Hypothesis 2:

H0: Job satisfaction does not impact on attrition.

H1: Job satisfaction impacts on attrition.

Hypothesis 3:

H0: Reward and Recognition have no relation with attrition.

H1: Reward and Recognition have relation with attrition.

g) Result and Discussion:

For hypothesis 1, factors considered here is work pay and correlation between income of workers and satisfaction for compensation benefits of workers is being taken through which relation of work pay with attrition is known.

Table 1:

The below table shows, the t-Test: Paired two sample for means test for hypothesis testing,

t-Test: Paired Two Sample for Means		
	5	*4*
Mean	2.971830986	3.661971831
Variance	1.913480885	1.026961771
Observations	71	71
Pearson Correlation	0.145973951	
Hypothesized Mean Difference	0	
df	70	
t Stat	-3.655146425	
P(T<=t) one-tail	0.000246566	
t Critical one-tail	1.666914479	
P(T<=t) two-tail	0.000493131	
t Critical two-tail	1.994437112	

Based on the above results, since the calculated t statistic (-3.655146425) is smaller in magnitude than the critical t-value for both one-tail (1.666914479) and two-tail (1.994437112) tests, and the p-value is less than the significance level of 0.05, we can reject the null hypothesis (H0) that work pay has no relation with attrition. Therefore, there is evidence to support the alternative hypothesis (H1) that work pay has a relation with attrition.

For hypothesis 2, factors considered here are workers experienced attrition and job satisfaction and correlation between them is considered through which job satisfaction impacts attrition is known.

Table 2:

The below table shows, the t-test: Two sample assuming unequal variances test for hypothesis testing,

t-Test: Two-Sample Assuming Unequal Variances		
Mean	0.585714286	3.76056338
Variance	0.246169772	0.67042254
Hypothesized Mean Difference	0	
df	116	
t Stat	-27.88897918	
P(T<=t) one-tail	1.4593E-53	
P(T<=t) two-tail	2.91859E-53	
t Critical two-tail	1.980626002	

Based on the above results, since the calculated t statistic (-27.88897918) is much larger in magnitude than the critical t-value for a two-tailed test (1.980626002), and the p-value is much smaller than the significance level of 0.05, we can reject the null hypothesis (H0) that job satisfaction does not impact on attrition. Therefore, there is strong evidence to support the alternative hypothesis (H1) that job satisfaction impacts on attrition. The negative t statistic suggests that lower job satisfaction may be associated with higher attrition.

For hypothesis 3, factors considered here are attrition and reward and recognition and correlation between them is considered, through which relation between reward and recognition and attrition is known.

Table 3:

The below table shows the t-test: Paired two sample for means test for hypothesis testing,

t-Test: Paired Two Sample for Means		
	3	*3*
Mean	3.478873239	3.8450704
Variance	1.224547284	1.1899396
Observations	71	71
Pearson Correlation	0.559390798	
Hypothesized Mean	0	
df	70	
t Stat	-2.991414846	
P(T<=t) one-tail	0.001915997	
t Critical one-tail	1.666914479	
P(T<=t) two-tail	0.003831994	
t Critical two-tail	1.994437112	

Based on the above results, since the calculated t statistic (-2.991414846) is smaller in magnitude than the critical t-value for a two-tailed test (1.994437112), and the p-value is smaller than the significance level of 0.05, we have enough evidence to reject the null hypothesis (H0) that reward and recognition have no relation with attrition. Therefore, we can conclude that there is statistical evidence to support the alternative hypothesis (H1) that reward and recognition have a relation with attrition.

FINDINGS

The below table shows the findings from the above hypothesis and its interpretation,

Attrition						
Variables	**Original Sample (O)**	**Sample Average (M)**	**Standard Deviation (STDEV)**	**t- statistic**	**P Value**	**Description**
Attrition>Work pay>Satisfaction of compensation benefits	71	1.0270	1.0070	70.5052	0.0002	H0 - Rejected **H1 - Accepted**
Attrition>Experienced attrition>Job satisfaction	71	0.6704	1.2372	0.7336	0.0000	H0 - Rejected **H1 - Accepted**
Attrition> Reward and Recognition	71	1.1899	1.1002	64.5325	0.0019	H0 - Rejected **H1 - Accepted**

Source: Primary data calculated by author.

These findings suggest that there are significant relationships between attrition and factors such as work pay, experienced attrition, job satisfaction, and reward and recognition.

There are several factors that can contribute to the attrition of workers in the unorganized sector, including:

- Long work hours: For unorganized sector workers, working long hours without proper breaks or rest can lead to burnout and job discontent.
- Low salary: Many workers in the unorganized sector receive low pay, which might cause them to become dissatisfied and drive them to look for higher paying jobs elsewhere.
- Lack of job security: People who work in the unorganized sector frequently do not have a steady place to go to work, which might make them fearful for the future and prompt them to hunt for more secure employment.
- Unfavorable working conditions: Workers in the unorganized sector may be subjected to unfavorable working conditions, such as inadequate safety precautions or long hours, which can have a detrimental impact on their health and wellbeing and lead them to quit their positions.
- Limited options for career growth: Many workers in the unorganized sector have little chances to advance their careers, which can cause sentiments of inertia and unhappiness.
- Absence of social security protections: The absence of social security protections like health insurance, retirement benefits, or paid time off in the unorganized sector can make it challenging for workers to make long-term plans and feel safe in their employment.
- Inadequate possibilities for skill development and training: Workers in the unorganized sector may not have access to sufficient opportunities for training, which can make them feel underappreciated and reduce job satisfaction.

- Migration and mobility: Unorganized sector workers frequently shift from one job to another in quest of better opportunities.

CONCLUSION

In conclusion, worker attrition in the unorganized sector is a complicated problem that is affected by a variety of variables. High attrition rates in this sector are a result of a number of problems, including long hours, low pay, job insecurity, bad working conditions, limited career progression, a lack of social security protections, insufficient training and development, and mobility. Reducing attrition rates and enhancing the general well-being of workers in the unorganized sector may be achieved by addressing these problems through governmental interventions, such as offering social security measures and training opportunities. Additionally, by creating stable and well-paying opportunities in the unorganized sector, we can lessen the brain drain from rural areas to metropolitan centers and promote more evenly distributed economic growth throughout the nation.

The considerable contribution that unorganized sector workers make to the Indian economy must be acknowledged. They make up a sizable component of the labor force, and numerous sectors depend on their contributions. However, because of the aforementioned issues, unorganized sector workers frequently confront difficult circumstances and are at risk of exploitation.

It is crucial to consider the larger socio-economic context in which the unorganized sector operates in order to solve the problem of attrition. This includes the requirement for basic infrastructure to be provided in rural areas, where many of these workers are employed, such as roads and power. Improved access to education and vocational training is also necessary, especially in rural regions, in order to provide workers with the skills and knowledge necessary to succeed in their jobs.

Additionally, it's critical to acknowledge the diversity of the unorganized sector and create laws that are adapted to the particular requirements of various sectors and geographical areas. To determine the regions that require the most support, this may entail collaborating with regional and local organizations and different sector groups.

As a result, combating the attrition of workers in the unorganized sector necessitates a complex strategy that incorporates both governmental interventions and broader socio-economic development. We can build a more equitable and sustainable economy that benefits all members of society by offering workers secure, well-paying employment, social security protections, and chances for training and career progression.

REFERENCES

- Armstrong, M. (2009). Armstrong's Handbook of Human Resource Management Practice. London: Kogan Page.
- Cascio, W. F. (1986). Managing Human Resources. McGraw-Hill.
- DeNisi, A. S., & Gryphon, R. W. (2015). HR3. Cengage Learning.
- Mobley, W. H. (1982). Employee Turnover: Causes, Impact, and Management. Addison-Wesley Publishing.
- Pettman, B. O. (1975). Labour Turnover and Retention. John Wiley & Sons.
- Schervish, P. G. (1984). The structural determinants of unemployment, vulnerability, and power in market relations. Academic Press.
- Terborg, J. R., & Lee, T. W. (1984). A predictive study of organizational attrition rates. Academy of Management Journal, 27, 793-810.
- Arthur, W., Bell, S., Donerspike, D., & Villado, A. (2006). The use of person-organization fit in employment decision making: An assessment of its criterion related validity. Journal of Applied Psychology, 91, 786-801.
- Trevor, C. O. (2001). Interactions among actual ease-of-movement determinants and job satisfaction in the prediction of voluntary turnover. Journal of Academy of Management, 44, 621-638.
- Glebbeek, A. C., & Bax, E. H. (2004). Is high staff turnover truly harmful? A test using data from the organization. Journal of Academy of Management, 47, 277-286.

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India is the highest milk producer in the whole global dairy industry. The study has

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COMPARATIVE ANALYSIS OF THE FINANCIAL PERFORMANCE OF SELECT PUBLIC SECTOR AND PRIVATE SECTOR BANKS FROM 2017 - 2022

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ABSTRACT

In recent years, it has been more crucial than ever to compare the financial performance of a few public and private sector banks. Using a variety of financial parameters to evaluate their profitability, liquidity, efficiency, and solvency, we look at the financial performance of 10 public sector banks and 10 private sector banks from 2017 to 2022. Our findings show that in the majority of the financial parameters examined, private-sector banks have outperformed public-sector banks. Better profitability metrics, including return on equity (ROE) and net interest margin, have been demonstrated by private sector banks (NIM). They can do so because of their improved asset quality, higher operational efficiency, and lower overhead expenditures. Public sector banks, on the other hand, have had difficulty maintaining profitability. In contrast, because of their greater levels of non-performing assets (NPAs) and subpar loan recovery ratios, public sector banks have found it difficult to retain profitability. The public sector banks, on the other hand, have demonstrated better liquidity ratios, such as the current ratio and cash-to-deposit ratio, demonstrating that they have more cash on hand to

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A COMPARATIVE STUDY OF SELECT INSURANCE COMPANIES AND THEIR PRODUCTS IN BULDHANA REGION

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ABSTRACT

The objective of this research is to evaluate and contrast the products and services supplied by a range of insurance companies available in the market. The study seeks to support customers in making informed choices by comparing the characteristics, advantages, and pricing of insurance products. A systematic literature review was conducted on insurance companies, their products, and customer satisfaction to carry out the research. The collection of data was done using both primary and secondary sources such as online databases, customer feedback, and company websites. The study scrutinizes the insurance products' features, including coverage limits, deductibles, premiums, and supplementary benefits provided by these companies. Moreover, it compares the claims settlement procedure, customer assistance, and the overall customer satisfaction ratings of these companies. The study concludes that each insurance company has its distinct strengths and limitations. For instance, LIC Insurance provides the most comprehensive coverage with a competitive pricing strategy, while UTI Insurance delivers excellent customer service and an uncomplicated claims settlement process. SBI

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A STUDY OF CONSUMER BEHAVIOR FOR INSURANCE POLICIES IN BULDHANA REGION

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ABSTRACT

Insurance has become very important in today's conditions. Considering the situation like in Pandemic because more diseases like corona may occur in future and insurance can be beneficial for people as a means of saving. As any disease or any bad situation can strike at any time, insurance can be important and save as well. The return you get after the insurance period is over is also a benefit used as a savings tool. Insurance is a contract, represented by a policy in which a policyholder receives financial protection against losses from an insurance company.This research paper aims to find out whether people use insurance as a means of saving or for security purposes. And also aims to know what most people prefer through this research so that it can benefit the insurance company and how people think about insurance. As a means of saving people can use many ways to benefit them but find out how insurance can be beneficial and save them. If insurance is used as a means of saving, it will maximize the profit of the insurance company and benefit the people as a means of saving and as a security cover.

Keywords: Insurance, Saving, Security, Beneficiary

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India Post Payments Bank – Problems and Prospect in Akola Region

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ABSTRACT: Payments Bank is a new kind of bank which is promoted with the express purpose of extending the reach of banking to vast majority of the unbanked and under banked segments of the population. Payments bank promoted by India Post is expected to use the physical network of post offices as well as digital platforms such as mobile, internet banking, debit cards, point of sale devices, etc. to provide the designated financial services at low cost to target population. Payments Bank might be able to provide last mile connectivity especially in those areas which do not have any bank branches but has a post office. Its' huge presence in rural areas and the trust that it enjoys among vast segments of population might enable it to succeed where commercial banks have failed. The present study examines the role and objectives of payments banks with special reference to India Post Payments Bank, relevance in achieving financial inclusion objective, prospective challenges and problems, suggestions for overcoming those.

I.INTRODUCTION

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A STUDY OF MARKETING STRATEGY OF MAHARAJA MASALA UDYOG IN BULDHANA DISTRICT

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ABSTRACT

The research is based on the maharaja masala's regional marketing plan in Buldhana district. Maharaja Masala's sales and marketing strategies are quite admirable and commendable because they convince and draw in new customers while keeping the existing ones. Is the customer satisfied with the Maharaja Masala that they like the most? This study looks into all of the customer's buying habits. This research is important because it advances our knowledge of the factors that influence the purchase of maharaja masala and the company's marketing tactics. The research uses focus groups, surveys, questionnaires, and in-depth interviews with employees who work for Maharaja Masala. Spices are food additives that are mainly used for flavour and aroma. In India, there is a growing demand for food and snacks with unique flavours, authentic cuisine, and ethnic flavours. In this article, we'll be looking at the Buldhana District's Maharaja Masala's marketing plan. The desire for spice improvement and variation is rising daily. We are gathering information on customer attitudes towards maharaja masala. The research covered everything, from how consumers learn about this masala to

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DIMENSIONS OF WORK FROM HOME CULTURE- A STUDY

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Abstract:

The main objective of this research paper is to acquire an understanding of participation of the employees in management. This study examined the associations of work–home culture with demographic and organizational characteristics, the use of work–home arrangements, and negative and positive work–home interaction, among 1,179 employees from one public and two private organizations. Research paper is to acquire an

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An Analysis of Buying Decision for Electric Two Wheelers -A Study of Vidarbha Region

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ABSTRACT: The demand for electric vehicles (EVs) has significantly increased in recent years, but it represents only a tiny percentage of the total new vehicles sold globally. In 2021, the total sales of electric two-wheelers were less than 1% only. Therefore, the adoption of an electric two-wheeler (E2W) needs to be studied. This research develops a behavioral electric two-wheelers adoption intention model. The present study aimed to identify the factors that influence consumers' intentions to adopt electric two-wheelers. The questionnaire method was employed, and 120 valid responses were collected. The partial least squares structural equation modelling (PLS-SEM) was used to test the research hypothesis.

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Distribution Analysis of Agro Business Marketing in Vidarbha Region

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ABSTRACT: The crop sector is one area that receives focus specifically for ensuring food vacuity, food distribution food quality, and safety. Agriculture has a vital role in the development programmer, especially to promote people's well-being. A distribution system is used to distribute food and seeds, and it makes reference to the models, programmers, and distribution methods that are employed. Everyone contributes to creating.
a distribution method that has been in place since the art's most recent development. This study's goal is to comprehend the literature review of the distribution system's abuse as it is viewed from various types, strategies, policies, models,

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Critical Analysis of Petroleum Swap of Oil Giants in Maharashtra

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Abstract:- The petroleum industry carries immense importance in the Indian economy. Supply chain management in the petroleum industry contains various challenges, specifically in the logistics area, that are not present in most other industries. These logistical challenges have a major influence on the cost of oil derivatives and customer satisfaction level (CSL). Companies in the petroleum industry have become increasingly reliant on the services of third-party logistics companies to manage their supply chains. Companies in the petroleum industry took the outsourcing idea a step further to collaborate with

creation of a vast marketing infrastructure and a pool of highly trained and skilled manpower. Indigeneous crude production has risen to 35 million tonnes per year, an addition of fourteen refineries, an installed capacity of 69 million tonnes per year and a network of 5000 km of pipelines. But with the consumption of hydrocarbons said to increase manifold in the coming decades (155mmtpa by the end of the 10th plan) the liberalisation, deregulation and reforms in the petroleum sector is essential for the health and overall growth of our economy.

The petroleum industry traditionally had prices

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A STUDY ON CONSUMER BEHAVIOUR TOWARDS PURCHASE DECISION OF BAJAJ TWO WHEELERS BIKES WITH A SPECIAL REFERENCE TO TIRUPATI BAJAJ SHOWROOM PVT.LTD IN AKOLA CITY

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ABSTRACT

This study described the consumer behavior towards purchase decision of Bajaj two wheelers among Akola city. In general, the marketing is based on the level of satisfaction provided to the customers from the sellers. Consumer behavior is a decision process in which people are involved in buying and using products. The consumer behavior can be identified by the level of involvement in decisions and the importance and intensity

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PERCEPTION ABOUT MOBILE BANKING – A STUDY OF BULDHANA REGION

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ABSTRACT

The study examines the perception of consumers towards mobile banking, a relatively new and rapidly evolving phenomenon in the financial industry. With the increasing reliance on technology, mobile banking has become an integral part of the financial industry. The research tries to explore the variables that affect consumers' perception services for mobile banking. The research methodology employed in this study is a

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A STUDY Of SOCIO - ECONOMIC IMPACT OF ROAD TRAFFIC CONGESTION IN NANDURA

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ABSTRACT

Road traffic congestion has become a serious problem in urban areas. Road traffic congestion is a major challenge for the residents of Nandura city. Some of the objectives addressed for the study were to examine the socio-economic impact of road traffic congestion in Nandura (NDR) as well as to determine the relationship between existing road traffic congestion and work performance. Another objective is to identify supportive strategies to reduce traffic congestion and assess the damage caused by road traffic congestion.

Nandura is a big taluka and small and big industries are running here on a large scale. Due to this, drivers, shopkeepers and pedestrians have to suffer a lot while transporting goods. So a separate questionnaire is prepared to know the problems faced by each person.

Twenty-five questionnaires administered by motorists and thirty-five questionnaires administered by shopkeepers and thirty-one questionnaires for the general public to reduce road traffic congestion and identify the main causes of traffic congestion. Descriptive and statistical methods were questionnaire analysis. Hence simple random sampling technique is adopted.

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EMPLOYEE PARTICIPATION IN MANAGEMENT: A STUDY OF IMPLICATIONS ON EMPLOYEE'S PERFORMANCE AND ORGANISATIONAL PRODUCTIVITY WRT WORK FROM HOME EMPLOYEES

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ABSTRACT

The main objective of this research paper is to acquire an understanding of participation of the employees in management. Data were collected through questionnaires from different companies. Employee should be trained to ensure that the qualification and experience in the job reflects their position in managerial decision' making. This can be done through formal institution and in the job within or outside the organization.

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Havmor and top and town Customer preference towards icecream in Malkapur region

Guided By: Dr. Pavan Kuchar
Assistant Professor

Submitted By: Kapil S. Talreja
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ABSTRACT:-

Customer Satisfaction is an ambitious and abstract concept and actual manifestation of the state of satisfaction will vary from person to person and product to product

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IMPACT OF SOCIAL MEDIA ON YOUTH'S SOCIAL LIFE AND BUYING BEHAVIOUR - A STUDY OF KHAMGAON REGION

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ABSTRACT

The digital transformation era has tremendously changed the life style of the people in recent years. The information and communication technology (ICT) and internet have paved the way for consumption of more and variety of information and goods. The Indian market is growing at an exponential rate. Social media is now

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SERVQUAL: AN ANALYTICAL STUDY OF PUBLIC AND PRIVATE HOSPITALS IN BULDHANA DISTRICT

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ABSTRACT

Government oversight of a nation's healthcare system is particularly important since good health gives patients and those who depend on them hope and relief. Maintaining a strong human capital is beneficial for the nation's development. Nowadays, providing better quality of services or products in accordance with customer needs has become a status symbol for customers when assisting with any services or purchasing items. It is also a strategic benefit for enterprises to succeed and maintain competitiveness in the market. In order to increase satisfaction in the Buldhana region, this project compares the standard of medical care provided by public

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ESPOUSAL OF DIGITAL BANKING SERVICES AND A STUDY OF CUSTOMER SATISFACTION IN AKOLA

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ABSTRACT

Technology is playing a very important role in today's world. Digitalization is happening in every sector. Now-a-days even in the banking sector has taken off they are providing digital banking services to their customer. Digital banking is getting a huge response not only in India but also in the whole world. The modernization of banking sector, after the introduction of IT & technology had benefited both customer and banks. The banking now is not just limited to the physical transactions in banks but has made its way into hand held services devices. It is currently the first choice of the customers. This reduces customer struggle and gets their work

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Adoptability of Digital Marketing by the Retailers in Shegaon Region – A Study

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ABSTRACT: This research paper investigates the adoptability of digital marketing by retailers in the Shegaon region of Maharashtra, India. In recent years, digital marketing has become an integral part of the marketing mix for businesses, enabling retailers to reach a wider audience, increase customer engagement, and drive sales. However, the extent to which retailers in the Shegaon region have adopted digital marketing strategies remains largely unexplored.

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A STUDY OF SELF-HELP GROUPS AND WOMEN EMPOWERMENT IN A RURAL AREA OF THE AKOLA REGION

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ABSTRACT

The concept of Self-Help Groups (SHGs) was introduced by Prof. Mohammad Yunus through the Bangladesh Grameen Bank in 1975. Women empowerment and SHGs play a significant role in economic development, particularly in India. The Indian government has taken several initiatives and launched various schemes to promote women development and empowerment. In the 2023-24 Budget, the government introduced a scheme specifically for SHG members, the Mahila Samman Bachat Patra Yojana 2023. In this research, primary data was collected through personal interviews with 100 respondents in the Akola rural area, using stratified sampling techniques. The study focused on women's empowerment, including financial independence, education, decision-making, freedom, and problems faced by SHG members. The study found a strong relationship between SHGs and women's empowerment. The results showed that SHGs successfully increased women's participation in various activities, increased their confidence levels, and helped establish their identity in society. These findings suggest that Self-help groups can contribute to the empowerment of women in rural areas.

KEYWORDS: SHG, Women Empowerment, financial independence, Decision making,

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PROSPECT OF FINANCIAL INCLUSION OF RURAL CUSTOMERS - A STUDY OF LANJUD VILLAGE

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ABSTRACT

The Indian government periodically takes attempts to extend financial services to people who are excluded by including clients in distant places. The current situation for the nation's economic development and inclusive growth has a large and crucial role in financial inclusion. Financial inclusion is the provision of inextensible financial services, such as banking, insurance, savings, credit, access to payments, and compensation facilities, to individuals who are excluded by formal financial services. The goal of financial institutions is not only to supply a sizeable cash flow to expand the Indian economy, but they may also be able to assist the government in promoting development for those living at the base of the economic scale. In this research, we are going to study the problems faced by people in rural areas due to the lack of financial institutions. The study of financial literacy, raising public awareness of financial inclusion, identifying concerns with KYC, examining the main goal of financial inclusion, and examining the factors that contribute to obstacles with financial inclusion are all major objectives of this research. The research employs a descriptive research design, and an interview schedule has been used to collect data. For this purpose, a customer from

IMPACT OF STRESS ON EMPLOYEES BEHAVIOR IN ORGANIZATION

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Abstract:

The impacts of work stress on people and the economy have been extensively documented in the literature. The purpose of this study is to investigate the relationship between managers' occupational identities, high-performance management techniques, and burnout. In the stress and human resource management research, we suggest a theoretical framework incorporating identity theory. We look into the claim that low levels of manager identity verification will be linked to higher levels of burnout and that high-performance human resource management practices (HPHRMPs) will function as a moderator of this association. The causes and methods that stress can lead to unwanted behavior will all be covered in this abstract as it relates to how stress influences employee behavior in workplaces. Managers can take steps to decrease the negative behavioral impacts of tension on employees. The increased (global)

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TO STUDY IMPACT OF COVID ON INVESTMENT PLANNING OF WOMAN EMPLOYEE

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ABSTRACT

The COVID-19 pandemic has had a significant impact on the global economy and financial markets, causing uncertainty and volatility in the investment landscape. This study aims to investigate the impact of the pandemic on the investment planning of women employees. Using a survey-based research methodology, data will be collected from a sample of women employees across various industries and job functions. The study will explore how the pandemic has affected their investment behavior, including their willingness to invest, risk tolerance, and investment goals. The study will also examine the extent to which women employees have sought professional advice or guidance to navigate the current investment landscape. Factors such as income, age, and education level will be considered to determine whether they have an impact on investment planning decisions. The findings of this study will provide insights into how women employees have adapted their investment planning strategies in response to the COVID-19 pandemic. This information can be used by financial institutions and investment advisors to develop more effective strategies to support women investors

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Study On GST and It's Impact On Manufacturing Industry

SUBMITTED BY

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ABSTRACT

This study examines the impact of GST on manufacturing industry in India. The study employs a mixed-methods approach, comprising of a review of relevant literature, a survey of manufacturing firms, and interviews with industry experts. The study finds that GST has led to significant changes in the taxation system, resulting in both positive and negative impacts on the manufacturing industry. While the tax reform has streamlined the tax system, reduced the tax burden for [illegible] and improved compliance, it has also led to an increase in prices for some goods, particularly those in the unorganized sector. The study also reveals that SMEs face

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A Study of Brand Switching in Case of Smart of Smartphone

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ABSTRACT: Global smartphone adoption has surged in recent years. Manufacturers have been able to develop new services that have sparked competition thanks to the rise in choice and purchasing intentions. The phenomena of brand switching by customers in the smartphone market is examined theoretically in this research, with implications for how resistance might be developed from an identity theory standpoint. With the expectation of product function, significant attention has been given to the socio psychological qualities, personal, and social meanings of brands. Historically, much emphasis has been focused on the functional utility of products at the expense of social meanings. The study's conclusions include organisational responses to environments affecting strategic activities and interactions as well as behavioural switching. These include

Due to the smartphone industry's rapid expansion, the topic of smartphone brand flipping has received more and more

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Changing The Scenario- An Enquiry Into Couples At Work

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Opening Lines

Innovations are truly the backbone of nearly every stream of thought, these days. Human Resources are not an exception to this. Human resource management practices (HRMP) have been gaining an increased attention especially in the fields of economics of the organization, strategic management and human resource management (HRM) (Laursen and Foss, 2003). Moreover, the past two decades were characterized by noticeable progress in researching human resource management systems (HRMS) (Wei and Lau, 2010). HRMS and innovation relationship in firms is growing as many researchers inspected this area (Vogus and Willbourne, 2003; Beugelsdijk, 2008; De Winne and Sels, 2010; Ma Prieto and Pilar Pérez-Santana, 2014; Chen *et al.*, 2018). This growing interest is because of the continuous search for having a competitive advantage in a highly turbulent environment (Jimenez-Jimenez and Sanz-Valle, 2008; Shipton *et al.*, 2005).
Innovation can be promoted through proper management of people (Shipton *et al.*, 2005). Moreover, firms intending to innovate consider HRMP as a precious resource (Beugelsdijk, 2008). Furthermore, human capital when leveraged organizational expertizes are developed, thus innovation would emerge as new products and services (Chen and Huang, 2009). Several ways can

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Rejuvenation of non- profits through idealism

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Opening lines

Non profit organizations are having their roots into the Latin word "Caritas". It means being dear and valuable. This value still percolates to grass root level. NPOs are the cornerstones of a good life for most of the world. The nature of the offerings may differ but they tend to be indispensable. The evolution of NPOs can be traced back to Vedic times. Some of the portion of Rig-Veda elucidates the concept of collective/ social realization of the grief of fellow human beings. Hence donating was thought to be a noble concept those days. Maurya and Gupta reigns during fourth and fifth century witnessed deeper countryside social activities. Gradually this took the shape of "Philanthropy". It has been transformed into much more an organized sector as NPOs currently.

But the other side (which is perhaps troublesome too) of the coin is that NPOs are suffering from challenges/ problems some of which are drastic and have already happened to be with unwanted, negative aftermaths. Inadequate funds, inconsistency in fund raising, unorganized and unprofessional ways of functioning, absence of electrifying/ charismatic leadership, narrow networks and the allied reach, detachment from some segments, unskilled and untrained employees, null value addition, frauds, corruption, getting influenced by specific ideologies, below

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Accelerating Family Businesses- A case of Treasure Trove "Khandelwal Jewelers"

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The Inception

The unorganised sector in India has been contributing to the growth of economy since long times. National Account Statistics happens to use the term "Unorganised sector" instead of "informal sector". Despite the drawbacks like getting disappeared from the mainstream documentations, accounting and records, as this sector provides plenty of employment opportunities, has been a foremost choice for the less educated and unskilled mob that can be trained for a short period and contribute to better functioning of the organisation. The Indian gold, gems and jewellery unorganised sector is a symbol of trust for majority of Indians who go by the conventional mechanism of purchase. There are approximately 2.8 million unorganised jewellery outlets in India. Somewhere around 2000, as high as 90 percent retail gold outlets in India were falling under unorganised category. With an electrifying presence of globalisation, privatisation, liberalisation, digitisation unorganised sector is transforming into organised one. The pace of diffusion of innovation for varied outlets may differ but the awareness and consent for the same is appreciable indeed! Family businesses from the corners of India are experimenting. The younger generation is eager and instrumental in this phenomenon

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EFFECTIVE RECRUITMENT PROCESSES FOR EFFECTIVE ORGANIZATIONAL CULTURE - A STUDY

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Abstract:

The Paper is the thought process regarding the process of recruitment. The process is visionary and futuristic and thinks about the estimation of better outcomes. Recruitment is a strategic process which inspires aspirants for application of a specific job. This process fulfils the structure of an Organization by adding new blood and a specific place. Recruitment is also called the phenomenon of manpower filtration in which the selection of a potential candidate for a potential position. The potential position and ideas and tactics of new blood can add better outcomes for the organization

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A STUDY OF SATISFACTION OF TEACHERS IS NEED FOR BETTER LEARNING CULTURE

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Abstract:

Teacher is the designer of humanity. Teaching is not work it is passion and it is service for the society. This paper is focusing on satisfaction of the teachers. The real satisfaction of teacher is behind the achievement of students. There are many factors and corners of satisfaction studied in this research papers. Respect is secondary things for teachers but achievements by students are the primary and focused things. Working environment, cooperation form co-workers, recognition, good working condition, motivation from administrator and security in job are the main factor of teacher's satisfaction. The real

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A Study of Marketing Mix Strategies of FMCG Products in Rural Market with Special Reference to Amaravati District

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ABSTRACT: The present study aimed to analyze the A STUDY OF MARKETING MIX STRATEGIES OF FMCG PRODUCTS IN RURAL MARKETS WITH SPECIAL REFERENCE TO AMRAVATI DISTRICT. The fast-moving consumer goods (FMCG) sector is highly competitive and heavily reliant on sales promotion strategies to attract and retain customers. This study examines the impact of sales promotion on consumer behavior in the FMCG industry and the role of the marketing mix in driving sales promotion effectiveness. The research methodology involves a combination of qualitative and quantitative techniques, including surveys and focus group discussions with FMCG executives and consumers. The findings suggest that sales promotion is an effective tool for driving consumer behavior in the FMCG industry, with discounts and free samples being the most preferred promotional tactics. However, the success of sales promotion strategies is heavily influenced by the marketing mix, including product quality, pricing, and distribution channels. Consumers prioritize affordability, convenience, and product quality, and promotional tactics that align with these preferences are more likely to be successful l.Effectivemarketing mix strategies for FMCG products in sales promotion include aligning promotional tactics with product positioning and target consumer

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"EXPANDING KNOWLEDGE HORIZONS- A STUDY OF SOCIAL MEDIA WITH REFERENCE TO FARMERS"

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Introduction

Social media is a bigger thing of our daily lives in the digital world. It has completely changed, Since Before social media, if you wanted to stay up to date on the news or daily activities, you had to go to the near house

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Predicting Consumer Behaviour- an Enquiry of Domestic Water Purifiers Market

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ABSTRACT: Water is everything to everyone. It is a resource of nature which is essential to humans from many years. There is no life without water is one thing that should be accepted by humans. And the importance of water to health is very huge. The water purifier plays an important role in the securing many lives. There are many health problems are related to impure water . So that water purifiers are one of the most important inventions regarding to improving of human living standards their capabilities towards various disease are get improved. As we consider all the factors which are necessary to improve or secure the health the water purifier is the only way to get the water more and more drinkable with having extra minerals in some what the good taste. By using RO and UV protection water is now more preferable to drink . Now a days it's become a trend that usage of drinking water from water purifier is most common they include working pleases household usage drinking is a fundamental use as well as public places. There is a huge demand of water purifier as all the humans are desire to drink more pure and safe water cause in this era everyone is conscious about their health and wanted to take distance from many diseases which basically comes from water and they should be avoided by usage of water purifier. There are many brands come with various technologies and with having various trusted clinical tastes. Concern with all the health-related factors brands made their products according to consumer's needs . The brand's try to get more and more in touch with consumers by making a simple approach regarding to their health by providing them extra pure water importantly the water purifier are the products

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A STUDY OF CUSTOMER SATISFACTION IN BANKING INDUSTRY WITH SPECIAL REFERENCE TO PRIVATE SECTOR BANK IN BULDHANA DISTRICT

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ABSTRACT

This study's objective is to assess consumer perceptions of service quality in order to assess how satisfied customers are with the district of Buldhana's banking industry. Additionally, assess how well banking employees and customers coordinate. This empirical study primarily makes use of primary information gathered through a questionnaire. 100 customers of the bank were personally chosen as the sample size for the questionnaire. Additionally, the secondary data gathered from the internet, books, and brochures.

This paper makes a useful contribution as there are only a few studies dealing with the assessment of service quality in banking sector of Buldhana District. The findings based on three different independent variables (service, quality, customer loyalty and security) showed that all these variables influenced customers satisfaction in buldhana District banking sector. There is a positive impact and significant relationship between the customer satisfaction and two variables (service quality and customer loyalty), and also there is a negative relationship between security and customer satisfaction.

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INVIGORATING INHERENT CAPACITIES- A STUDY OF WOMANHOOD AND SMALL-SCALE BUSINESSES

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The background

This research paper aims to study the potential of housewives to establish small-scale businesses. From an ancient period, we knew housewives as an individual typically women, who manage household chores like cooking, cleaning, child care, and caring for other family members, etc. Regarding the housewives' perspective of the world housewife means an individual who plays important role in maintaining a home and family responsibilities. In recent years, the perspective of the world and people are shifted towards

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A COMPARATIVE STUDY OF CUSTOMERS PERCEPTION REGARDING HOUSING LOAN SCHEMES OF PUBLIC AND PRIVATE SECTOR BANKS

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ABSTRACT

Having a place to call home is a fundamental need for every individual as it serves as a residence for families. Owning a property is considered a crucial necessity and a good investment for the future. To cater to the needs of consumers, both public and private sector banks must identify their weak areas Public sector banks, in particular, should focus more on enhancing their services in terms of tangibility, reliability, responsiveness, assurance, and empathy, as their average satisfaction levels are lower than those of private sector banking. However, it is challenging for middle-class families to purchase a house nowadays due to affordability issues. Therefore, the government has introduced a housing loan option at a lower interest rate to make it accessible to everyone. A housing loan is a type of loan that is used to purchase a house, and the borrower needs to make monthly payments at a specific interest rate. Banks determine the loan terms and conditions, including eligibility and income requirements.

I. INTRODUCTION

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A Deep Analysis of Motivation for Study and Work amongst Students of Management

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ABSTRACT: Motivation is energy for work. It can enrich morale and efficiency at work. The mood of an employee is depending on different situations but motivation is one main component for enriching the mood of manpower. Motivation can leadtoa commitment to work and improve the productivity and performance of an employee.

Retention of employees is a challenge in front of the HR Manager. Simple, systematic and planned Motivation can retain employees at the workplace. Respect and recognition is the first requirement of an employee inthe workplace. Money is required but money is not the first priority at the workplace, respect is the priority. Humans work hard and applytheir minds in work for recognition other than salary and increment. Employee motivation is significant because it can increase productivity, intensity and effectiveness at the workplace.

KEYWORDS: Motivation, efficiency, commitment, productivity and performance.

I. INTRODUCTION

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A NEED ANALYSIS OF COMPETENCY MAPPING FOR IMPROVEMENT IN EFFECTIVENESS AND CULTURE OF ORGANIZATION

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ABSTRACT

The competency is an inner potential of an employee through which it can perform the job. Competency has many forms such as capability, ability, physical power, thoughts and wisdom. Different forms of potential employee use at workplace for completion and creation of effectiveness in work. Competency mapping is pre-judgment about hidden potential or capability within employee for performing tasks. Estimation of potential is crucial for planning and benchmarking for work. Estimation of power is required for completion of particular task. Potential is hidden power of a human which it can use for the improvement in future. Competency is an inner strength for betterment of knowledge and skills for improving efficiency in work.

Keywords: Competency, Potential, Capability, Wisdom, Estimation, And Benchmarking.

I. INTRODUCTION

Competency mapping is a process used by organizations to identify, analyze and develop the competencies needed for successful performance in the workplace. It is a tool used to assess the skills, knowledge and behaviors of individuals, teams and the organization as a whole to ensure they are aligned with the goals and objectives of the organization. It is a process of identifying the key competencies required to perform a job and the personnel who possess these competencies. It can be used to create job descriptions and identify the right people for the right jobs. It also helps organizations develop and implement effective training programs that are tailored to the specific needs of the organization and its employees. It is a process of identifying the skills, knowledge, abilities, and behaviors that are necessary for employees to succeed in their current roles and in future roles. This process helps organizations to align their employee development plans and talent

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'Mutual Entrepreneurship Model' – The Approach of Rural and Economic Development for Rural Nimad Region, Madhya Pradesh

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ABSTRACT: The rural potential is major potential. The space, availability of water, the agriculture field, and the major population. Various types of potential can be merged for the betterment of rural areas. Rural potential can be enriched through systematic planning. This paper is a whole discussion ofthe enrichment of rural potential for the economic development of the rural area. There are some theories and practical initiatives by great People called the 'Rural Development Model'. The Model of 'Providing rural amenities in a rural area(PURA) by Dr A.P.J Abdul Kalam. Gandhian rural development models, the Government of India's rural development models and the contribution of NGOs described in this research paper

The rural development model can transform the whole scenario in a rural area. This paper is an action for making a rural development model with reference to other rural development models coined by the Government of India and various NGO initiatives. 'Mutual Entrepreneurship in Rural Areas (MERA) is a new concept. 'All basic shops and services in one place' is the theme of the MERA model. The paperexamines the feasibility and applicability of the MERA model through this research Paper.

KEYWORDS- Rural potential, enrichment, transform, rural development, rural development model, feasibility and applicability

I. INTRODUCTION

Rural entrepreneurship is a relatively new concept that has been gaining traction in the past few years. It is the practice

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A TRAINING MANUAL IS AN EFFECTIVE TOOL FOR TRAINING AND DEVELOPMENT

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ABSTRACT

In today's world skills are the crucial part for manpower. Skill improvement is most essential and work environment is demanding now updated skills. This paper includes all significant content on the essence of skills development with effective skill improvement though training manual for the company. Applying skills to manpower likes applying new feathers for flying for work at the workplace.

The research paper also included the real skills requirement as per new challenges and demand of the organization. Papers have the details about potential for new and updated skills required by youth for working in a new era.

Keywords: Manpower, Skills Improvement, Workplace, Potential And Youth.

I. INTRODUCTION

Training manuals are a great way to help employees improve their skills and become more proficient in a particular job or task. They provide step-by-step instructions on how to perform certain tasks, as well as advice on best practices and tips for achieving success. Training manuals can be used to teach new employees the basics of their job or to help experienced employees hone their skills and become more productive. They can also be used in educational settings to help students learn new concepts or improve existing ones. Training manuals are an important tool for helping employees of all ages and backgrounds learn new skills and develop them to their fullest potential

A training manual for behavior improvement is a document that outlines steps an individual or organization

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Employee Engagement- A Way to Sustainable Productivity

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ABSTRACT: Employee engagement is a clear way, proper guidance, proper direction, skills orientation, attitude development and series of tasks to be performed by the specific profiled employee. Employee engagement is planning against situations, conditions, challenges and growing demands in the world. It is an interconnected series of related tasks arranged properly in order to complete in a short time. Human potential is unlimited and it can learn anything only needs are proper attitude and desire to learn new things. Employee engagement is the combination of proper directions, guidelines, and motivations for the completion of tasks. It actsasa clarity of light for any task. It is the solution for the improvement of performance and efficiency.

Employee engagement makes work enjoyable and interesting. It gives the feeling of valuable contribution tothe company and self. Employee engagement is not a burden it gives satisfaction about assignments and encourages career. It gives a clear understandingofthe job, tasks and vision of the company. Employee engagement is the perfect match of the employee's interest and the nature of the job with the organization's missions.

KEYWORDS:- solution-orientated, consensus, blind, equity, cooperative, work engagement, potential analysis, clarity, vision, mission.

I.INTRODUCTION

World is seeking modified and sustainable practices in the era of sudden change. The nature of work is changing and procedures and processes are also changing. The demand is growing for quality products and services. World is asking for quality effectivenessenss in services. There are challenges for improvement in the quality but not difficult to achieve. It would be effectively achieved through proper employee engagement. Employee engagement means the completion of an assignment or particular work within time. Assignment completion in a series of tasks for the achievement of the target. The target should not become a pressure for work it should interest-based. It is observed that the pressure is increasing in the corporate world due to the absence of the right understanding of employee engagement with its procedures and methodologies. Employee engagement is the smooth concept in which employees perform all series of tasks without pressure and with interest. It is a productive and positive concept which includesa positive

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EFFECTIVE RECRUITMENT PROCESSES FOR EFFECTIVE ORGANIZATIONAL CULTURE - A STUDY

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Abstract:

The Paper is the thought process regarding the process of recruitment. The process is visionary and futuristic and thinks about the estimation of better outcomes. Recruitment is a strategic process which inspires aspirants for application of a specific job. This process fulfils the structure of an Organization by adding new blood and a specific place. Recruitment is also called the phenomenon of manpower filtration in which the selection of a potential candidate for a potential position. The potential position and ideas and tactics of new blood can add better outcomes for the organization.

The skills of humans are acting like software for work at the workplace. The potential of humans is unlimited and they can do anything in the world. The potential of humans is a wonder on earth and it can enrich without limits and make it better for the service of the world. Recruitment is the collection of potential candidates together for their enrichment and for using the better human potential for better work. There are many inputs from society and the environment, better inputs can give better outcomes and also enrich effectiveness inthe workplace. Culture is the main control of an organization and the recruitment process makes it stable, productive and effective for the nice future of an organization.

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An explorative study of significant impact of training and development for better career and performance at workplace

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Abstract: Training is the knowledge of nuggets for betterment of skills and behavior. Training is the fuel for confidence and betterment of life as well as career. Training creates awareness and alertness amongst employees so it has crucial place in an organization. Training is the primary action and development is an outcome of that action. Training is action based term whereas development is transformation in behavior and skills. Training is for improvement of skills and behavior and then it automatically impacts on positive moves of performance of individual as well as team. Improvement in performance and efficiency is significant impact of training and development techniques. Manager has to go through proper need assessment for training before implementation of training because proper and suitable need assessment can improve the skills, behavior and efficiency of production in an organization.

Keywords: nuggets, confidence, career, skills and behavior, implementation

I. CONCEPT

Training and development is a concept that encompasses the process of improving the skills, knowledge and abilities of employees in order to increase their value to the organization. Training and development includes a wide range of activities, from on-the-job training to formal classroom-based learning, as well as formal and informal learning. It is used to help an organization meet its business goals and objectives by improving the performance of its employees and developing the expertise of its staff. Training and development initiatives are designed to ensure the organization is able to respond to changes in the market, technology, and customer needs.

Training at the workplace is essential to ensure that employees understand their roles and responsibilities have the necessary knowledge and skills to do their jobs properly and are able to provide the highest quality service to customers and clients. Training also helps to create a culture of continuous learning and development, enabling employees to stay

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NEP 2020 can revolutionize the scenario of the educational Industry – Pros and Cons

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Digital Transformation of the Banking Sector in Rural India Lessons from Shegaon

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ABSTRACT: Digital transformation is rapidly changing the banking sector in India, especially in rural areas. The growth of E-Banking services has created new opportunities for financial inclusion and new challenges for banks and other financial institutions. This study explores the digital transformation of the banking sector in rural India, with a focus on the case of Shegaon.The study draws on primary and secondary data to analyze the key drivers, challenges, and opportunities associated with the growth of E-Banking services in rural areas. The primary data was collected through interviews with bankers and other stakeholders, while the secondary data includes reports and publications on E-Banking and financial inclusion.The study found that the growth of E-Banking services in Shegaon has been driven by a range of factors, including increasing digital literacy, changing consumer preferences, and government policies aimed at promoting financial inclusion. However, there are also several challenges that banks and other financial institutions face in adapting to this shift, including the need for infrastructure development, concerns about security and privacy, and the cost of investment in new technology.The study also highlights the opportunities that digital

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Exploring the Factors Influencing Career Choice and Motivation of Students in the Transition Phase of Education

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ABSTRACT: The transition phase of education is crucial for students as they make important decisions regarding their academic and professional futures. This study aims to explore the factors influencing students' career choices and motivation during the transition phase of education. The study employs a mixed-methods approach, using a questionnaire survey, focus group discussions, and in-depth interviews to collect data from students in their final year of secondary school. The study investigates the influence of socioeconomic background, parental influence, personal interests and values, academic performance, and access to information and guidance on career choice and motivation. The collected data is analyzed using descriptive and inferential statistics and thematic analysis. The findings of the study provide insights into the factors that influence career choice and motivation and highlight the variations across socio-economic groups. The study identifies gaps in the current education system and career guidance programs and

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A Study of Financial Analysis with Reference to Visaka Industries, Ltd. Mouda, Nagpur. For year 2019 to 2022

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ABSTRACT: The success of every business enterprise is directly related to the competencies of business management. The business enterprise can, as a result, create variations of how to approach the new complex and changing situations of success in the market. Therefore, managers are trying during negative times to change their management approach, to ensure long-term and stable running of the business enterprise. They are forced to continuously maintain and obtain customers and suppliers. By implementing these measures, they are the opportunity to achieve a competitive advantage over other business enterprises.

KEYWORDS: Financial analysis, company profit & loss, profitability, liquidity, activity, ratios.

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Enhancing Organizational Performance through Effective Human Resource Management: A Case Study of Vikamshi Fabric Pvt. Ltd

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ABSTRACT : The role of Human Resource Management (HRM) practices in enhancing organizational performance has been a topic of interest for many researchers and practitioners. This study aimed to investigate the effective role of HRM practices in enhancing organizational performance at Vikamshi Fabric Pvt. Ltd., a textile manufacturing company located in India. The study adopted a mixed-methods approach, combining qualitative and quantitative data collection methods. The qualitative data was collected through semi-structured interviews with HR managers and employees, while the quantitative data was collected through a survey of a sample of employees at the organization. The study found that effective HRM practices had a significant impact on employee performance, job satisfaction, and overall organizational effectiveness. Specifically, the study found that employees who perceived their HRM practices to be effective reported higher levels of job satisfaction and were more likely to be engaged in their work. Additionally,

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KNOWLEDGE MANAGEMENT AND HUMAN RESOURCE MANAGEMENT PRACTICES IN IT SECTOR A STUDY ON SELECT IT COMPANIES

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A Study Inclination of Stakeholders Towards Equity Based Mutual Fund In Akola Region

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ABSTRACT: In todays market, there are many people working in various sectors and earning the money in different forms but there are some peoplewho systematically invest in the share market, mutual funds, fixed deposits,or any investment organizations on the other hand there are many peoplenot invest in any of these as mention in above.
ThisResearch paper understands the inclination of stakeholders towardequity-based mutual fund scheme in the Akola region. The objective of this research is to study investors' perception towards equity-based mutual funds then study distributors' perception towards equity based mutual fund and to compare the performance of different equity-based mutual funds and study the marketing strategy of distributers in the Akola region.
A descriptive Research designhas been used in order to conduct this research. In order to collect the primary data, questionnaire is used.

The results of the study revealed useful information about the inclination of the stakeholders toward equity based mutual fund in Akola region and this study is helpful for the distributers and marketers of the mutual fund.

I.INTRODUCTION

A mutual fund is a professionally managed type of collective investment scheme that pools money from many investors and invests it in stocks, bonds, short-term money market instruments and other securities. There are many reasons why investors prefer mutual funds. Buying shares directly from the market is one way of investing. But this requires spending time to find out the performance of the company whose share is being purchased, understanding the future business prospects of the company, finding out the track record of the promoters and the dividend, bonus issue history of the company etc. An informed investor needs to do research before investing. However, many investors find it cumbersome and time consuming to pore over so much of information, get access to so much of details before investing in the shares. Investors therefore prefer the mutual fund route. They invest in a mutual fund scheme which in turn takes the responsibility of investing in stocks and shares after due analysis and research. The investor need not bother with researching hundreds of stocks. It leaves it to the mutual fund and its professional fund management team

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A Study on Satisfaction Level of Employees with Special Reference to Shivangi Bakers Private Limited (Parle-G Biscuit Company) Khamgaon

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ABSTRACT

This study is aimed at analyzing the level of employee satisfaction at SHIVANGI BAKERS PRIVATE LIMITED, A PARLE-G BISCUIT COMPANY LOCATED IN KHAMGAON. The study has been conducted through a survey questionnaire administered to a sample of 100 employees out of 650 employees from various departments like mixing department, packaging, cream mixing, supervisors, security guards, maintenance room, cleaners, porters, operators. The questionnaire consisted of close and open-ended questions related to various aspects of job satisfaction such as pay and benefits, job security, work environment, communication, and employee engagement.

The results of the study revealed that the overall level of employee satisfaction at Shivangi Bakers Private Limited was moderate to low. Among the different dimensions of job satisfaction, the highest level of satisfaction was found in the area of job security, while the lowest level of satisfaction was observed in the area of communication. The study also found significant differences in employee satisfaction levels based on gender, age, and tenure in the company.

Based on the findings, the study suggests that the company should focus on improving communication channels and providing more opportunities for employee engagement to enhance job satisfaction among its employees. The study also recommends that the company should conduct regular surveys to monitor and improve employee satisfaction levels. The findings of this study can be useful for HR managers and policymakers in the Parle-G biscuit industry and in related manufacturing firms to improve employee satisfaction and hence retention in their organizations.

INTRODUCTION

Job satisfaction is an important aspect of an employee's work experience and has been the subject of research in organizational behavior and human

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COMPETITIVE ANALYSIS OF ORGANIZATIONSINVOLVED IN NETWORKING SERVICES

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ABSTRACT

Competition is an increasingly important in every organization to get a good service to consumers. And also, competition also helps to decrease monopoly in a particular industry. It is credited with increasing services, bringing down costs, and encouraging innovation. But the networking business may face tough problems as a result of competition.

Finding the ideal balance between market and government engagement in deciding prices, services, and investment decisions is one of these issues.

In order to find the best type of regulation, we must first examine market power andcompetition. To do this, we focus on techniques for doing so in this study.

This study aims to conduct and examine the organizations involved in networkingservices. The purpose of this study is also observed and analyses the purpose of whatdifferent type of networking services were used by the people. We collect data fromprimary and secondary data collection methods.

For that we conduct questionnaire survey by using google form. We collect the responses of 100 users who use different networking services of different companies,or we can say organization.

For the analyses the data, we have presented by charts and used percentage method.This study aims to measure how many people use networking services.

The study's findings showed that there is a significant, favorable association between customers of a certain networking service and the company that offers that service.

This study will help in understanding the nature of the customer or consumer such as what types of services will be offered according to consumer wish.

In this study we have discussed the networking services and the organization involved in networking services which involve different kinds of Internet service provider such as Airtel, JIO, Vodafone-Idea, BSNL and many more.

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A STUDY ON INVESTMENT BEHAVIOR OF STUDENTS PURSUING HIGHER EDUCATION WITH A SPECIAL FOCUS ON ENGINEERING STUDENTS IN AMRAVATI

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ABSTRACT

The study has been conducted to find out the investment pattern of youths. The major objective of the study is to understand the saving pattern, risk-taking capacity of youngsters and to find out including if they are looking for long-term growth or high return or liquidity. The study shows that the youngsters are aware of all kinds of investment options. The preference of youth towards financial investment is based on different demographic profiles. The study confirms the earlier findings concerning the relationship between income level and investment of the individual investors. Family member opinion and broker recommendation were found to be most influencing factors which affect investment decisions.

Keywords: Investment, Risk, Return, Liquidity, Trades, Stock, Behavior, stock holder, broker.

I. INTRODUCTION

Investment is some asset purchased today that is expected to give some return in future. Investing is done for various objectives, which vary from investors to investor. Investors make investment in order to maximize their wealth by undertaking a risk. The behavior of investor is characterized by a number of factors including emotional and psychological factors. The study has tried to understand the role of demographic factors in influencing the investment decisions, the risk-taking capacity of youngsters and to find out whether they are looking for long-term growth or high return or liquidity. The study shows that youngsters are aware of all kinds of investment options and demographic factor like income plays an important role in investment pattern of individuals.

II. LITERATURE REVIEW

1. Narayanan Bhaskaran & Dr. S. Suriyamurthi in July 2012 studied on topic of investor behavior in various investment avenues a study, their objective was to study the process of investing which may help companies to raise their capital through financial markets. Specific types of investments provide specific benefits for the investor, corporate as well as society. They concluded that the Indian investors are very much aware of the

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A STUDY ON INVESTMENT PATTERN OF INVESTOR IN GOLD WITH SPECIAL REFERENCE TO MIDDLE CLASS PEOPLE

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ABSTRACT

This study's goal is to examine gold investors' buying behaviour with a particular emphasis on middle-class individuals. A sample of respondents from 100 different regions of India were surveyed using a survey questionnaire as part of the research's quantitative research technique. Statistical tools including descriptive statistics, factor analysis, and regression analysis are used to analyse the survey data. The study discovers that because gold can act as a hedge against inflation and economic uncertainty, it is favoured among middle-class investors. The analysis also shows that getting profits, having a safe investment alternative, and having support during times of need are the main reasons people invest in gold.

I. INTRODUCTION

For generations, investing in gold has been a well-liked option for investors. Inflation, uncertainty, and economic instability are all risks that are hedged against by the safe haven asset known as gold. It has a long history of serving as both a value store and a means of trade between different cultures and economic systems. Modern investors, even members of the middle class, now have an easy-to-access and profitable investment alternative in gold (F Stoll 2017).In order to understand the preferences and attitudes of middle-class investors towards this asset class, this study intends to investigate their gold investment behaviours.In most nations, the middle class makes up the majority of the population, and a sizable amount of their earnings and savings are directed towards investment opportunities. For instance, in India

II. LITERATURE REVIEW

Dr. Sindhu (2014) stated that one of the top investment options is gold. especially by the investors from India. One of the main investments for Indian households in the form of property is gold. It is regarded as a liquid, safe investment. Four elements affected the price of gold. The link between the price of gold and the value of the dollar

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A STUDY ON STRESS MANAGEMENT TECHNIQUES OF LABOURS WITH REFERENCE TO PARAS THERMAL POWER STATION

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ABSTRACT

Stress Is a Major Factor which effect on human life. o it needs to manage a stress. Human Resources Have been the most valuable Advantage of any Organization as the Productivity growth of all other resources would be conditional on People. Thermal Power Station Considered as the Global Concern as these Effect on to Produce harmful effects on the environment. Thermal Power station Have does not HR so it is very difficult to identify the Psychology of Laborers and manage their stress. At such a time it is necessary to use some Techniques by the management of Thermal power station. Some Stress evaluation process needs to be done by Organization It Impactable on Productivity of the Organization. Study of the nature of stress and their impact on the behavior and performance of the lab ours. Stress causes health issue it results show on their occupational performance. The Unit selected for the study included Pras Thermal Power station. The Sample Size is 100.Random Sampling Method are Applied to select Laboure From each unit. Primary Data collected by Personal Interview, Questionary method and Observation method .and Secondary data Collected by books, Internet, public record. Power sector risky or unsafe work environment. There is lot of Pollution on thermal Power Station. Many people there are Stress by due to their working condition, Work life Balance, Financial performance and work load. Occupational stress is due to work environment and personal factor. Because of these workers not have job Satisfaction.

Keywords: Stress, Organization, Thermal Power Station, Management, Techniques.

I. INTRODUCTION

Stress Management is defined as the Plan, Strategy, techniques which is used to Reduce the stress or manage the stress. Different type of Techniques used to different type of stress in different sectors. Power sector is

A STUDY ON UNDERSTANDING CUSTOMER SATISFACTION LEVELS REGARDING E-MONEY IN KARANJA REGION

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ABSTRACT

This study aims to at conducted to evaluate and examine customer satisfaction levels Regarding E-Money services. This study's goal is to observe and analyze why people

A Study of the factors influencing the decisions of the investors to invest in SIP of the Buldhana Region

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Abstract:

SIP act as a medium for retail investors to invest their savings in the professional fund's management system, irrespective of the sum invested. It enables the masses to enter the Indian Financial Market with much more ease. Indian SIP industry is growing rapidly which is reflected by the growth in assets under management under various AMCs year on year. Investment in SIP is less risky when compared to investment in the equities market. Less risk combined with moderate returns and professional management act as a magnet for risk-averse investors to invest their savings in the financial markets. This project aims at finding out the factors affecting investment decisions on SIP and the impact of behavioral factors on an investor. This project also aims at finding the factors that prevent people from investing in SIP. The findings will help SIP companies to identify the areas required for improvement and can also improve their marketing strategies. It will help the SIP companies to create new and innovative products according to the orientation of investors. Investor perception cites a significant impact on the investment decision-making process. It is important to understand a few basic factors such as the level of awareness and impact of the date of inception of the fund which plays a significant role in guiding the investment decision-making process of a retail investor.

Keywords — SIP Performance, Investment, Risk-returns, Factors Affecting, Behavior.

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I. INTRODUCTION

There are a large number of investment instruments available today. Such as MF, Stocks, Bonds, Cash,

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Journal For Innovative Research
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Indian Knowledge System : Concept, Scope and Criticism



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Need of E-Governance in Indian Knowledge System:Steps, Strategies, Advantages and Challenges in Adoption for Seamless Functioning in Organization

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Abstract:

e-Governance is pathway to flow of information between one sources to the other. The concept of e-Governance in special reference to India is all about the flow of information between Government and Citizen, Government and Businesses, and Government and Government. Present government has full faith on e-Governance and hence is connected worldwide and very soon in near future world spread network of Indian Business will prove it. In this study authors are focusing mainly on scope of e- Governance, its present need and future value in governance of activities at small, medium and large scale establishments as the development of country is depends upon use of e-Governance and its penetration and application.

While working on this paper found that, adoption of e-Governance has made working of government more effective and efficient, responsive and transparent to citizen of India. One of the most striking developments of the b worldwide since nineties, e-Governance have proved its importance with best fitted e-technology with changing commercial, economical and technological era. This study will reveal what are the critical success factors in implementing e-government? and generic problems in e-governance and where and how does e-governance help?

Key Words: e-Governance, efficiency and effectiveness, e-technology, Digital empowerment, ICT, Make In India, e-commerce, e-health, e-learning.

Implication: this research will provide helpful input to understand the need of e-Governance is a output of globalization in commerce, business, economy and technology and future advancements. Global shift towards increased deployment of Information Technology' by Government, as discussed earlier, in nineties with advent of World Wide b. E-Governance is powerful means of supporting hyperlinked information and interactive information is clearer avenue for Government to Citizen Interactions and the promise of attainment of the goal of good governance.

Objectives: government and governance are both about getting consent and cooperation of the governed. Government is firmupon this objective and governance is an outcome as experience by those on the receiving end. Objectives of focusing on e-Governance are;

1. To understand the sectors wise need of its implementation.
2. To identify key factors of its future advancements.
3. To define its features and benefits, and role in governance.
4. To understand rising expectations and demands of it by highly aware citizens.
5. To evaluate efficiency, transparency, accountability, and citizen orientation in adoption of Information Technology enabled governance.
6. To discuss e-Governance as media creation tool and communication tool.

Method: this paper is essentially based on literature review and conceptual analysis of e-governance, its implications, need, scope, benefits and advantages. Hover attempt is made to create linkage between e-Governance and Digital India, Make in India programme, Corruption free India, Single window system, speedy public services, etc. the paper does not based on empirical testing hover observations of literary review of e-Governance, its fact findings from Central and state government and its future prospectus.

Introduction: e-Governance is defined as the tool of delivery of government services and information to the public through electronic media.e-Governance as a part of Information and Communication Technology can enhance the transformation of work culture by serving verity of ends, fast and better delivery of government services to citizens, improved and quick interaction with industry, business and corporate houses, and also citizen empowerment by participative tactics through use of a tool of Information and Communication Technology i.e. e-Governance.

Literary Review: e-governance has four pillars Communication connectivity, Skill and knowledge, Information and data content, and Capital. Connectivity is required to connect people to e-Governance, skill and knowledge is required to handle the kind of faults, data and information must be available on portal for public use and capital refers to money used by government to provide services through e-Governance. Capital can be on public or private partnership. Today e-Governance is implementing from urban areas to remotest location of country for public use and to accelerate the processes and services. Here we are discussing scope, aspects, stages, strategies, e-Governance in India, challenges, and demerits of e-Governance.

Scope of e-Governance: e-governance has scope in various areas viz;

- E-citizenship
- E-transportation
- E-registration
- E-health
- E-help
- E-education
- E-taxation
- E-democracy
- E- feedback-administration
- E-police
- E-court
- E-licensing

- E-tendering

Etc. are the areas e-governance has wide scope and need of present and future era.

Aspects of e-Governance: are discussion main aspects of management as follows;

- Management of Information: it is gathering and storing information related to the government and governing processes. It is mainly divided into 1. Database management which involves in bare compilation and organization of data, 2. Indicator management; involves with information catch and 3. Knowledge management is managing skills and knowhow of the employees.
- Identity management: is the set of process and infrastructure for creation, maintenance and use of digital identities. These identities are useful for the process of assessment of e-Governance portal.
- Assess management: it involves with authentication of use of e-Governance.
- Management of Content: it manages process of organization, distribution and tracking information or data.
- Management of Standards: ITC have to manage network and information standards, data standards, localization and technology standards, quality and documentation standards and b accessibility standards.
- ICT legal framework: e-Governance has to maintain legal frame work of e-governance.

Stages of e-Governance:United Nation e-readiness survey has contemplates common standard parameter for the stages of e-Governance.

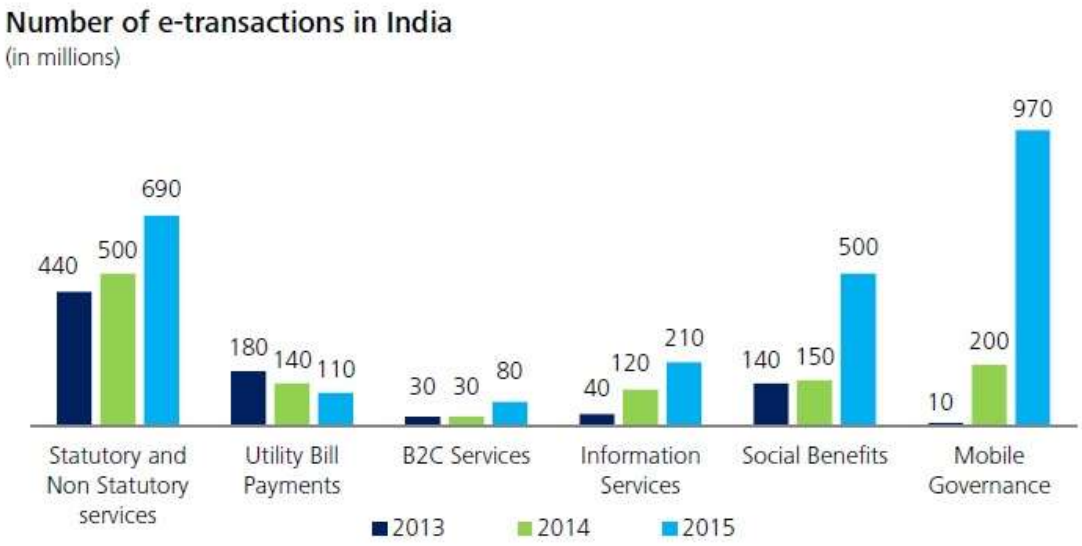
- Emerging presence: it considers presently available and basic information.
- Enhanced presence: in this stage government provides more public information resources such as policies, law, rules, regulations, newsletters etc.
- Interactive presence: it involves availability of online services of the government to enhance convenience of public.
- Transactional presence: it allows two way communications beten government and public. It involves for applying ID cards, Passports, Aadhar Cards, PAN card, Licencing
- Networked presence: this most sophisticated level is characterized by interaction beten government and public, government and business houses and government to government. In this stage government encourages participation of citizens.

Strategies for e-Governance:

- Building technical framework: it is observed that India is lagging behind in building full proof technical framework for e-governance. Complete implementation and acceptance of e-Governance has still better road ahead.
- Legal infrastructure: government has to construct strong legal infrastructure to curb illegality in e-Governance.

- Building strong institutional Capacity: mare launching of e-Governance process for fast and best working is not enough. It is essential for the government to provide proper training and information to their employees. Private partnership of IT firms in ITC training will help to curb the problem of computer illiteracy.
- Building judiciary infrastructure: judiciary as whole need to train on new technology, benefits, drawbacks and disadvantages of e-Governance.
- Information under finger tip: government must make available all information online on bsite for centralized process of getting information.
- Popularized e-Governance: literacy percentage in India is alarming and especially in case of ITC. People need to educate and e-literate.
- Center-state relationship: center state and state-state cooperative relationship is necessary for smooth functioning of e-Governance.
- Setting standards: setting standards to bring implement and accept e-Governance is essential. Currently government have set up e-Governance in most of its processes including education, banking, commerce, agriculture, admistration, licensing, certification, industries, constructions and infrastructures, law and order, etc.

e-Governance in India: India is seeing dramatic growth in number of online tractions beten citizens and the Government. Number of such e-transaction is grown by 200% in two years; from 840 million in 2013 to 2580 million in 2015. The number of tractions per service category is shown in figure below;



Source: etaal.gov.in

Challenges to e-Governance: challenges to e-Governance are mainly divided into three typesi.e technical, organizational and economical.

Technical Challenges: it includes privacy, security, interoperability, synchronization of different services and sectors, etc.

Organizational Challenges: it focuses on lack of willingness of government, lack of integration of services, lack of key persons, population, different languages, lack of creation of single window system ect.

Economical challenges: it is cost encoring, portability, maintenance, reusability etc.

These challenges can be eradicated up to major extent by proper channel of e-education, awareness, sometimes forceful implementation, trainings of key persons, etc.

Demerits of e-Governance: e-Governance also consist some disadvantages. The main demits of it is that this system loses person to person interaction which is valued by a lot of people.

Due to technology based system e-Governance may fetch lots of excuses (e.g. server is gone down) those problems with the service provider are because of the technology.

Other factors like lack of computer literacy, availability of internet access, online transaction security is concern, etc are the demerits of e-governance. These can be curbing through proper implementation of system, its awareness and education in school course curriculum.

Findings:fact findings reveals on e-Governance, its implementation and acceptance have many advantages. India is moving ahead with new technology along with literacy and e-education for successful outcome of e-Governance.

Advantages of e-Governance: e-Governance has wide advantages and it is best of its kind. The project benefits for e-governance programmes are significant. Following are the major advantages/ benefits of implementing , accepting and accessing e-Governance.

- Speedy Services: ITC makes communication faster than ever. Error free IT communication has great advantage over manual communication.
- Transparency: use of e-Governance makes government process faster and transparent. All information of government are made available on respective department's b sites. ICT helps make the information available online eliminating all the possibilities of concealing of information.
- Cost Reduction: paperless governance reduces cost and time of administration e.g. computer, papers, printers etc. which reduces heavy cost of material. Also e-signature can give in absence of authority physically which reduces time.
- Accountability: once the governing processes are made online then government is made automatically accountable for it and accountability is ansrability of the government to the people.
- E-Governance and service on demand: single window system accessibility for all Indian citizens by consolidates integration of various departments of government online and on mobile platform. Government to ensure easy and fast accessibility of the same for all citizens.
- E-Governance and Digital Empowerment of citizen: this is for preparing India for the knowledge based transformation delivering good governance to citizens by synchronized and co-ordinated engagement with both state and Central government. Government services are to be digitally transformed for improving ease of doing business and its demand of current era. Ease in making financial transactions above

threshold, electronics and cashless, and leveraging Geographical Information System for decision support systems and development. Universal digital literacy i.e all government documents/ certificates to be available on cloud, resources must be available in Indian language for ease, portability of all entitlement for individual through cloud.

- E-Governance and corruption: e-Governance increases the transparency, accountability and efficiency in all government services. It plays a vital role in combating corruption in delivery of public services. It is seen that impact of e-Governance on curbing corruption is more in developing countries like India since its implementation.
- E-Governance and Make in India initiative: Make in India programme of Indian government is ambitious initiative to making India self reliant country in different sector; especially manufacturing. E-Governance will provide ease in accessing documents and certification services due to integration of different department of government and create single window system. It helps business houses for their expansion speedily.

Conclusion: to realize the vision of promoting growth through e-Governance in India, the paramount requirement is to reach to citizens of remotest locations and make them a part of it. e-Governance is playing vital role in education and accepting electronic governance among the citizens and can be seen as game changer and whistle blower in curbing corruption through transparency and accountability.

e-Governance which can contribute directly or indirectly and positively in cost reduction, accountability, speedy public services, Make in India Programme, Digital India Empowerment of Citizen, transparency in services, scam and corruption free projects, improved health, infrastructure, transport, taxation, basic amenities etc.

To ensure success in acceptability of e-Governance by Indian Citizens, government will have to take initiative steps across all functional areas. Challenges and demerits can be eradicated as e-Governance will accepted progressively. The dream of almost corruption free country and public services can be achieved through the proper implementation of e-Governance.

Reference:

- Nikita Yadav& V. B. Singh, E-governance: Pat, Present, Future in India, International Journal of Computer Application (0975-8887), Vol-53 no7, September 2012, pp. 37-38.
- SubhshBhatnagar, Transparency and Corruption: Does E- Government helps? CHRI 2003 Report OPEN SESAME: looking for the Right to Information in the Commonwealth, Commonwealth Human Rights Initiative, 2003, pp.1.
- Deloltte, E-Governance and Digital India; Empowering Indian Citizens through technology, September 2015, pp-12.
- Reinventing Government in the Information Age : International Practice in IT-enabled Public Sector Reform, Richard Heeks(Editor),Routledg, January 200.
- E-Government, 2003, Mark A. Abramson (Editor), Therese L. Morin (Editor).

- Jamshed J. Mistry; Abu Jalal, An empirical Analysis of Relation Between e-government and Corruption, The International Journal of Digital Accounting Research Vol. 12, 2012, ISSN: 1577-8517 pp. 145 – 176,



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