3.3.1 Number of research papers published per teacher in the Journals notified on UGC CARE list during the years (2020-21)

S.No	Title of paper	Name of the author/s	Department of the teacher	Name of journal	Calendar Year of publication	ISSN number	Link to the recognition in UGC enlistment of the Journal /Digital Object Identifier (doi) number		
							Link to website of the Journal	Link to article / paper / abstract of the article	It is listed in UGC care list / Scopus / Web of Science / Other, mention
1	Analyzing The Performance Of Marketing Life Cycle Process Using Software Architecture Model	Dr.Shaik.Shakeer Basha	CSE	International Journals UGC CARE A, Web of Science Indexed : International Journal of Aquatic Science	2020-21	2008-8019	https://www.journal-aquaticscience.com/article_132572	https://www.journal-aquaticscience.com/article_132572	UGC care
2	Deep Convolutional Neural Networks For Analyzing Electromagnetic Waves Using Maxwell Equation Model	Dr.Shaik.Shakeer Basha	CSE	International Journals UGC CARE A, Web of Science Indexed : International Journal of Aquatic Science	2020-21	2008-8019	https://www.journal-aquaticscience.com/article_133203_3bb64464da0bb98f720b575603130b19.pdf	https://www.journal-aquaticscience.com/article_133203_3bb64464da0bb98f720b575603130b19.pdf	UGC care
3	A Survey On Ai In Different Application Domains	Dr.Shaik.Shakeer Basha	CSE	International Journals UGC CARE A, Web of Science Indexed : International Journal of Aquatic Science	2020-21	2008-8019	https://www.journal-aquaticscience.com/article_133193_cb80abeb050e997ed32be1ababe284b0.pdf	https://www.journal-aquaticscience.com/article_133193_cb80abeb050e997ed32be1ababe284b0.pdf	UGC care
4	Analyzing Various Graph Theory Applications Using Mathematical And Computational Intelligence Approach	Dr.Shaik.Shakeer Basha	CSE	International Journals UGC CARE A, Web of Science Indexed : International Journal of Aquatic Science	2020-21	2008-8019	https://www.journal-aquaticscience.com/article_132562	https://www.journal-aquaticscience.com/article_132562.html	UGC care

PRINCIPAL
Avanthi Institute of Engg. & Tech
Gunthapally (V), Abdullapurmet (Md), R.R. Dist.

5	Development Of Machine Learning Techniques To Differentiate COVID-19 Indications From Serious Diseases	Dr.Shaik.Shakeer Basha	CSE	International Journals UGC CARE A, Web of Science Indexed : International Journal of Aquatic Science	2020-21	2008-8019	https://www.journal-aquaticscience.com/article_133200.html	https://www.journal-aquaticscience.com/article_133200.html	UGC care
6	Automated Visual Assessment From Optical Data Sets To Enhance The Accuracy Of Data Analysis	Dr.Shaik.Shakeer Basha	CSE	International Journals UGC CARE A, Web of Science Indexed : International Journal of Aquatic Science	2020-21	2008-8019	https://www.journal-aquaticscience.com/article_133202_0679bfce8285246a503e70a7e253c17a.pdf	https://www.journal-aquaticscience.com/article_133202_0679bfce8285246a503e70a7e253c17a.pdf	UGC care
7	Artificial Heavy-Duty Structural Technology For Ai Mobile Robots To Control Dynamic Programming	Dr.Shaik.Shakeer Basha	CSE	International Journals UGC CARE A, Web of Science Indexed : International Journal of Aquatic Science	2020-21	2008-8019	https://www.journal-aquaticscience.com/article_133192_0ff380bc2021e5b9fd79fd4152175982.pdf	https://www.journal-aquaticscience.com/article_133192_0ff380bc2021e5b9fd79fd4152175982.pdf	UGC care
8	Empirical View Of Financial Management Survey In Block Chain Technology Issues, Risk And Mitigation	Dr.Shaik.Shakeer Basha	CSE	International Journals UGC CARE A, Web of Science Indexed : International Journal of Aquatic Science	2020-21	2008-8019	https://www.journal-aquaticscience.com/article_132884.html	https://www.journal-aquaticscience.com/article_132884.html	UGC care
9	Ubiquitous Management System For Monitoring E-Learning Applications	Dr.Shaik.Shakeer Basha	CSE	International Journals UGC CARE A, Web of Science Indexed : International Journal of Aquatic Science	2020-21	2008-8019	https://www.journal-aquaticscience.com/article_132883_3c551f0be0bf20ed6ca3418096ad07a3.pdf	https://www.journal-aquaticscience.com/article_132883_3c551f0be0bf20ed6ca3418096ad07a3.pdf	UGC care
10	A Survey On Life Skill Challenges, Development And Implementation In School Education System	Dr.Shaik.Shakeer Basha	CSE	International Journals UGC CARE A, Web of Science Indexed : International Journal of Aquatic Science	2020-21	2008-8019	https://www.journal-aquaticscience.com/article_132885_8a90d2afc6abbedd59e7b7f5607d9ee.pdf	https://www.journal-aquaticscience.com/article_132885_8a90d2afc6abbedd59e7b7f5607d9ee.pdf	UGC care
11	impletation and evaluation of polar codes in 5G	Dr.S.kishore Reddy	ECE	complexity international journal(CIG)	2020-21	1320-0682	http://http://sij.org.in/currentvolumissue2501.aspx	http://http://sij.org.in/currentvolumissue2501.aspx	UGC care

PRINCIPAL
Avanthi Institute of Engg. & Tech
Gunthapally (V), Abdullapurmet (Mdl), R.R. Dist.

12	Impletation and evaluation of polar codes in 5G	Mr.SAIDI REDDY	ECE	complexity international journal(CIG)	2020-21	1320-0682	http://http://sij.org.in/currentvolumissue2501.aspx	http://http://sij.org.in/currentvolumissue2501.aspx	UGC care
13	Development Of Machine Learning Techniques To Differentiate COVID-19 Indications From Serious Diseases	Dr.Shaik.Shakeer Basha	CSE	International Journals UGC CARE A, Web of Science Indexed : International Journal of Aquatic Science	2020-21	2008-8019	https://www.journal-aquaticscience.com/article_133200.html	https://www.journal-aquaticscience.com/article_133200.html	UGC care
14	Workforce agility and international change theory:an exploration into the need of developing agile teachers	Mrs.P.Naga usha sree	MBA	international journal of management and social science research review,vol-7,issue-12,dec-2020	2020-21	2349-6746	http://ijmsrr.com/downloads/291220205.pdf	http://ijmsrr.com/downloads/291220205.pdf	UGC care
15	Impact of intentional change theory and intrinsic motivation on agile teachers	Mrs.P.Naga usha sree	MBA	EPRA international journal of economic and business review	2020-21	2347 - 9671, 2349 – 0187	https://eprajournals.com/IJES/article/4396	https://eprajournals.com/IJES/article/4396	SCOPUS
16	influence of organisational citizenship behaviour factors on job satisfaction among engineering college teachers	Dr.B.Nayeema	MBA	Iintrnational journal of business and administration research review.vol7,issue.2,april-june2020	april-june2020	2348-1269	https://www.ijrar.org/archive.php?vol=7&issue=2	https://www.ijrar.org/archive.php?vol=7&issue=2	SCOPUS
17	is engagement influenced by resilience?multiple moderator analysis centric to tn psu telecom employees	Dr.B.Nayeema	MBA	nat.volatiles&essent.oils,2021; 8(5):4437-4444	2020-21	4437-4444	https://www.nveo.org/index.php/journal/issue/archive/	https://www.nveo.org/index.php/journal/issue/archive/	UGC care
18	Examining mediatory role ofgis factors of employee engagement and organizational effectiveness	Dr.B.Nayeema	MBA	Solid state technology volume:63 issue:5 publication year:2020	2020-21	Volume: 63 Issue: 5 Publication Year: 2020	https://www.academia.edu/44272546/EXAMINING_MEDIATORY_ROLE_OFGIS_FACTORS_ON_EMPLOYEE_ENGAGEMENT_AND_ORGANIZATIONAL_EFFECTIVENESS	https://www.academia.edu/44272546/EXAMINING_MEDIATORY_ROLE_OFGIS_FACTORS_ON_EMPLOYEE_ENGAGEMENT_AND_ORGANIZATIONAL_EFFECTIVENE	UGC care

PRINCIPAL
Avanthi Institute of Engg. & Tech
Gunthapally (V), Abdullapurmet (Mdl), R.R. Dist.

19	Organisational commitment impact on job satisfaction among engineering college teachers in andhra pradesh	DR.B.nayeema	MBA	Juni Khyat ISSN: 2278-4632 (UGC Care Group I Listed Journal)	2020-21	ISSN:2278-4632	http://junikhyatjournal.in/june.html	http://junikhyatjournal.in/june.html	UGC care
20	MEDIATING ROLE OF ORGANISATIONAL COMMITMENT ON ORGANISATIONAL CITIZENSHIP BEHAVIOUR AND ITS IMPACT ON JOB SATISFACTION	DR.B.nayeema	MBA	ASIAN JOURNAL OF MANAGEMENT.12(i):JANUARY-MARCH,2021	MARCH,2021	0976-495X (Print) 2321-5763 (Online)	https://ajmjournal.com/Issues.aspx?VID=12&IID=1	https://ajmjournal.com/Issues.aspx?VID=12&IID=1	UGC care
21	IS ENGAGEMENT INFLUENCED BY RESILIENCE? MULTIPLE MODERATOR ANALYSIS CENTRIC TO TN PSU TELECOM EMPLOYEES	Dr N. RAMANA REDDY	MBA	SHODHSAMHITA ISSN 2277-7067 UGC CARE Group 1	2020-21	2277-7067	https://portal.issn.org/resource/ISSN/2277-7067	https://portal.issn.org/resource/ISSN/2277-7067	UGC care
22	Compensation Reward Management	Dr Y Jayaprada	MBA	webology ,Volume 18, No. 6, 2021	2020-21	ISSN 1735-188X	https://www.webology.org/abstract.php?id=4561	https://www.webology.org/abstract.php?id=4561	webology
23	Competency Analysis	Dr Y Jayaprada	MBA	Volume 11, Issue 3, March 2020	2020-21	0976-6510	https://iaeme.com/MasterAdmin/Journal_uploads/IJM/VOLUME_11_ISSUE_3/IJM_11_03_087.pdf	https://iaeme.com/MasterAdmin/Journal_uploads/IJM/VOLUME_11_ISSUE_3/IJM_11_03_087.pdf	SCOPUS
24	Performance Analysis and Practices	Dr Y Jayaprada	MBA	JOURNAL OF CRITICAL REVIEWS	2020-21	2394-5125	https://www.jcreview.com/admin/Uploads/Files/638c18cc42e993.41231179.pdf	https://www.jcreview.com/admin/Uploads/Files/638c18cc42e993.41231179.pdf	SCOPUS
25	RSDQ model of 360 degree feedback	Dr Y Jayaprada	MBA	International Journal of Management (IJM)	2020-21	0976-6510	https://iaeme.com/Home/issue/article_id/IJM_11_11_440	https://iaeme.com/Home/issue/article_id/IJM_11_11_440	SCOPUS

PRINCIPAL
Avanthi Institute of Engg. & Tech.
Gunthapally (V), Abdullapurmet (Mdl), R.R. Dist.

International Journal of Aquatic Science
ISSN: 2008-8019
Vol 12, Issue 02, 2021

IJAS

Analyzing the Performance of Marketing Life Cycle Process Using Software Architecture Model

[1]Dr.Shaik.Shakeer Basha, [2]S.Mahalakshmi, [3]Amin Tuni Gure, [4]Durga Prasad Sharma, [5]Dr.Syed Khasim , [6]P N Jeipratha

[1]Asst.Professor, Computer Science & Engineering, Avanthi Institute of Engineering and Technology, Gunthapally, Abdullahpurmet Mandal, Telangana, PIN-501512.
[2]Assistant Professor, Department of Information Science and Engineering, BMS Institute of Technology and Management, Avallahalli, Bangalore, Karnataka 560064.
[3]AMIT Arba Minch University, Ethiopia.
[4]AMUIT MOEFDRE under UNDP and MAISM- RTU, India.
[5]Professor, Department of Computer Science & Engineering, Dr.Samuel George Institute of Engineering & Technology, Markapur, Prakasam Dt, Andhra Pradesh, 523316
[6]Assistant Professor, Department of Computer Science and Engineering, St.Joseph's College of Engineering, OMR Chennai 600119

Abstract:
The findings of our research of software framework metrics are presented in this paper. This analysis includes a short selection of the finest and most widely utilized application development metrics regarding Software Architecture programs and measurements. In a nutshell, the measures performed to strengthen the matrix-based assessment & design of the software platform differ from machine to machine. We developed a technique utilizing commercially available and normal sizes to prove our point. For 3 computer systems of varied sizes, we generated matrix values utilizing the same standardized matrices. Products parameters, Marketing predictive analytics, inheriting, mobility services, diversity, recycling, and complication evaluations were all studied with the help of Software Design matrices toolkits. With a really essential observation and control, it determines the classification of groups. The findings will aid quality engineers in determining the appropriate metrics for their enterprise applications and estimating the dimension that have evolved through time utilizing the Commercial Life Cycle approach.

Key terms: Software Architecture Procedure, Marketing life cycle, Metrics, Reusability, Performance Estimation.

1. INTRODUCTION

A metric is indeed a measurement of such a system's effectiveness and capabilities in application development. A metric is a parameter used to estimate the very next location that originates a packet in routing protocol. The metric is being used immediately by algorithms at points and also as an element at other times. The scale in computing is made up of elements. The metrics has an impact on anything that uses the meter as a spatially measuring unit. Metrics are therefore insufficient for determining information about a developing application. To obtain information regarding software performance improvement, multiple factors must

be combined. To calculate the dimension of a particular software programmer, multiple software programs can also be employed. [1]

The information from of the harvesting system manufacturing process is recorded weekly & uploaded further into report repository. Information from the repository is being used to report generation. Regular information gathering actions can be planned by the hosts admin [2]. Modifications to program monitor artefacts, as well as sustainability plan for matrices outputs, really aren't available right away. They could only be submitted when data collection has been completed. The very last information harvest activity time is displayed upon on search result whenever a record is prepared. Report can be defined and stored mostly on Project Matrix homepage by individuals with "project-edit" access [3,4]. You can monitor performance all across domains or in specific projects inside the area for the system level remediation summary. Those organizations in the region which use alleviation as their configuration management are eligible for alleviation report [5]. Complex systems that aid in the evaluation of many properties of computer product or process are frequently described in the software metrics research. There is a lot of debate more about usefulness of simulations and what people expect from them. Although certain theories are conceptually debatable, the accompanying dimension should not have been overlooked [6].

The process of gathering such measures contributes to a positive organization of a system development as well as a deeper understanding of what we're seeing (to an amount if they restrict themselves to relevant measurement by some bogus criterion). This notion exemplifies the value and use of process standards, like that of the Software Development Foundation's capability management framework that encourages organizations to analyze & report on internal operations, although in a measure-by-measure manner [7].

2. METRICS MEASUREMENT

- Measurements: The phrase "measurements" is commonly used to refer to a series of measurements conducted on a given subject or procedure. Computer programming methodologies were groups of words that are utilized as distinguishing characteristics:
- Software engineering goods, such as ideas, system software, and system testing,
- Software engineering activities, such as research, planning, and programming operations, and
- Software engineering individuals, such as a reviewer's skill or a developer's efficiency.
- When it is used properly, it can be used to assess software engineering:
- Commercial strength or weakness, as well as success or disaster for a business, method, or person
- Goods Identify and measure enhancements to their goods, procedures and persons, deficiency or development;
- Valuable and useful management, adopt executive decisions,
- Identify and categories current trends.
- Quantification Develop indefinite yet realistic estimations, such as a single reviewer's efficacy or a single creator's performance.

The System Architecture and program design matrices uses the following metric as just a criterion: System Architecture Software Development Components, such as prototypes, system software, and unit test, Software Design Software Development Procedures, such as analyzation, architecture, and computer programming functional areas, as well as Software

Architecture Software Construction Persons, such as the reviewer's capacity or the creator's economic output [8].

The technique of staying in physical interaction is known as localization: Information based policies place metadata in its proper context. Techniques to System Design Locate data in relation to items. Localization is entity-based in System Architecture Technology. This translates to: Item an entity's functionality, but at the very minimum, our matrices recognition and collecting activity (possibly the bigger attempt) must recognize the "entity" as the fundamental unit of program. localization among functionality and entities is not really a correlation in object-oriented systems. A method, for instance, can be assigned to numerous objects, as well as an entity can be assigned to different purposes [9].

The packing (or binding) of a set of things involves business model assessment: Recordings & episodes were decreased instances of Marketplace statistical analysis. Sub-programs (e.g., principles, procedures, subprocesses, and phrases) constitute crypto encryption's intermediary subsystems. Marketplace analytics of entities (e.g. class & associated instances) enables languages syntactically in computer languages. Business model assessment is conceptually accepted but still not realistically validated in the others [10,11].

Operations that encode data has two major effects: Designers have to enhance our understanding about both the structure & assessment of characters networks. The basic element of the units is therefore no more a sub-program, but its an entity, and we will need to enhance the understanding about structure and rating of language technologies. Hide (or hide) information is the same as hiding (or hidden) information. The basic concept is that we simply display the data required to achieve our approach explained. From regulated visibility to ultimate disappearance, the quantity of knowledge is partly covered [12]. Business model research and information concealment are not quite the same thing. For example, an item could be round yet it is still fully visible. In order to measure entity aggregate and informational intrusion, it is necessary to hide data. Inheritance is the process of gaining characteristics through one or more of these items.

Product Many Software Development technologies simply allow for one inheritance, which means that an entity may acquire properties from some other item explicitly [13]. Objects Multi inheriting is supported by some Software Development language, which means an entity can acquire characteristics via 2 or more other entities directly. Character qualities which can be passed on and the concept of heredity differ by languages. Measurement within software development are dependent on inheritance, for example, Amount of kids (numbers of direct specializations) and parents (number of immediate normalizations),. (Classes layer during series hl) Heterogeneous nesting layer. Extraction is a technique for concentrating on the most essential (or required) aspects of a concept or item [14].

The principle of relativity is now at the heart of the Software program. We neglect more and more specifics as we move to a greater level of uncertainty, i.e., we present a broad overview of an idea or issue. We present additional information, i.e., a sharper viewpoint of an area or object, as we proceed to a lesser level of complexity. Operational, information, procedural, & entity capturing are examples of distinct sorts with representations. Researchers consider items as high-level units in entity abstractions (i.e., as black boxes).A meta-class is a type of classes, with sub-classes as prototypes.

Consumer meta categories are natively supported by certain Software Design computer languages. As just a consequence, meta-classes could be considered as class after subclass, in which we provide system conditions to a meta-class and need them to generate a class, as just an instance. The term "meta class" refers to a collection of instances. A customizable category is one in which most or all of the members could be customized. Applying a parametric object only with relevant parameters allows you to construct new (directly useable) class. Parameterized class includes promotional modules & generic objects within electronic File.

A few have highlighted a distinction among meta-classes & parameterized objects, claiming that Meta classes have (typically) runtime behavior while parametric objects do not.

3. MARKETING LIFE SKILL

The life span of advertising Applications & event that occurred every class, Application identity or parameterization subclasses for every program, & Ratio of non-parameterized classes over parameterized subclasses are all characteristics connected to a category connection. Merging in programming is linked to managing, where current measures are being used to evaluate external quality assurance aspects including failure, impact assessment, and modification catastrophic effects. Recommended, including one that summarizes the coupling's distinctive characteristics.

This research proposes linguistic coding embedded within identifier & remarks syntactic and semantic data obtained from programming language as novel combination approaches for marketing activities. To contrast the new processes to the proposed project couplings stages, a test case on accessible software applications has been done. The case study demonstrates how conceptually combining catches additional devices of mixing typically caught via current binding techniques, allowing it to be utilized to supplement existing measures.

Marketing Life cycle Complexity Metrics

- Hierarchy difficulty.
- Computational complexity.
- Cyclomatic difficulty (or conditioned difficulty).
- Kolmogorov complexity(term used to describe the degree of difficulty in solving a problem).
- Object complication that isn't hierarchical.
- Hierarchical entity complication
- non-hierarchical process complication

Cyclomatic Complication	Risk Complication
1-09	a simple program, without risk
10-20	very complex, medium risk
21-51	high risk
51+	Un stable, very high risk

Table 1. Standard Values of Cyclomatic Complexity

International Journal of Aquatic Science
ISSN: 2008-8019
Vol 12, Issue 02, 2021

4. SOFTWARE ARCHITECTURE PROGRAMMING

The connection between both the child and its parent is explained by merging the subclasses. The child has a relationship with its parent; however, the parents do not have a relationship with the kids. Whenever two components are temporarily merged under one module, this is known as temporal blending.

Coupling among objects (CAO)
1) Combining = combining class i with class j, using j modules or example attributes (including conventional combinations)
2) The CAO for each class is no of additions to the number of other classes
3) High combination between classes means the modules are interdependent.
4) Free classes can be used again and again easily and also expanded as needed.
5) Excessive merging reduces comprehension and complication is getting bigger.
6) Excessive integration keeps maintainability very complex as the modifications in one class can affect the other classes of the application.
7) Merging can be less, but few combination is required for a operational software.Coupling between objects (CBO)

Cooping vs. Cohen

Combining and coordinating are two terms that often occur. They integrate together regarding the quality of the module. When talking regarding the interdependencies among different modules, how does integration describe the corresponding functions in a module? Low connectivity indicates that the module is doing a lot of unrelated things and therefore causing problems as the module gets bigger.

Profits: Whether all the pairing was flexible and tight, communication & attribute production, transport, interpretation and overall commenting expense all reduce performance of the system. It help you perform better in few ways.

Measurement in complication are found throughout the sdlc, including specifications, evaluation, architecture, and plan implementation. This is typically an unfavorable aspect of programming since it makes it more difficult to read and comprehend, and thus hard to change; it is thought that it's one of the causes of variation. The difficulty of gauging complication comes in the consumers internet discussion of smart architecture. If there are any acceptable “intricacy” item components? Cos of the possibility of recurrence, clutter, or contaminating, the "number of pieces" is restricted.

The term "number of various pieces" is confusing & necessitates a variety of data sources. The difficulty of all of the crafting products obtained in a software development project can be easily measured using code. Nevertheless, despite extensive research, little conclusion can be drawn about which coding best depicts intricacy. It's tough to discern which coding is much more sophisticated when two programmes are written in a variety languages. Throughout the lack of such a conclusion, numerous methods for determining the system's complexities are already available. What is the optimal metric by each scenario, according to studies? Are all these measures more accurate than even the most typical system software metrics, like coding columns? We explore the relationship among varying sizes and intricacy

measures using the immense amount of free software accessible. We would concentrate with one computer language, C, which would be the "traditional" in software engineering and among the most prominent computer languages, in time to prevent playing oc in various qualities and aspects.

5. CONCLUSION

Determine the quality attributes an instructor wishes to define, of above data could be utilized to decide when and where to employ everyone of above measures. Ascertain that the parts are accurately defined, and also that the technology users use could evaluate quality requirements and signals, as well as expand the developmental range and operational capabilities. According to survey results, most organizations are on the correct track when it comes to using measures within software development projects. The following steps are advised for measuring the "best practices" list of metrics in all undertakings for organizations which do not represent "industry standards" and would like to improve existing matrices competencies. Emphasize upon on parameters that really are “simple to implement” for development and system engineers, as well as provide great insight about software development project operations. We've gone through the six factors in depth, which are among the most well-known and commonly used. They're linked to different phases of development. Beginning with the user needs, we can utilize principal component analysis to gauge performance during the requirement specification. The matrices suites can be employed at the expert level development stage: we therefore have process by process notion regarding integration and coordination, which have been the structure's primary qualities. Inheritance, polymorphisms, parallel processing, intricacy, hidden factors, connectivity, interaction, and recycling are some of the business strategies previously proposed to evaluate unique features. Throughout this article, a matrices programmed based mostly on organizational mission will aid communication, measurement, and, eventually, achievement of such objectives. Individuals strive to accomplish whatever they consider to be significant. Measures which are well and have clear objectives enable a company gather the data it requires to enhance its software applications, procedures, & activities while focusing on the most crucial. A realistic and methodical approach to choosing, creating, and applying computer measures would be beneficial. The variety of methods and their difficulty determine how much energy and time was necessary to create and manage the class.

6. REFERENCES

[1] Kaur Amandeep, Singh Satwinder, K. Kahl. “Evaluation and Metrication of Software Architecture System”, International Multi Conference of Engineers and Cmputer Scientists, 2019 vol. 1.

[2] J. Alghamdi, R. Rufai, and S. Khan. Oometer: A software quality assurance tool. Software Maintenance and Reengineering, 2019. CSMR 2019. 9th European Conference on, pages 190{191, 21-23}, March 2010.

[3] S. Conte, H. Dunsmore, V. Shen, Software Engineering Metrics and Models, Benjamin/Cummings, Menlo Park, CA.,2020

[4] S. Chidamber, C. Kemerer, A Metrics Suite for Software Architecture Design, IEEE Trans. Software Eng., 20/6), 2020, pp. 263-265.

[5] A. Albrecht and J. Gaffney: Software Function, Source Lines of Code, and Development Effort Prediction: A Software Science Validation; in IEEE Trans. Software Eng., 9(6), 2018, pp. 639-648.

[6] B. Bohem, Software Engineering Economics, Prentice Hall, Englewood Cliffs, 2015

[7] L. Briand, S. Morasca, V. Basili, Defining and Validating High- Level Design Metrics, Tech. Rep. CS TR-3301, University of Maryland, 2019.

[8] S. Morasca, Software Measurement: State of the Art and Related Issues, slides from the School of the Italian Group of Informatics Engineering, Rovereto, Italy, September 2018.

[9] H. Bsar, M. Bauer, O. Ciupke, S. Demeyer, S. Ducasse, M. Lanza, R. Marinescu, R. Nebbe, O. Nierstrasz, M. Przybilski, T. Richner, M. Rieger, C. Riva, A. Sassen, B. Schulz, P. Steyaert, S. Tichelaar, and J. Weisbrod. The FAMOOS Software ArchitectureReengineering Handbook, Oct. 2016.

[10] S Manikandan, K Raju, R Lavanya, R.G Gokila, "Web Enabled Data Warehouse Answer With Application", Applied Science Reports, Progressive Science Publications, E-ISSN: 2310-9440 / P-ISSN: 2311-0139, DOI: 10.15192/PSCP.ASR.2018.21.3.8487, Volume 21, Issue 3, pp. 84-87, 2018

[11] Wand, Y. and Weber, R., An Ontological Evaluation of Systems Analysis and Design Methods, in Falkenberg, E.D. and Lindgreen, P. (ed.), Information Systems Concepts: An In-depth Analysis, Amsterdam: Elsevier Science Publishers, 2017

[12] McCabe, T.J., "A Complexity Measure", IEEE Transactions on Software Engineering, vol. SE-2, pp. 308-320, 2018.

[13] Kriz, J., Facts and Artifacts in Social Science: An Epistemological and methodological analysis of empirical social science techniques, New York: McGraw Hill, 2019.

[14] Cherniavsky, J.C. and Smith, C.H., "On Weyuker's Axioms for Software Complexity Measures", IEEE Transactions on Software Engineering, vol. 17, pp. 636-638, 2018.

PRINCIPAL
Avanthi Institute of Engg. & Tech.

International Journal of Aquatic Science
ISSN: 2008-8019
Vol 12, Issue 02, 2021

IJAS

Deep Convolutional Neural Networks For Analyzing Electromagnetic Waves Using Maxwell Equation Model

Dr.Shaik Shakeer Basha[1], Dr Diana Moses[2], G.Saravanan[3],Dr.Sumaya Sanober[4], Dr.Syed Khasim[5], Dr. S. Selvakanmani[6]

[1]*Assistant Professor, Department of Computer Science and Engineering, Avanthi Institute of Engineering and Technology, Gunthapally, Abdullahpurmet Mandal-501512, Hyderabad, Telangana.*

[2]*Associate Professor and Head, Department of Computer Science and Engineering,St Peter's Engineering College,R R District, 500100.*

[3]*Assistant professor (Sl.G),Department of EEE,KPR Institute of Engineering and Technology,Coimbatore-641407.*

[4]*Lecturer,Department of Computer Science ,Prince Saatam Bin Abdul Aziz University , Saudi Arabia, Wadi Aldwassir , 1191.*

[5]*Professor, Department of Computer Science and Engineering, Dr.Samuel George Institute of Engineering & Technology, Markapur, Prakasam Dt, Andhra Pradesh, 523316.*

[6]*Associate Professor, Department of Computer Science and Engineering, Velammal Institute of Technology, Velammal Gardens, Panchetti, Chennai – 601204.*

ABSTRACT: A Deep Convolutional Neural Network (DCNN) based model for predicting the advancement of temporal field esteems in transient electrodynamics is proposed in this paper. In our model, the Recurrent Neural Network (RNN) fills in as the focal part, which learns portrayals of the succession of its info information in long haul spatial-temporal connections. Simulations of plane wave scattering from dispersed using finite difference time domain, perfect electric conducting objects, we build an encoder-recurrent-decoder architecture educated on the data. The trained network is shown to simulate a transient electrodynamics issue with a simulation time that is more than 17 times faster than conventional finite difference time domain solvers, as shown in this paper. It contains a supervised machine learning model for estimated electromagnetic fields in a cavity with an arbitrary distribution of electrical spatial permittivity. Our model is quite predictive and more than 10 times faster than simulations with similar finite differential frequencies, which indicates that, for example, optical reverse design techniques may be employed in the future. Optical devices need the use of fast and precise simulations, which are thus essential. This article proposes a deep learning method to speed up a simulator's performance in solving Maxwell frequency-domain equations. Since our model forecasts 2D slit array transmission by wavelength under certain conditions, it is pretty accurate and delivers results 160,000 times faster than those achieved by the simulator.

Keywords: Deep Convolutional Neural Networks, Maxwell equations Model, transient electrodynamics,

PRINCIPAL
Avanthi Institute of Engg. & Tech.

1. INTRODUCTION

The equations established by Maxwell to give an integral and symmetrical theory about electromagnetic waves in the electromagnetic spectrum were the foundation of his prediction [1]. The law of Faraday controls the third and fourth on the induction of electricity and magnetism (which also contains the law of Lenz), and the fourth is the rule of Ampère, which has been reworded in asymmetric wording, to add another source of magnetism: changing electrical fields. To comprehend the process of electromagnetic wave propagation, Maxwell's displacement current must grasp the symmetry established between electric and magnetic fields. This symmetry explains how magnetic fields change and vice versa in the electrical fields[2].

Heinrich Hertz was the first person in the laboratory to observe and verify these theoretical predictions[3]. Electric field lines have positive charges at the start and negative controls at the end. For this reason, an electric field is defined as the force delivered to the test load per unit of load, with force proportional to the electrical constant 0. (also known as the permittivity of free space). We may deduce a particular version of Coulomb's electricity law, Gauss's electricity law, from Maxwell's first equation[4].

There are currently no recognized magnetic monopolies. The magnetic force is commensurate with the magnetic constant 0 (also called empty-spatial permeability), which is a constant of nature. This second equation of Maxwell is called the law of magnetism of Gauss since it regulates the behavior of magnets. An electromotive force (emf) is generated by a changing magnetic field leading to electrical field production. The emf moves in the opposite direction when the shift takes place [5]. This Artificial Neural Network (ANN) is a deep neural network with many layers between input and output layers (DNN). The neural networks exist in various forms and sizes but always include the same fundamental components: neurons, synapses, weights, partialities, and functions. These components are similar to the human brain and may be taught in the same manner as any other program. If a dog's picture is provided, a DNN which has been trained to recognize dog races will go over it and evaluate how probable a particular dog is. The user may review the results and choose the probabilities shown by the network (for example, those above a certain threshold); after that, the network will give the suggested label. Every mathematical change is considered a layer, with advanced DNN having many layers, the name "deep" networks[6].

DNNs can represent complex nonlinear relations. The Deep Neural Networks (DNN) architecture builds composition models that describe the item as a layered primitive composition. The extra layers make it possible to compile features from low levels, which enable complex data with fewer units than an external network with the same performance to be represented[7]. For example, deep neural networks show that sparse polynomial multivariates are exponentially easier to estimate with DNNs than with external networks. Deep architectures consist of several distinct variants of a few basic methods. Different architectures have succeeded in several domains. In certain instances, the performance of various designs cannot be compared unless they have been evaluated in the same data sets.

2. RELATED WORKS

In combination with an adaptive nonconformal non-structured netting, a node-based Discontinuous Galerkin (DG) Pseudospectral Time-Domain (PSTD) approach for large-scale Maxwell equations in three dimensions is given. This technique, in particular, combines an improved DG algorithm with a method for PSTD, in which the PSTD algorithm provides

spectral accuracy, and the DG algorithm acts as a stable coupling in the DG algorithm for several domains with unstructured hexahedra [8].

The main objective of this project is to identify the external force and current density of the radiated wavefield from the wave field boundary measures[9]. The problems are difficult to resolve because they are poorly positioned and have complicated model systems. It is demonstrated that they are unique and stable for both reverse sources. A unified theory of increasing stability is built on either continuous or discrete multi-frequency data, depending on the situation. There are two methods to evaluate the stability of the source functions: by looking at data discrepancies of the Lipschitz type and the high-frequency tail of the source functions. As the top frequency limit increases, the lower frequency limit decreases and therefore becomes unimportant[10,11].

Many academics have taken an interest in the concept of variable order differential operators since they may gain more complexity than other kinds of differential operators, for example, anomalous diffusion. Although in the actual world are these differential operators, mathematics can only be handled numerically[12]. Several interesting mathematical models we were able to model, plasma and dielectrics are deriving from electromagnetic waves, as well as several other interested mathematical models, using new variable both analytically and numerals which could be used order differential operators and which have a connection with all the integrated transforms. Wave propagation in two separate layers may be described using the differential operators studied because the differential operators are contained crossover and non-singular features. Operators with single kernels with differential variable order, this is not feasible. By utilizing the Laplace transform and linking it to the models under investigation of the exact solution we get the new differential operator[13].

Deep convolutionary neural networks (CNNs) have achieved breakthrough performance in a wide range of pattern identification applications, such as image categorization. However, because there is no clear knowledge as to when and why a deeper model works, it is generally a lot of trial and error to create high-quality, deep models[14]. A visual analysis method for better understanding, diagnosis and the improvement of deep convolutionary neural networks is presented in this article. Since the late 1980s, neural networks (CNNs) have been utilized to enhance visual task performance. The growth of processing power and the availability of huge quantities of labeled data, coupled with algorithm enhancements, helped advance neural networks and led them to a new neural network, which has rapidly progressed since the early 2000s[15].

3. PROPOSED METHODOLOGY

Figure 1 shows a simplified depiction of the architecture of the network. An encoder, an LST, and a decoder all form part of the convolutions and consume information in films and other media formats (simulations of subsets). When the network is supplied to the input, the first frame of the input takes the coevolutionary and compresses the input signal's spatial domain using multilayer convolution operations. The encoder provides the DCNN with the characteristics recovered by the encoder from the first frame of the video.

Then the DCNN of the hidden state is a preset number of times for remediously updated, which results in the temporal field evolution compared to a stack of representations. Finally, the stack of updates has the decoder, which it utilizes to construct that specific input signal for complete future Electro-Magnetic (EM) field frames.

International Journal of Aquatic Science
ISSN: 2008-8019
Vol 12, Issue 02, 2021

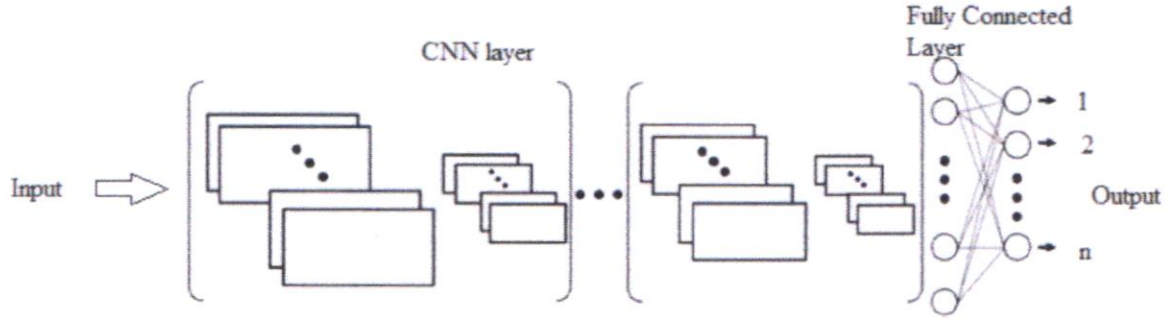


Figure 1. The architecture of Neural Network

In specifically, our model calculates predicted electromagnetic field solutions for a particular scenario detailed in full here. Consider, for example, a d-dimensional cavity that fully reflects an L-length that includes an electromagnetic source in the middle. The cavity comprises a material with an arbitrary spatial distribution of dielectric permittivity owing to the material presence (x). Many advances have been made in electromagnetic applications, such as forward/inverse dispersion, input direction estimations, radar, and remote sensing, image processing, and stochastic design. This document presents the findings of a simulation study for transient electrodynamic physics utilizing physics-informed DCNN. The network design has two components: a coevolutionary encoder (DNN) and a coevolutionary decoder. A convolutionary LSTM-DCNN, here implemented as a convolutionary LSTM-DCNN, simulates the progress of wave physics by collecting information from geometry (or object boundary) and field. The trained network, deep-learning algorithms using electromagnetic analysis used for rapid time-domain, shows deep-learning methods' approximation capabilities. Figure 2 shows a possible DCNN model based on a neural network.

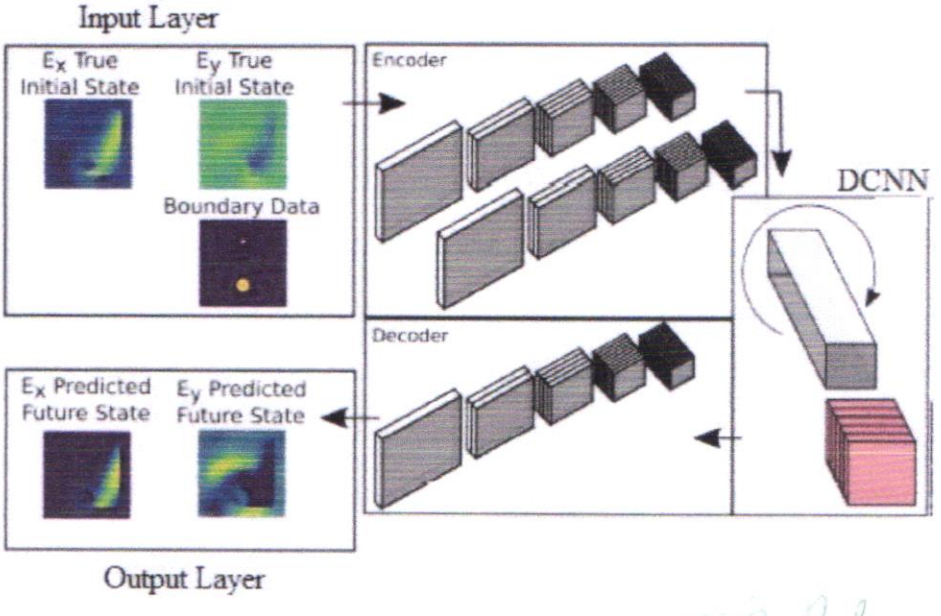


Figure 2. DCNN model architecture

Our final network had a combination of convolutionary / dense / deconvolutionary architecture when it came down to it. At the start, there are three convolutionary layers, each intended to capture various features of the permittivity input, such as variations in the refractive index and thickness of layers. These are input into two thick layers, allowing the model to take more account than otherwise for nonlocal field interactions. Three transposed-convolutionary layers finally raise the size of the signal to that of the original input to provide the $\vec{E}$ Prediction. Our results show that the model's performance was mainly influenced by kernel size decisions and the number of convolutional/deconvolutionary layers across three layers.

DCNN Optimization steps to Training Dataset

Input: <Data startup>

Setting: DCNN reads data from DCNN.

Optimization: train dataset (DCNN).

1. Every dataset trained

2. Intermediate DCNN train (DCNN).

3. Output (<1, DCNN >).

4. End

Maxwell's equations, which provide a foundation for classical electromagnetism, control the magnitude and spread of electromagnetic fields in materials. The following symbols are indicated in SI units:

$$\nabla . \vec{E} = \frac{\rho}{\epsilon} \quad \text{---- (1)}$$

$$\nabla . \vec{B} = 0 \quad \text{---- (2)}$$

$$\nabla . \vec{E} = -\frac{\partial \vec{B}}{\partial t} \quad \text{---- (3)}$$

$$\nabla . \vec{B} = \mu \vec{J} + \mu\epsilon \frac{\partial \vec{E}}{\partial t} \quad (4)$$

$$[(\nabla \times \nabla \times) - \omega^2 \mu_0 \epsilon]\overrightarrow{E} - \vec{J} = 0 \quad \text{---- (5)}$$

where $\overrightarrow{E}$ is an electric field, $\overrightarrow{\ }$ B the magnetic field at a given point in space and time, $\frac{\rho}{\epsilon}$ are the permittivity and permeability of the material, t is time, $\mu$is charge density, and $\vec{J}$is the density of current.

This paper proposed the potential of using machine learning and deep learning techniques, especially for the resolution of Maxwell's equations, to speed up electromagnetic simulations to decrease simulation time. We propose a system based on deep convolutionary neural networks (DCNN), which will rapidly anticipate transmission in a defined manner. Maxwell will be utilized as a dataset to answer the Maxwell equation. The data is then used to evaluate

and train prediction models that are subsequently used to predict: functional changes we also suggest and the prediction models of evaluations using different evaluation methods and loss functions.

4. RESULTS

By using regression models, scores of the validation set by Root mean squared errors and R^2. In the training set, an extra tree best – performed, but in the validation set, CNN performed the best, as shown in Table 1.

Table 1: Comparison with other regression models

Representations	Root Mean Square Error		R^2 score	
	Instruct	Instruct	Legalization	
DCNN	0.1364	0.0823	0.9596	0.9594
MLP	0.0530	0.0645	0.9385	0.7611
Random Forest	0.05016	0.0372	0.9072	0.7325
Extra tree	0.0092	0.0244	0.9093	0.7018

Trained Model of RMSE for Loss function with a different scattering of light as shown in Figures 3, 4, and 5 with its additional RMSE value and local minima value.

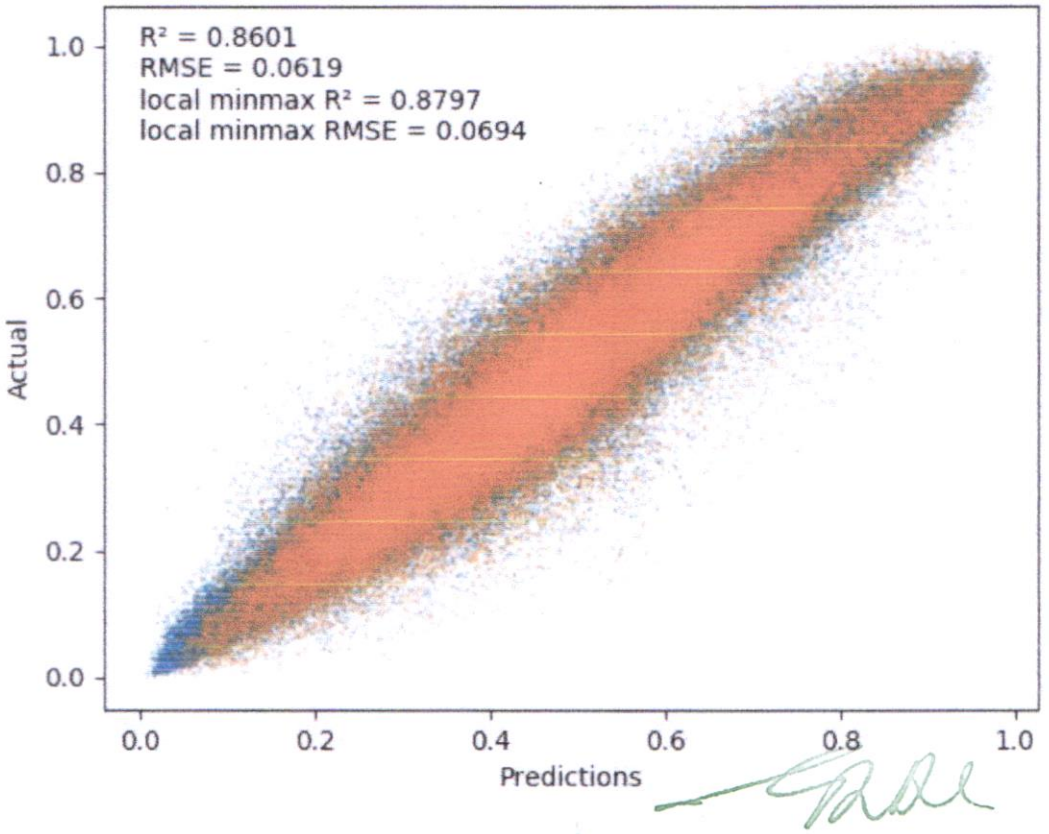


Figure 3. Trained Model of RMSE for the Loss function

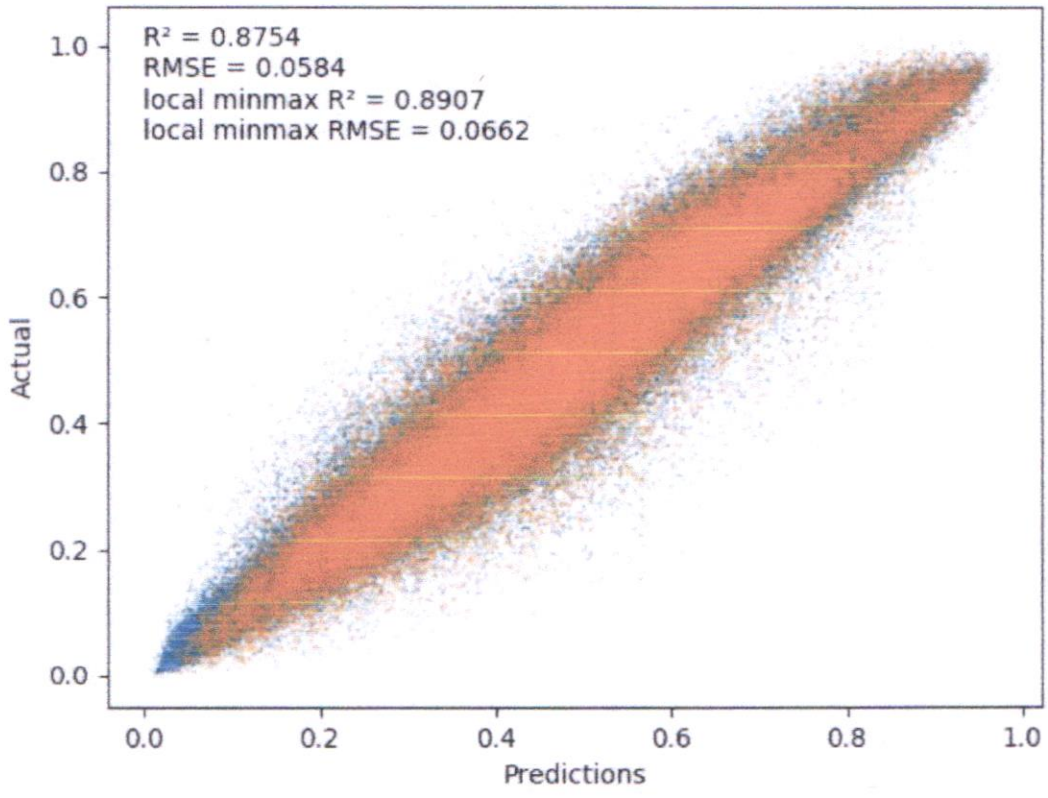


Figure 4.Trained Model of RMSE for Loss function with differential to the RMSE

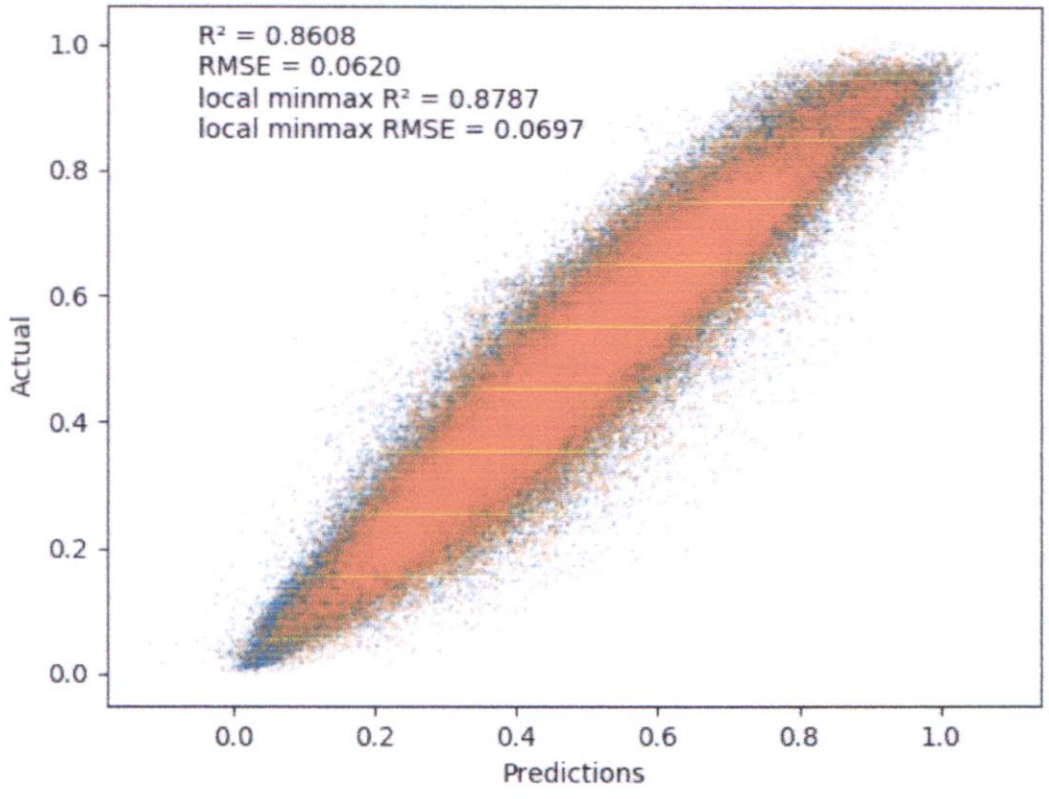


Figure 5.Trained Model of RMSE for Loss function with minima values

The loss function of the trained model is shown in figure 6 with its progress and iterations.

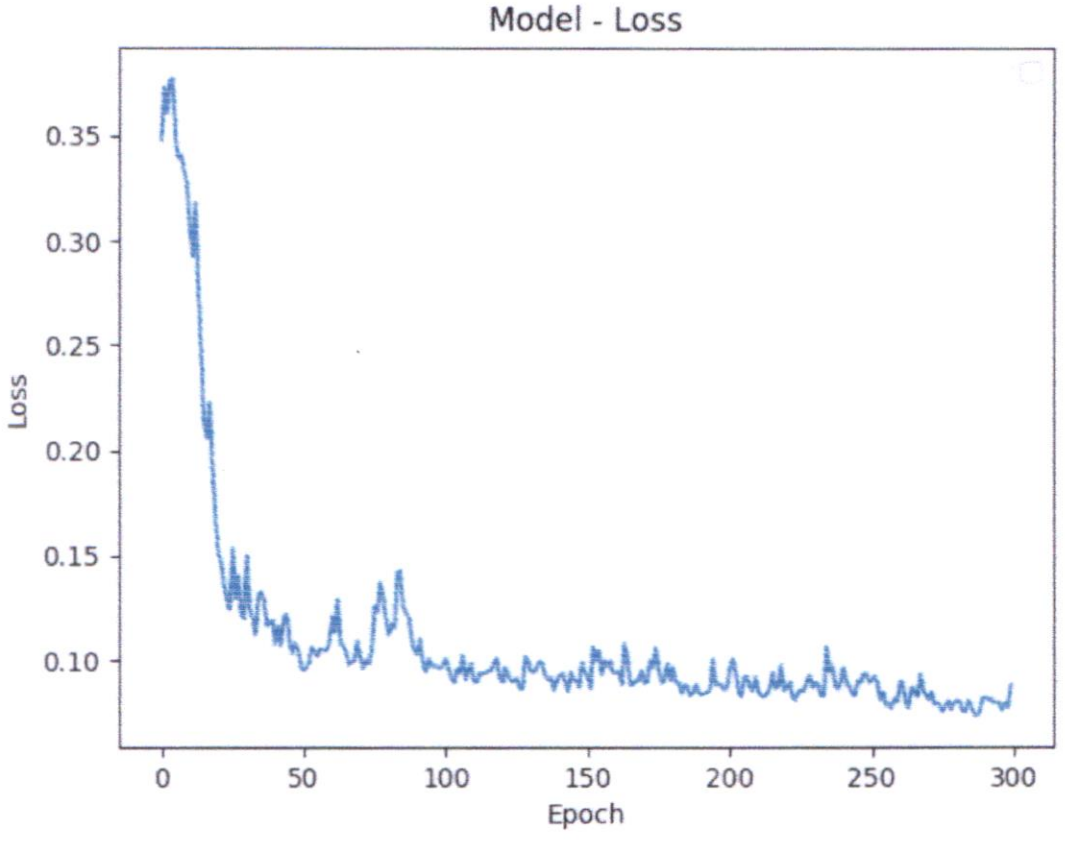


Figure 6. Train Progress of given dataset

5. CONCLUSION

To calculate transmission 160,000 times faster than before, we developed a deep learning method that enables the Maxwell simulator. The prediction of fast estimation of importance is transmittance when it comes to the design of optical devices since simulators repeat the transmission and device design prediction hundreds of times. The proposed model allows for more simulation due to the reduced calculation time, enabling the necessary performance to be achieved. Become one of the most significant disruptive achievements for advancing simulation-based discoveries because of data of incomparable availability, in computer power the exponential growth, data-driven, and machine learning technologies. We demonstrate the ability to build deep neural networks based on predictive physical models utilizing time-domain datasets by leveraging time-domain information obtained by simulation or observations. This article proposes a network for learning transient electrodynamic events representations that can be utilized as a predictive model based on data for the simulation of transient problems. By showing that the proposed network is a non-overlapping technique of decomposition of the domain in a building component that can be utilized efficiently, we showed that it can provide predictions across computational domains that are larger than those used in this paper.

IJAS

6. REFERENCES

[1] Markov, M. B., &Parot'kin, S. V. (2021). Modeling a Stationary Electromagnetic Field Based on the Maxwell Equations. *Mathematical Models and Computer Simulations*, *13*(2), 254-262.

[2] Valverde, A. M., Angulo, L. D., Cabello, M. R., García, S. G., Omiste, J. J., &Luo, J. (2020). Numerical simulation of knotted solutions for Maxwell equations. *Physical Review E*, *101*(6), 063305.

[3] Benci, V., &Fortunato, D. F. (2002). Solitary waves of the nonlinear Klein-Gordon equation coupled with the Maxwell equations. *Reviews in Mathematical Physics*, *14*(04), 409-420.

[4] Markov, M. B., &Parot'kin, S. V. (2020). Modeling of the stationary electromagnetic field based on the Maxwell equations. *Matematicheskoemodelirovanie*, *32*(7), 113-126.

[5] Otin, R. (2010). Regularized Maxwell equations and nodal finite elements for electromagnetic field computations. *Electromagnetics*, *30*(1-2), 190-204.

[6] Eisenberg, R. S. (2021). Maxwell equations without a polarization field, Using a paradigm from biophysics. Entropy, 23(2), 172.

[7] Ezhilarasi, T. P., Kumar, N. S., Latchoumi, T. P., & Balayesu, N. (2021). A Secure Data Sharing Using IDSS CP-ABE in Cloud Storage. In Advances in Industrial Automation and Smart Manufacturing (pp. 1073-1085). Springer, Singapore.

[8] Kapidani, B., Codecasa, L., &Schöberl, J. (2021). An arbitrary-order Cell Method with block-diagonal mass-matrices for the time-dependent 2D Maxwell equations. *Journal of Computational Physics*, *433*, 110184.

[9] Tretyakov, O. A. (1993). Essentials of nonstationary and nonlinear electromagnetic field theory.

[10] Vasanth, V., Venkatachalapathy, K., Thamarai, L., Parthiban, L., & Ezhilarasi, T. P. (2017). A survey on cache route schemes to improve QoS in AD-HOC networks. Pakistan Journal of Biotechnology, 14, 265-269.

[11] Eisenberg, R. S. (2021). Maxwell equations without a polarization field, Using a paradigm from biophysics. *Entropy*, *23*(2), 172.

[12] Benci, V. (2021). A Model for the Maxwell Equations Coupled with Matter Based on Solitons. *Symmetry*, *13*(5), 760.

[13] Aroulanandam, V. V., Latchoumi, T. P., Bhavya, B., & Sultana, S. S. Object Detection in Convolution Neural Networks Using Iterative Refinements. architecture, 15, 17.

[14] Nikolaev, N. N., &Vergele, S. N. (2020). Maxwell equations in curved space-time: non-vanishing magnetic field in pure electrostatic systems. *Journal of High Energy Physics*, *2020*(4), 1-19.

[15] Koshkarov, O., Manzini, G., Delzanno, G. L., Pagliantini, C., &Roytershteyn, V. (2021). The multi-dimensional Hermite-discontinuous Galerkin method for the Vlasov–Maxwell equations. *Computer Physics Communications*, *264*, 107866.

International Journal of Aquatic Science
ISSN: 2008-8019
Vol 12, Issue 02, 2021

IJAS

A Survey On Ai In Different Application Domains

Dr.Shaik Shakeer Basha[1], Dr.Sumaya Sanober[2], P. Praveena[3], Dr.S M Udhaya Sankar[4], Dr.Syed Khasim[5], Naveen P[6]

[1]*Assistant Professor, Department of Computer Science and Engineering, Avanthi Institute of Engineering and Technology, Gunthapally, Abdullahpurmet Mandal-501512, Hyderabad, Telangana.*

[2]*Lecturer,Department of Computer Science ,Prince Saatam Bin Abdul Aziz University , Saudi Arabia, Wadi Aldwassir , 1191.*

[3]*Assistant Professor, Department of EEE,KPR Institute of Engineering and Technology, Coimbatore- 641407.*

[4]*Professor, Department of Information Technology, Velammal Institute of Technology, Panchetti, 601204.*

[5]*Professor, Department of Computer Science and Engineering, Dr.Samuel George Institute of Engineering & Technology, Markapur, Prakasam Dt, Andhra Pradesh-523316*

[6]*Assistant Professor, Department of computer Science and Engineering,St.Joseph's College of Engineering,OMR Chennai-600 119*

Abstract: Artificial Intelligence (AI) is a branch of computer science that investigates computational models of problem solving, where the problems to be solved are of the same complexity as those solved by humans. Artificial intelligence is the study of how to make computers do things that people currently do better. It is machine intelligence and the branch of computer science that seeks to create it. Artificial Intelligence is another concept for both the study and design of intelligent agents. AI's central issues include reasoning, knowledge, planning, learning, communication, perception, and the ability to move and manipulate objects. The aim of this paper is to study artificial intelligence technology in all fields related to engineering in view of its applications.

Keywords: Artificial Intelligence, Health care, Cyber Security, ChatBot, Software Engineering

1. INTRODUCTION

Artificial intelligence (AI) is the most in-demand field in computer science, dealing with the simulation of intelligent behavior in computers. AI techniques are easily identifiable as product features. These techniques operate in the background, improving the system's overall performance.

Artificial intelligence attempts to explain all aspects of human intelligence through a computation process. It can interact with its surroundings using sensors and make decisions without the need for human intervention. In its most basic form, artificial intelligence (AI) is machine learning. Intelligence can be viewed as a distinct individual property or quality distinct from all other characteristics of an individual. Artificial intelligence can also be seen in actions or the ability to complete specific tasks. Classical AI, also known as symbolic AI, is the earliest approach to artificial intelligence. Artificial intelligence is only useful when it

contributes to society. AI has raised the bar for credit-scoring by enabling automation, high accuracy, and speed through the use of both big data and AI algorithms.
Artificial intelligence is generally classified as either strong or weak. Strong Artificial Intelligence is a system that can solve problems on its own. Modern working applications are examples of poor or weak Artificial Intelligence.

History of AI
In 1956, John MC Carthy is regarded as the father of artificial intelligence at the [1] Dartmouth Conference. The origins of AI can be traced back to ancient Egypt, but with the advancement of technology,In 1941, the first electronic computer was built, and the technology was eventually commercialized available to create machine intelligence comparable to human intelligence. Artificial intelligence (AI) is the biological motivation of the human brain. AI grew because of cognitive thinking and natural language. The first artificial intelligence programme, known as "The Reasoning Theoretician "Allen Newell, J.C. Shaw, and Herbert wrote it. Simon was born in 1956 [1]. The paper is organized as follows: Section 1 contains the introduction to the Artificial Intelligence, Section 2 contains related work, Section 3 provides the conclusion and future work to be carried out.

2. RELATED WORK

In Medical field
Apoorva et al. [2] proposed a simple neural network model that, using preliminary CBC test report data, can detect whether a patient has dengue. The patient information was obtained from a hospital. The system correctly classified the unseen test cases, as observed. The proposed system has a high test set accuracy of nearly 95%. Because time is critical in the treatment of dengue, the proposed system has the potential to assist doctors in saving many more lives in a short period of time. As a future research direction, more pattern recognition techniques for the classification procedure and introduction of localities' specific factors can further enhance the system to create a broadly reproducible model.
Shyama et al., [3] proposed cancer prediction based on Artificial Intelligence. New techniques are currently needed to diagnose and predict cancer diseases accurately. The model proposed is based on the prediction of the Artificial Neural Network. Data from patients with bladder cancer are provided in this article. Three different ANN networks train this model. This model uses the two methods of averaging and voting. This model performance is analysed using sensitivity, precision, and so on. The results show that the ANN methods perform better than other methods such as regression models.
Intelligent heart disease prediction system suggested by Parthiban et al., using the CANFIS and Genetic algorithms [4] Genetic Algorithms (GA), CANFIS, Heart disease, Member Function are all algorithms used in this document (MF). In order to analyse the existence of heart disease, CANFIS is combined with genetic algorithm. CANFIS has a huge potential to predict heart disease. By using this system, costs are reduced. The disadvantage is that CANFIS needed adequate database volume to construct the model.
Srinivas et al. Data Mining Applications in Health Care [5] introduced smart and smart methods of heart attack prediction, with significant patterns extracted from heart disease data stores. If the weight of frequent patterns exceeds the threshold value, those values will be chosen for prediction of a heart attack. Nave Bayes, ODANB and NCC2 are the main algorithms used here. The system's disadvantage is that the unstructured data in the health care database cannot be processed.

The review of the heart disease prediction system by hybrid smart and data mining techniques was recommended by Chithra et al.,[6]. States that offline neural network training is good for prediction of early-stage diseases and good performance can be achieved using pre-processed and normalised data. The study was based on ANN, an intelligent hybrid algorithm. The benefit of using a smart hybrid algorithm with feature subset selection is greater precision. The downside is that it is very complex to choose an algorithm for reducing features and a high training time.

Soni et al. proposed [7] a predictive medical diagnosis data mining technique. 15 cardiac analysis attributes are listed. The results of predictive data mining methods show that the decision tree performs better, and Bayesian classification also sometimes gives the same performance. Other predictive methods such as Clustering classification, Neural networking, Nearest Nearest Neighbor are not necessary. The accuracy of the Tree and Bayesian classifications is improved following the application of genetic algorithms.

Data Mining based early heart disease prevision was submitted by Methaila et al., [8]. Various experiments are conducted on various classifiers to identify heart disease patients in this system. The CART, ID3 and DT classifier have been used. This results in CART being more accurate than ID3 and DT. But priority associated algorithms for long item sets cannot be scaled.

The Data Mining Algorithm used to diagnose cardiovascular diseases was worked by Deepali [9]. This algorithm illustrates how the selection of features and information can be used in combination with the neurofuzzy adaptive inference system to diagnose patients. This research was based on ANFIS algorithms, such as Data Mining, K-NN, and good accuracy. However, the classification speed was low and the computing costs were high.

Sundar et al.,[10] proposed the system for the performance analysis for data mining classification technique in Heart Disease Database, using WAC, Naive Bayes, DMX query language, etc. Sundar and others. It creates, trains, predicts and uses the DMX query language for accessing the content. The model is evaluated for precision against test data sets before deploying the model in HDPS. Classification matrix methods are used to assess the efficacy of the model. The downside is that the system proposed only uses categorical methods.

Patel et al.[11] proposed a classification mining system using fewer attributes to predict cardiopathy. Here the Nave Bayes, Clustering Classification and the Decision Tree for prediction are compared. It shows that the decision-making tree works well in comparison with two more other techniques. It also demonstrates that the Nave Bayes performance is consistent. The result indicates that Clustering's performance in contrast to other techniques was poor.

Ishtake et al., [12] proposed a data mining system used to predict cardiovascular diseases that extracted encrypted information from one pre-existing heart disease database. DMX query operations can be used for building but rather retrieving model data. Five mining goals are analyzed based on business intelligence and data exploration. The trained models are used to assess the objectives. The models can respond with high accuracy to challenging problems. This provides good precision, but the dimensions of the dataset used are very small and only categorical.

A systems for the prediction of heart disease by Data Mining techniques were proposed by Taneja et al.[13]. Three unique supervised machine learning algorithms like the Nave Bayes, J48 classifier and Multilaying Watch have been built into the model. The result shows that the J48 rating is the most efficient of the three with a precision of 95,56%. All data mining objectives have been met by the J48 decision tree algorithm. Greater ANN performance and

less run-time were achieved. However, the rating consistency was indeed extremely low and cannot predict unique diseases such as heart diseases.

Amin et al. [14] proposed a data mining-based system for Heart Disease diagnosis, prediction, and treatment besides clinical decision support systems. The system is being developed in order to improve patient safety and reduce medical errors. The paper compares six CDSS systems using various data mining methods such as DT, Nave Bayes, ANN, Apta-CDSS-E, and support vector machines. Because medical data lacks performance and completeness, there's a need to highly specialized data mining methods for efficient methods. This provided good performance and accuracy, but it was unreliable and expensive. The system was not recommending treatment options to patients.

In Cyber Security

Anitha et al. [15] introduced a model that can defend itself from intrusion detection and various network attacks in Cyber Defense Using Artificial Intelligence. The primary goal of this system is to develop a framework for mapping a variety of multitasking processes. AI techniques are used to detect intrusions. The artificial immune system identifies security threats to wireless sensor networks (WSN). The system's advantage is that it detects any suspicious activity on the server and reduces the server's network load. The disadvantage with this is that the sensors have limitations in terms of design, storage and functional limitations like communication and processing.

Amandeep et al. [16] proposed using artificial intelligence to improve cyber awareness. This paper demonstrates how intelligent the toolagent that can be used in the prevention of cyber-attacks can be. Cyber-attacks have a significant impact on the information technology industry. Because web applications are widely used for critical and basic tasks, they have become a popular target for security attacks. To achieve high performance in this experiment, a combination of Genetic Algorithms and Fuzzy Logic is used. The heart of this experiment is a 3 programme that implements a DSDV routing protocol. This programme includes three threads. Each thread state is denoted by a different colour.

Making Use of Artificial Intelligence Techniques Merat et al. [17] suggested that to maximise the objective function, a pattern of high index threads must be decided to attend to and handled throughout the planned zone. In order to improve performance, a low priority index thread should be ignored by the process's overreaction. The SHOWMAN analogy is used to describe a multitasking initiative. To achieve the desired state, traffic and future process loads are calculated. Because synchronised threads and many attempted threads are unable to disengage, there may be some out of margin penalty and poor performance. As a result, the switching time is reduced to zero.

Artificial Intelligence in cyber security proposed by Dr. Pranav [18] presents a survey on computing the applications in cyber security, and analyzes the probability of enhancing the capabilities of cyber security by suggesting necessary changes in the intelligence of security systems. He made use of Standard mounted algorithm. It concludes that the helpful applications belong to the applications of artificial neural networks in the field of perimeter security and some other cyber security areas.

Yakubu worked on the role of Cyber Security and Human-Technology Centric for Digital Transformation which focuses on the study of models of security [19] management to guide the maintenance of security on existing cyber infrastructures. He gave a method for the practical and theoretical analysis based on the security management models that are selected. The proposed model does the evaluation of the analysis that is used to get the insights into the configuration and also specifies desired and undesired configurations. In addition, framework model that is presented, allows the evaluation of changes in the configuration in dynamic and

agile cyber infrastructure environments with respect to the properties like expected availability or vulnerabilities. A review on various methods of IT security model management was also given.

In Chatbot

Sumit Wailthare et al. developed one approach to the concept of executing a web-based AI chat-bot to be users' personal assistant, which speeds up the setting and beginning of customer client meetings while using the algorithm of matching patterns [20].

Vibhor Sharma et al. proposed two methods for popular chatbot systems, ELIZA and ALICE, as well as their applications [21]. It describes the method of implementing a domain-specific information system to provide an answer to FAQs in a University Setting.

Anirudh Khanna et al. implemented one database as the chatbot's brain, as well as the performance of simple AI systems, Turing tests, and their flaws [22]. The term "partially intelligent systems" refers to systems that are only partially intelligent.

Nahdatul Akma Ahmad et al. had done work on overview of chatbot design and techniques. It goes over AIML, pattern matching, language tricks, chat script, parsing, SQL, and relational databases in detail [23]. The Markov Chain is a technique that works by recognising the probability of letter or word occurrence in a similar textual data set.

Kedar S Chikorde and colleagues discussed about the open source packages available for building chatbots, such as Apache's OpenNLP [24]. There are useful frameworks available, such as Google's API. AI, Amazon's Alexa, and a slew of other technologies more on the Internet that can be used directly in the application.

G.Tascini et al. represents an architecture that consists of multiple levels with non-linear operations, such as neural nets with many hidden layers. It explains the relationship between NL and NN [25]. Chatbots that were having difficulty with tasks were able to overcome them by Deep Learning techniques are being introduced.

Sarthak V. Doshi and colleagues developed the two modes of communication, text and voice. The response generation process is divided into two stages: pattern matching preparation and pattern matching execution behaviour that is similar Add-ons such as Wikipedia and weather prediction help the chatbot learn more Forecasting departments, sports, news, and so on are all used [26].

Prof.D.S.Thosar and colleagues proposed a mood sensing approach for classical music based on acoustic data [27]. In a song, a hierarchical framework is used. According to the user's response, this same system sends a few web pages and links.

Kshitij V.Wadanka et al. discussed chatbot design, implementation, comparison, and the future scope of chatbots [28]. Applets are used because it is difficult to create an exchange box for the conversation between the client and the bot.

In Software engineering

Hany M Ammar et .al. discussed how machine learning techniques such as KBS, CBR, Fuzzy logic, and automated programming tools help to overcome the problems associated with traditional software development in one‘s paper on the Current iteration and open troubles in the Software Engineering using artificial intelligence[29].

Certain unresolved issues, such as SBST, necessitate additional research. Mark Harman proposed a method with SBSE, Fuzzy, probabilistic methods, classification learning, and prediction can help the software engineering community, as well as the challenges that lie ahead in AI for SE [30].

Farid Meziane and Collegue discussed the current state of Artificial Intelligence in Software Engineering and its future prospects [31]. They work on testing as well as the other phases of software development.

Farah Naaz Raza explained in her paper "Artificial Intelligent Technique in Software Engineering (AITSE)" that by using AI-based systems with the help of an automated tool or an automated programming tool, one can eliminate the risk assessment phase, saving time in software development [32]. AITSE also helps to reduce development time in software development.

Parveen Ranjan Srivastava et.al., used Genetic Algorithms in Software Testing [33]. From this, clearly states that the GA is used to improve the efficiency of software testing.

Mark Harman et.al., developed Search-based software engineering, which explains how search-based techniques can be used to develop software measures [34].

Jonathan Onowakpo Goddey Ebbah presented a paper on Deploying Artificial Intelligence Techniques in Software Engineering [35]. The purpose of this paper is to review AI techniques from the standpoint of their application in software engineering. It focuses in particular on artificial intelligence techniques that have been developed (or are being developed) and can be used to solve problems associated with software engineering processes.

3. CONCLUSION AND FUTURE WORK

The aim of the literature survey is to give its various disciplines a wide range of insights into key technologies and issues. The area of AI offers huge promises such as solutions and optimization of various types of problem statements. AI nevertheless sets out key ethics and administration issues that play a key role in expanded technological acquisition. AI undertaking some stress between the efficiencies and the objection that those advocating greater consideration may be inappropriate in their acceptance, the important thing here is to find the conflicting points, so that we are able to review and, if need be, build new legal and regulatory arrangements.

The AI will create threats and opportunities for the future of the work. The creative work will remain the same as people are more creative than machines. Machines can be supported in the future by focusing more on creative work and working alongside machines that create unknown opportunities and new professions. Today, AI and machine learning algorithms are more precisely used in the medical field. Given that the old lives are no longer applicable, it is important for the government to act in a more common manner as AI.

4. REFERENCES

[1] https://en.wikipedia.org/wiki/John_McCarthy_(computer_scientist)

[2] T. Nitin, S. Apoorvaa, S. Himanshi, and T. Krishna, —Diagnosing dengue: A faster, artificial intelligence based hack,‖ International Journal Of Engineering And Computer Science, vol. 6, no. 7, pp. 21 895–21 915, 2017.

[3] A.-A. Shayma M and A. Maysam, —Prediction of cancer behavior based on artificial intelligence.‖

[4] L. Parthiban and R. Subramanian, —Intelligent heart disease prediction system using canfis and genetic algorithm,‖ International Journal of Biological, Biomedical and Medical Sciences, vol. 3, no. 3, 2008.

[5] K. Srinivas, B. K. Rani, and A. Govrdhan, —Applications of data mining techniques in healthcare and prediction of heart attacks,‖ International Journal on Computer Science and Engineering (IJCSE), vol. 2, no. 02, pp. 250–255, 2010.
[6] R. Chitra and V. Seenivasagam, —Review of heart disease prediction system using data mining and hybrid intelligent techniques,‖ ICTACT journal on soft computing, vol. 3, no. 04, pp. 605–609, 2013.
[7] J. Soni, U. Ansari, D. Sharma, and S. Soni, —Predictive data mining for medical diagnosis: An overview of heart disease prediction,‖ International Journal of Computer Applications, vol. 17, no. 8, pp. 43– 48, 2011.
[8] A. Methaila, P. Kansal, H. Arya, P. Kumar et al., —Early heart disease prediction using data mining techniques,‖ Computer Science & Information Technology Journal, pp. 53–59, 2014.
[9] D. Chandna, —Diagnosis of heart disease using data mining algorithm,‖ International Journal of Computer Science and Information Technologies, vol. 5, no. 2, pp. 1678–1680, 2014.
[10] N. A. Sundar, P. P. Latha, and M. R. Chandra, —Performance analysis of classification data mining techniques over heart disease database,‖ International journal of engineering science & advanced technology, vol. 2, no. 3, pp. 470–478, 2012.
[11] S. B. Patel, P. K. Yadav, and D. Shukla, —Predict the diagnosis of heart disease patients using classification mining techniques,‖ IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS), vol. 4, no. 2, pp. 61–64, 2013.
[12] S. S. Ms. Ishtake SH, —Intelligent heart disease prediction system using data mining techniques,‖ International J. of Healthcare & Biomedical Research, vol. 1, no. 2, pp. 94–101, 2013.
[13] A. Taneja et al., —Heart disease prediction system using data mining techniques,‖ Oriental Journal of Computer science and technology, vol. 6, no. 4, pp. 457–466, 2013.
[14] S. Amin, K. Agarwal, and R. Beg, —Data mining in clinical decision support systems for diagnosis, prediction and treatment of heart disease,‖ vol. 2, pp. 2278–1323, 01 2013.
[15] A. Anitha, G. Paul, and S. Kumari, —A cyber defence using artificial intelligence,‖ International Journal of Pharmacy and Technology, vol. 8, no. 4, 2016.
[16] K. Amandeep and C. Deepti, —Cyber awarness improvement using artificial intelligence,‖ International Journal For Technological Research In Engineering, vol. 4, no. 9, pp. 2347– 4718, 2017.
[17] S. Merat and W. Almuhtadi, —Cyber-awareness improvement using artificial intelligence techniques.‖ International Journal on Smart Sensing& Intelligent Systems, vol. 8, no. 1, 2015.
[18] Dr. Pranav Patil —Artificial intelligence in cybersecurity,‖ International Journal of Research in Computer Applications and Robotics, vol. 4, no. 5, pp. 1–5, 2016.
[19] Yakubu Ajiji Makeri —The Role of Cyber Security and Human- Technology Centric for Digital Transformation‖ vol.6, pp 53-59 12 2018.
[20] Sumit Wailthare, Tushar Gaikwad, Ketkee Khadse and Pooja Dubey,— Artificial Intelligence Based Chat-Bot. International Research Journal of Engineering and Technology,5(3),pp.1060-1062,2018.
[21] Vibhor Sharma, Monika Goyal , Drishti Malik, — An Intelligent Behaviour Shown by Chatbot System. International Journal of New Technology and Research,3(4),pp.52-54,2017.
[22] Anirudh Khanna, Bishwajeet Pandey, Kushagra Vashishta, Kartik Kalia, Bhale Pradeepkumar and TeerathDas,— A Study of Today's A.I. through Chatbots and

Rediscovery of Machine Intelligence. International Journal of u- and e- Service, Science and Technology,8(7),pp.277-284.,2015

[23] Nahdatul Akma Ahmad, Mohamad Hafiz Che Hamid, Azaliza Zainal, Muhammad Fairuz Abd Rauf, Zuraidy Adnan,— Review of Chatbots Design Techniques. International Journal of Computer Applications,181(8),pp.7-10,2018.

[24] Kedar S Chikorde and Pankaja B Patil,— Natural Language Processing Based Chatbot for IoT Dashboards. International Journal of Current Engineering and Scientific Research,4(8),pp.87 -90,2017.

[25] G.Tascini,—AI-Chatbot: Elderly Aid. International Conference of Aritificial Intelligence,pp.339-344,2018.

[26] Sarthak V. Doshi, Suprabha B. Pawar, Akshay G. Shelar, Shraddha S. Kulkarni,— Artificial Intelligence Chatbot in Android System using Open Source Program-O. International Journal of Advanced Research in Computer and Communication Engineering,6(4),pp.816-821,2017.

[27] Prof. D.S.Thosar, Varsha Gothe, Priyanka Bhorkade, Varsha Sanap, — Review on Mood Detection using Image Processing and Chatbot using Artificial Intelligence. International Research Journal of Engineering and Technology,5(3),pp.539-542,2018.

[28] Kshitij V.Wadanka, Rahul Y. Waghulde, Uma Taru, — Chatbot:An Application of AI. International Journal of Research in Engineering, Science and Management,1(9),pp.139-141,2018.

[29] Hany H Ammar, Walid Abdelmoez and Mohamed Salah Hamdi, — "Software Engineering Using Artificial Intelligence Techniques: Current State and Open Problems" – ICCIT 2012.

[30] Mark Harman, — "The Role of Artificial Intelligence in Software Engineering" ACM computing surveys, 2011.

[31] Farid Meziane, Sunil Vadera, —" Artificial Intelligence Applications for Improved Software Engineering Development: New Prospects" DOI: 10.4018/978-1-60566-758-4.ch014. 2010.

[32] Farah Naaz Raza, — "Artificial Intelligence Techniques in Software engineering-International multiconference of Engineers and computer scientists 2009 , ISBN 978-988.17012-2-0 Vol 1 – IMECS 2009.

[33] Parveen Ranjan Srivastava, and Tai-hoon Kim, — Application of Genetic Algorithm in Software Testing, International Journal of Software Engineering and its Applications.Vol. 3, No.4, October 2009.

[34] Mark Harman, Bryan F. Jones, — "Search Based Software Engineering"- Elsevier science, 2001.

[35] Jonathan Onowakpo Goddey Ebbah "Deploying Artificial Intelligence Techniques In Software Engineering, American Journal of Undergraduate Research, March 2002.

International Journal of Aquatic Science
ISSN: 2008-8019
Vol 12, Issue 02, 2021

IJAS

Analyzing Various Graph Theory Applications Using Mathematical And Computational Intelligence Approach

[1]Dr.R.Vijaya, [2]Dr.K.Maheswari, [3]Utpal Saikia, [4]Dr.Shaik.Shakeer Basha, [5]Dr.Syed Khasim,[6]Dr. R. Sreeparimala,

[1]Assistant Professor, PG & Research Dept. Computer Science, Arignar Anna Govt. Arts College for Women , Walajapet - 632 513 , Ranipet Dist. , Tamil Nadu , India.
[2]Associate Professor, Department of Computer Science and Engineering, CMR Technical Campus, Kandlakoya (V), Medchal Road, Hyderabad 501401, Telangana,India.
[3]Assistant Professor, Department of Mathematics, Silapathar College, Dhemaji Assam-787059.
[4]Assistant Professor, Computer Science & Engineering, Avanthi Institute of Engineering and Technology, Gunthapally, Abdullahpurmet Mandal, Telangana-501512.
[5]Professor, Department of Computer Science & Engineering, Dr.Samuel George Institute of Engineering & Technology, Markapur, Prakasam Dt, Andhra Pradesh, 523316.
[6]Associate professor, Mathematics, Sri Eshwar College of Engineering, Coimbatore-641202.

Abstract

Graph theory is a part of mathematical analysis which studies the relationships between fundamental results in several fields with pure mathematics. The goal of this research is two - fold: first, to grasp the fundamental concepts of graph theory, second, to emphasise the importance of graph theory thru a practical case which was used as a framework investigation as well as character development of the structural brain system, similar to how machine learning can be used to apply models based on factors spatial information. Data pre - processing, associations, attributes, and techniques are some of the approaches used in this approach. The pictures from the Magnetic Resonance Imaging (MRI) device are used to demonstrate an automatic tool for performing a typical process. Pre-processing, graph creation for every area with various associations, mapping, essential extraction of features based on literature review, and lastly offering a collection of machine learning models which can give interpretable findings for clinicians or experts are all part of a process. This research will examine the most viable method of graph theory in numerous domains to emphasize the impact of graph theory. A summary of graph theory issues pertinent to their ideas and tactics is also included in this study.

Keywords: Graph Theory, Applications, Computational Intelligence, Set Theory, Representations

1. INTRODUCTION

When a theory is used in actual life, it will be more significant. Arithmetic modelling is the use of statistical methods or instruments to depict or simulate real-world problems. One such technique for representing real-world objects and activities called graph theory. Graphs have some of the most used patterns with both environmental & man-made structures. A graph is indeed a geometrical formal expression of vertex that connect pairings of vertex which is used to depict the connection amongst items. Graphs could be used to represent a variety of real concerns. In economic, industrial, ecological, & computer programming domains, they will be used to depict a variety of relationships underlying operation dynamics.

Along with its experience in a variety domain including such knowledge discovery and picture processing, communications & code technique, grouping & sequencing, and optimization techniques & operations, the graph idea has really become a core of engineering and innovation. Using graph theory to solve a fundamental condition is the same as estimating solutions to source of actual scenario. Graph theory is indeed a subfield of mathematics education that studies the properties and characteristics of graphs [1]. It shows the elements' interconnections. A few of the advantages of graph theory is that it provides a common framework for a range of issues. It just gives you graph techniques to solve this issue. The vertex or node indicates the objects throughout all domains wherein graph are employed for modelling, while the edge indicates the relationships among the objects. The Konignberg bridging challenge is where graph theory begins. The answer to some well conundrum gave rise to the concept of Eulerian graph.

Euler examined this Konignberg bridges challenge & discovered a workable approach in 1736, when he published Euler's resolution to the Konigsberg bridging challenge, now known as the Eulerian graph [2]. Mobius proposed the full graphs with bipartite graph in 1840, and Kuratowski used leisure puzzles to show that they have been plane. Kirchhoff invented the concept of trees (a linked graphs having no loops) in 1845, and he is using graph concepts to estimate voltages and power within electronic systems. Gutherie created the well-known four-color dilemma in 1852. Later, in 1856, Hamilton studied polyhydra loops & came up with the concept of the Hamiltonian graphs via looking at journeys which visits specific places precisely only one time.

2. GRAPH THEORETIC NOTATIONS

It is required to be knowledgeable with all elementary concepts throughout the graph to get a strong understanding about graph theory. A graph is indeed an ordered pair G = (V, E) that contains a subset V comprising node vertex and a set E of edges that connect the node in V. Graphs get their name from the fact that they're being represented graphically, and this graphical depiction helps us grasp many of their characteristics. In graphic representations of graphs, nodes are represented by spots or tiny spheres. A graph's edge is composed of 2 node (e.g., n1, n2). Edges are usually represented graphically as curving or vertical/horizontal lines connecting the spots associated with the corresponding nodes. Points which sharing edges are mostly referred to as neighboring or neighbors. Occurrence to every one of the pair of nodes refers to such an edge which connects 2 node. Adjacent edge would be those who intersect at a specific layer. The vertex in Fig.1 were Ve = a,b,c,d,e as well as the edges were (a,b),(a,c),(a,d),(b,e),(c,d),(d,e).

International Journal of Aquatic Science
ISSN: 2008-8019
Vol 12, Issue 02, 2021

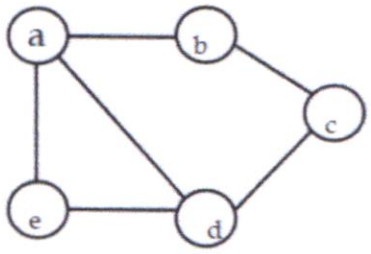


Figure 1: Graph

Definition 1: A bipartite graph is one in which the vertex set Ve(T) is made up of bipartitions X and Y, with the intersections of A and B being the empty set as well as the intersection with A or B being Ve(T). A bipartite graph's corner subset is made up entirely of lines of one endpoint in A and the other in B. The nodes of a network shown in Figure 5 could be split into 2 groups: A = D,C and B = E,F. Set A nodes only connect with set A nodes, & conversely. Entities in same subset will not link together. As a result, it was a bipartite graph.

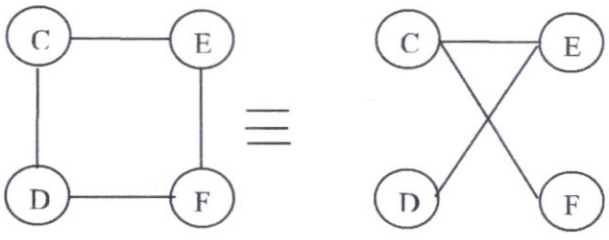


Figure 2: bipartite graph

Definition 2: A full bipartite graph was defined as a network in which each point of group A is connected to every point of group B, as shown in Figure 3

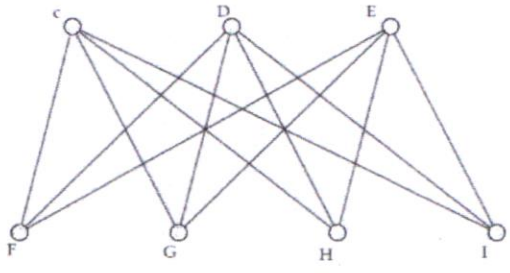


Figure 3: A complete bipartite

Definition 3: A sub-graph T0 of T, often known as T0 T, is a graph where almost every edges & vertex within T0 is indeed present in T. Figure 4 shows how this works.

International Journal of Aquatic Science
ISSN: 2008-8019
Vol 12, Issue 02, 2021

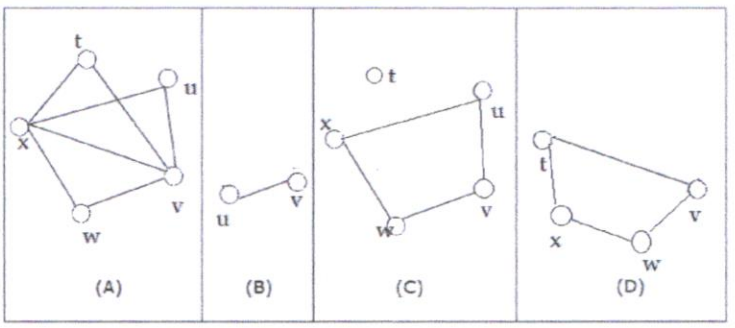


Figure 4: Graphs (B), (C) and (D) are subgraphs of the graph (A)

Definition 4: Assume that D⊆ E is a sub-set of T's nodes group. The generated sub-graph T0 = T[U] then is made up of node within D as well as solely these edges from T that have all these endpoints in D.

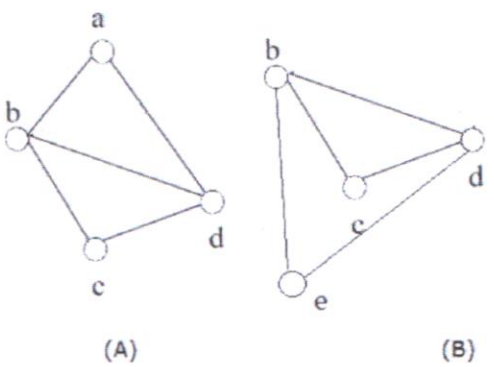


Figure 5: Graphs (B) is induced subgraphs of the graph (A)

Definition 5: A graph walk is also an alternate ordered set of nodes, with links displayed near to vertices acting as incidence edges to certain nodes. The number of edges in the array refers to the length of a path. If the path draws to a close in which it began, it is considered completed.

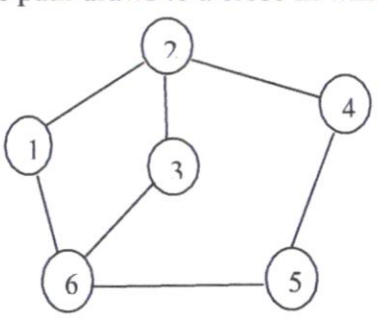


Figure 6: Example for walks in graph 1-2-3-6-5-4

Definition 6: A route inside a graph G is a sub-graph of T with V(Path) = i0,i1,i2,...,ik and E(Path) = i0i1,i1i2,...,ik1ik, wherein i0,i1,...,ik are unique graph vertices. The vertices i0 and ik are known as Path's endpoints. The number of vertices throughout the pathway determines its length, as well as a shorthand method for denoting pathways has become an ordered set with vertices (e.g. Path = i0i1...ik). Since no node were duplicated throughout the path, it is thus a route.

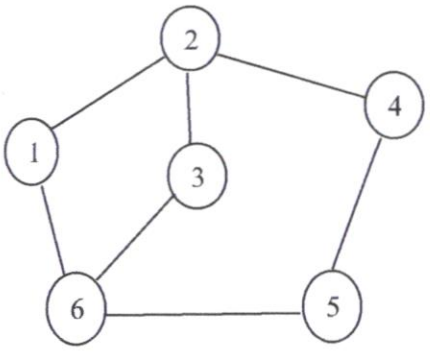


Figure 7: An example path in the graph 1-2-4-5-6

3. MATHEMATICAL REPRESENTATION OF THE GRAPH

The adjacency matrix is a arithmetical description for a graph. The adjacency matrix seems to be a a 2D array which each square represents whether or not 2 nodes are connected. Whenever there is a link among the two nodes, cell include '1', & because there's not, cells contain '0.' Whenever self-edges really aren't permitted, diagonal cells have '0.' And for graph shown in Figure 1, Figure 8 illustrate the adjacency cell matrix.

Vertex ID	a	b	c	d	e
a	0	1	1	1	0
b	1	0	0	0	1
c	1	0	0	1	0
d	1	0	1	0	1
e	0	1	0	1	0

Figure 8: Adjacency Matrix for the Graph

Controlling Sets (CS) is a word that is used frequently in graph theory . A CS for a graph T= (Ve, E) is indeed a collection Ve′ of Ve in which every vertex which isn't in Ve′ is linked with at least single component of Ve′ by an edge [4]. A controlling set of size 3 is shown in Figure 9, with the red node p, q, and r forming the controlling sets.

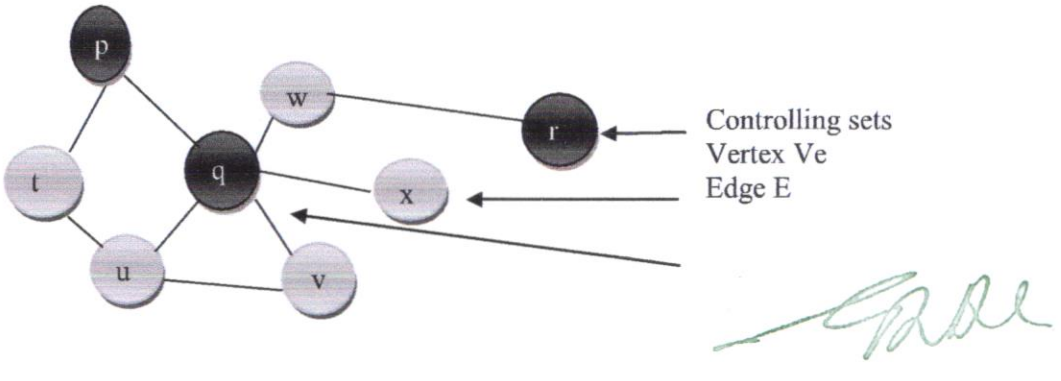


Figure 9: Dominating Set

A Minimal Dominant Set (MDS) is a Controlling Sets that has the shortest cardinality between all the CS of T. MDS of size 2 is depicted in Figure 17, with the dark lines forming MDS.

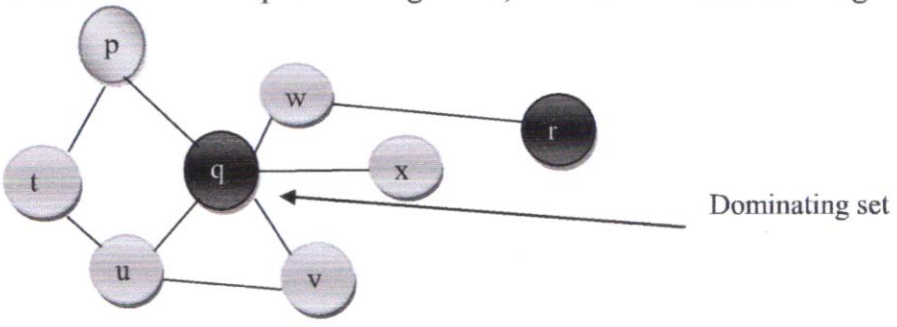


Figure 10: Minimum Dominating Set

Remember that even a node covering C is really a sub-set of the vertices in something like a simplified given Graph T that has at minimum 1 endpoint in C in each edge. As a result, in the dispute graph T, the goal is to find a min node overlap (it is an NP-complete problem). Lets take a glance at a particular instance of a Snps assembling dilemma from [8] and show how the nodes covers approach can help us solve it. A single system alteration within DNA is called a Single Nucleotide Polymerase reaction (SNPR, called "snip"). The most prevalent form of genomic variations in human chromosome is considered to be SNPs (91 percent of all human DNA polymorphisms).

This is how the SNPR Assembly Challenge is described. An SNPR assembly is indeed a trio (F, G, H), where F = f1,..., fn is a collection of n SNPRs, G = g1,..., gm is a subset of m segments, and H is a connection G: FG 0, A, B that specifies if an SNPR fi F does not appear on a fragmentation gj G (marked by 0) and if it does, the non-zero number of fi (A or B). 2 SNPs fi and fj are said to be in conflict if there are two fragments Gk and Gl with the same non-zero value in H(fi, gk), H(fi, gl), H(fj, gk), H(fj, gl) and the opposite non-zero value in H(fj, gl). The objective is to end as few SNPs as feasible in order to remove any disputes. Figure 10 depicts the simple guidelines from [7]. It's worth noting because H is only specified for such a sub-set of FG derived from experimental data. For example, since H (f1, g2) = B, H (f1,g5) = B, H (f5, g2) = B, H (f5, g5) = A, f1 and f5 are in dispute. (f4, g1) = A, H (f4, g3) = A, H (f6, g1) = B, H(f6, g3) = A, hence f4 & f6 are in dispute once more. Similarly, the table makes it simple to compute all pairings of opposing SNPRs. Figure 11 depicts the conflicts graph relating to this SNPR assembling difficulty.

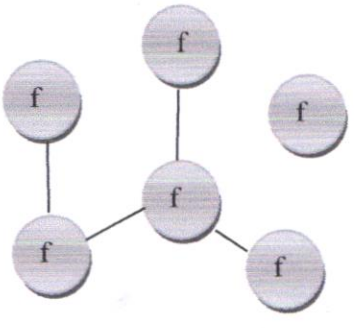


Figure 11: The conflict graph for SNP assembly problem

The minimum node coverage throughout the dispute graph are now determined using the nodes covering methodology. The no of nodes 6 is provided as an input, accompanied by adjacency matrix including its graph shown in Figure 12. If another nodes fi & fj use an edge throughout the dispute graph, the item in column j and row i of the adjacency matrix is one, otherwise it is zero.

0	0	0	0	1	0
0	0	0	1	0	0
0	0	0	0	0	0
0	1	0	0	1	1
1	0	0	1	0	0
0	0	0	1	0	0

Figure 12: The input for the vertex cover algorithm

Two unique minimum vertex coverings are discovered by the vertex software.

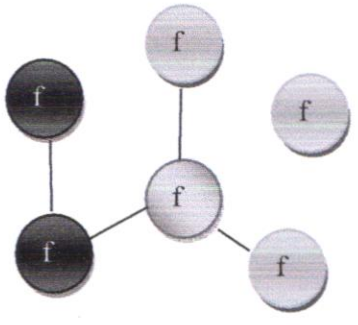


Figure 13: Minimum Vertex Cover: f1, f2

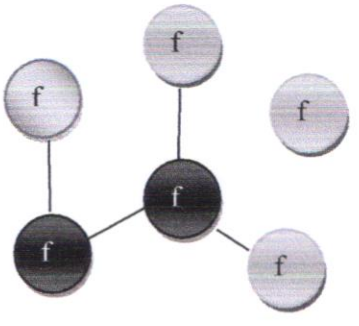


Figure 14: Minimum Vertex Cover: f2,f3

As a result, whether removing f1, f2 or removing f2, f3 addresses the SNP assembling challenge. Figure15 illustrates an image of a graph demonstrate the html page. The title, images, & phrases are used to mark the borders.

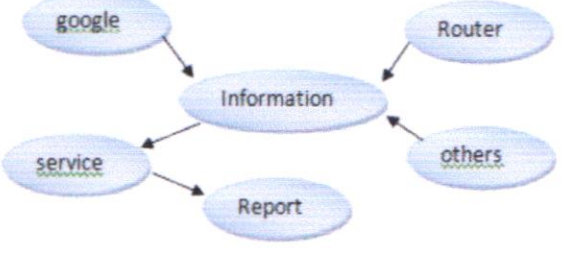


Figure 15: Web document – Graph representation

Whenever entities pass the border from one detector, i.e. the sensing area of one detector, then join the sensing zone of yet another detector, the preceding detector must correctly communicate this to the adjoining detector. The detecting strength is determined by the incidence rates among two adjacent detectors. The system is described as just an undirected weighted network T(DeT, ET, WT) wherein v corresponds to DeT and edge (u,v) belongs to ET, assuming that perhaps the device's transmit power is broad enough so the two neighbours can interact directly with one another. The detectors are represented by D, whereas the neighbours are represented by u,v. WT(u,v) is the EG's weighed edge of (u,v). The idea of wraps was employed by the scholars.

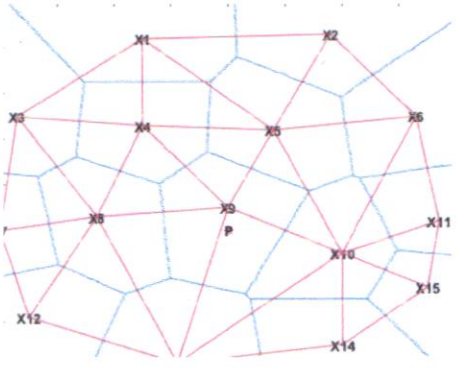


Figure 16: Voronoi diagram with regions

4. RESULTS

Whenever the methodology was put into practice, a testing based on photos from either a prior migraines project was conducted.

Table 1 Graph theory results.

Char	Area	Controls N(M/SL)	SD(M/SL)	Sporadic Migraine N(M/SL)	SD(m/SL)	Medication abuse N(M/SL)	SD(M/SL)
X	91	1.0678/1.0602	0.234/0.342	1.09/1.098	0.013/0.023	1.079/1.054	0.014/0.04
	118	1.0655/1.093	0.032/0.477	1.08/1.089	0.013/0.003	1.066/1.075	0.012/0.031
M	91	1.004/1.045	0.003/0.008	1.095/0.323	0.008/0.002	1.006/1.045	0.001/0.007
	118	1.003/1.05	0.003/0.006	1.098/0.008	0.004/1.02	1.005/1.031	0.002/0.005

N	91	0.993/0.895	0.005/0.283	0.997/0.987	0.001/0.9	0.994/0.05	0.003/0.015
	118	0.994/0.865	0.003/0.012	0.8976/0.98	0.993/0.84	0.9953/0.884	0.003/0.014

From the data in Table 1, a classification with different classifiers, areas, and correlations was To accomplish so, a research containing 91 & 118 segments of AAL areas, necessarily coincide, and SL with either the following criteria: X=1, M=1, N=5, and Pr=0.06 is incorporated into the technique. After 45 random iterations of a dataset, most values are standardized. The outcomes of a graph theory computations are shown in Table 1. With every one of the groups. The 3 characteristics average score & standard deviation were investigated. The findings are supplied for all of the parts (118), as well as 91 explanatory segments.

A categorization using several classifier, regions, and relationships were carried out using the data from Table 1. Table 2 indicates the results. The results of accuracy and precision are listed. The sensitivities of a classification determines its capacity to identify diseases in sick patients, whereas the specific determines its ability to recognize diseases with in lack of sickness. The new framework can handle the entire procedure, including acquiring fMRI pictures to delivering complete details that doctors or experts can understand. It is an effective algorithm in which the client merely inputs fMRI data then determine the best cartography and connections. To test this strategy, researchers looked at people who had migraines and were also drug addicts. The method does a thorough study and suggests various classifiers, some of which achieve 92.86 percent accuracy (Nn) and some others 86 percent (SVM). Different research using comparable machine learning algorithms in all the other diseases found chances of success of 76 to 88%, indicating that the suggested methodology has yielded satisfactory outcomes. The current discrepancies in classification outcomes can be attributed to a variety of factors, along with the kind of classification (supervised, uncontrolled, or partial-supervised) or the variation among classifier using same information that may achieve regional or global effectiveness.

Due to the random learning framework, some few classifier, such as NN, might produce diverse outputs. Increasing the amount of respondents inside each participating organization would allow for a more thorough investigation. These method is challenging for migraine sufferers since the noise produced by the MRI scanner causes individuals discomfort. Furthermore, one of the study results present limitations is the inability to employ automated classifier throughout conjunction with the entire map or a personal association. New atlases and relationships must be introduced in the order to improve the outcomes by allowing experts to study pathologies with a larger variety of factors.

Table 2 Classifiers.

Classifier		Success percentage	Connection percentage	AB %	Specification	Sensitivity
SVM	91	65.09/45.03	66.87/56.97	80/45	0.59/0.86	0.99/0.54

	118	67.98/68.09	78.99/56.00	60/30	0.094/0.65	0.65/0.64
K-means	91	89.00/66.98	87.99/67.95	40/70	0.87/0.77	1/1
	118	87.09/56.98	56.98/59.98	60/50	0.56/0.45	1/0.98
Knn	91	56.96/47.99	89.00/90.76	60/30	0.53/0.66	0.59/0.87
	118	57.99/52.87	48.98/65.98	0/80	0.76/0.66	0.65/0.73
AdaBoost	91	64.55/57.95	55.67/66.94	80/30	0.79/0.44	0.94/0.34
	118	64.44/46.96	63..75/66.56	60/40	0.93/0.56	0.44/0.64
Nn(3 layers)	91	86.09/45.03	84.87/56.97	100/100	0.80/0.86	0.49/0.84
	118	83.98/68.09	74.99/56.00	100/20	0.93/0.65	0.85/0.74
LDA	91	90.43/67.94	87.44/95.99	100/40	0.64/0.334	0.77/0.97
	118	51.55/21.93	45.77/86.44	60/100	0.77/0.83	0.86/0.22

Graph theory-based numerical methods are simple to develop using common graphs methods, as well as the predictions were simple to identify thanks to the graph's links and routes. Nevertheless, because graph technologies primarily analyse comparatively home network knowledge, predictive accuracy is usually poor. Graph connection estimations are frequently biassed in favour of connected dominating nodes in the cluster, resulting in poor rankings for novel medications and far less genomes. As a result, graph connectedness measurements are hardly used to estimate.

5. CONCLUSION

This study looked at several aspects of graph theory, like computer-assisted graph representations as well as graph-theoretic database systems like lists & matrices hierarchies. This study provides a better approach in representing and characterisation of a brain connection network, as well as machine learning in categorizing clusters based on factors retrieved from photographs, to emphasise the importance of graph theory. Data pre - processing, correlates, attributes, and techniques are some of the approaches used by this program. This research shows how an automated tool can be used to automate a systematic pattern utilizing MRI templates. Pre-processing, graph creation per topic using various connections, mapping, important extraction of features found in the literature, and lastly

offering a set of machine learning techniques that really can give interpretable findings for doctors or experts are all component of the method. This paper also discusses a most typical advantages of graph theory in numerous domains to emphasize the highlights of graph theory. A summary of graph theory difficulties pertinent to their ideas and tactics is also included in this study.

6. REFERENCES

[1]. Bondy J A and Murty U S R., Graph theory with applications, Elsevier science publishing, 1976.
[2]. Caccetta L. and Vijayan K, Applications of graph theory, Fourteenth Australasian Conference on Combinatorial Mathematics and Computing, Ars Combinatoria, Vol. 23, 1987, 21-77.
[3]. Gary Chartrand, Ping Zhang, A First Course in Graph Theory, Dover books on mathematics, Courier Corporation, 2012.
[4]. Johan M.M. van Rooij, Hans L. Bodlaender.: Exact algorithms for dominating set. Discrete Applied Mathematics, 159 (2011), 2147–2164.
[5]. Shariefuddin Pirzada and Ashay Dharwadker, "Applications of Graph Theory", Journal of the Korean Society for Industrial and applied Mathematics, Volume 11, No.4,2007.
[6]. Narasingh; Deo; "Graph theory with applications to engineering and computer science", Prentice Hall of India, 1990.
[7]. Alexandru T. Balaban, Journal of Chemical Information and Computer Science, 1985, 25 (3), pp 334–343.
[8]. G. Lancia, V. Afna, S. Istrail, L. Lippert, and R. Schwartz,SNPsProblems, Complexity and Algorithms, ESA 2002, LNCS 2161, pp. 182-193, 2001. Springer-Verlag 2001.
[9]. Ashay Dharwadker, The Vertex Coloring Algorithm, 2006
[10]. Ashay Dharwadker, " a new proof of The four colour theorem", Institute of Mathematics, Haryana, India.
[11]. Eric Filiol, Edouard Franc, Alessandro Gubbioli, Benoit Moquet and Guillaume Roblot, Combinatorial Optimization of Worm Propagation on an Unknown Network, Proc. World Acad. Science, Engineering and Technology, Vol 23, August 2007.
[12]. Daniel Marx, "Graph Coloring problems and their applications in scheduling"
[13]. M. Abellanas, F. Hurtado, C. Icking, R. Klein, E. Langetepe, L. Ma, B. Palop, and V. Sacristan. "The farthest color Voronoi diagram and related problems". In Abstracts 17th European Workshop Comput. Geom., pages 113–116. Freie University at Berlin, 2001.
[14]. Manjula V (2010) Electrical networks by graph theory. Int J of Math and Eng IEEE 149: 1368 -1373.
[15]. M. A. Rajan, M. Girish Chandra, Lokanatha C. Reddy, Prakash Hiremath "Concepts of graph theory relevant to Adhoc Networks", Int. Journal of Computers, Communications & Control, ISSN 1841-9836, E-ISSN 18419844 Vol. III 2008.
[16]. C. Stam, W. De Haan, A. Daffertshofer, B. Jones, I. Manshanden, A.V.C. vanWalsum, T. Montez, J. Verbunt, J. De Munck, B. Van Dijk et al., Graph theoretical analysis of magnetoencephalographic functional connectivity in Alzheimer"s disease, Brain 132 (2009), 213–224.
[17]. J. Wang, X. Zuo and Y. He, Graph-based network analysis of resting-state functional MRI, Frontiers in Systems Neuroscience 4 (2010), 1–14.
[18]. M.P. van den Heuvel and H.E. Hulshoff Pol, Exploring the brain network: a review on resting-state fMRI functional connectivity, European Neuropsychopharmacology 20 (2010), 519–534.

[19]. L. He, D. Hu, M. Wan and Y. Wen, Measuring temporal dynamics of resting-state fMRI data, Bio-Medical Materials and Engineering 24 (2014), 939–945.
[20]. R. Baumgartner, L. Ryner, W. Richter, R. Summers, M. Jarmasz and R. Somorjai, Comparison of two exploratory data analysis methods for fMRI: fuzzy clustering vs. principal component analysis, Magnetic Resonance Imaging 18 (2000), 89–94.
[21]. Y. Xiong, Y. Luo, W. Huang, W. Zhang, Y. Yang and J. Gao, A novel classification method based on ICA and ELM: A case study in lie detection, Bio-Medical Materials and Engineering 24 (2014), 357–363
[22]. B.C. Bernhardt, Z. Chen, Y. He, A. C. Evans and N. Bernasconi, Graph-theoretical analysis reveals disrupted smallworld organization of cortical thickness correlation networks in temporal lobe epilepsy, Cerebral Cortex 21 (2011), 2147–2157.
[23]. B.C. van Wijk, C.J. Stam and A. Daffertshofer, Comparing brain networks of different size and connectivity density using graph theory, PLoS One 5 (2010), e13701.
[24]. K. Nakajima, T. Minami, H.C. Tanabe, N. Sadato and S. Nakauchi, Facial color processing in the face-selective regions: An fmri study, Human Brain Mapping 35 (2014), 4958–4964.
[25]. A.V. Lebedev, E. Westman, A. Simmons, A. Lebedeva, F.J. Siepel, J.B. Pereira and D. Aarsland, Large-scale resting state network correlates of cognitive impairment in Parkinson"s disease and related dopaminergic deficits, Frontiers in Systems Neuroscience 8 (2014), 1–12.
[26]. E. Bujnošková, J. Fousek, E. Hladká and M. Mikl, 22 comparison of the methods for brain parcellation, Clinical Neurophysiology 125 (2014), e31–e32.
[27]. E.J. Sanz-Arigita, M.M. Schoonheim, J.S. Damoiseaux, S.A. Rombouts, E. Maris, F. Barkhof, P. Scheltens and C.J. Stam, Loss of „small-world"networks in Alzheimer"s disease: graph analysis of fMRI resting-state functional connectivity, PloS One 5 (2010), e13788.
[28]. M. Jenkinson, C.F. Beckmann, T.E. Behrens, M.W. Woolrich and S.M. Smith, FSL, Neuroimage 62 (2012), 782–790
[29]. J.C. Reijneveld, S.C. Ponten, H.W. Berendse and C.J. Stam, The application of graph theoretical analysis to complex networks in the brain, Clinical Neurophysiology 118 (2007), 2317–2331
[30]. C. Stam, B. Jones, G. Nolte, M. Breakspear and P. Scheltens, Small-world networks and functional connectivity in Alzheimer"s disease, Cerebral Cortex 17 (2007), 92–99.

International Journal of Aquatic Science
ISSN: 2008-8019
Vol 12, Issue 01, 2021

IJAS

Automated Visual Assessment From Optical Data Sets To Enhance The Accuracy Of Data Analysis

Dr.Syed Khasim[1],Dr.Neelamadhab Padhy[2],Dr. Sarita V Balshetwar[3], Dr. G. Sivakumar[4]
Dr.Shaik Shakeer Basha[5],Jeipratha P N[6]

[1]*Professor, Department of Computer Science and Engineering, Dr.Samuel George Institute of Engineering & Technology, Markapur, Prakasam Dt, Andhra Pradesh, 523316.*
[2]*Associate Professor, Department of Computer Science and Engineering, GIET University, Gunupur, Odisha 765022.*
[3]*Associate Professor, Department of Computer Science and Engineering, AGTIs DACOE, Karad, Satara, Maharashtra-415002.*
[4]*Professor, Department of Computer Science and Engineering, Erode Sengunthar Engineering College,Erode, Tamilnadu- 638057, India*
[5]*Assistant Professor, Department of Computer Science and Engineering, Avanthi Institute of Engineering and Technology, Gunthapally, Abdullahpurmet Mandal-501512, Hyderabad, Telangana.*
[6]*Assistant Professor, Department of Computer Science and Engineering,St.Joseph's College of Engineering, OMR Chennai 600119.*

Abstract: Data visualization is a technique for extracting information from massive amounts of data. For their assumption, software engineers constantly generate multiple visualizations from datasets. Evaluating databases with a large number of characteristics may be time-consuming and error-prone. The objective of this study is to use optimal datasets from several sources to automatically propose attractive visualization patterns. It helps you save time by reducing the amount of time you spend on low-value visualizations and displaying suggested pattern.

Keywords: Query optimizer; Big Data Analyst; Data science; Visualization; Data analyst

1. INTRODUCTION

Data scientists and analysts are increasingly using data visualization technologies. They load alternative datasets and use visualization tools to test their theory; this step is followed numerous times until they discover an obvious pattern. Data scientists must use this time-consuming trial and error technique to gain insights. The primary objective of this study is to discover intriguing patterns in huge datasets from various sources [1].

In identify diverse patterns and abnormalities, data scientists must create various representations from fresh datasets. Finding numerous patterns in a dataset with a large dimensionality becomes a time-consuming process. For data analysis, connections between characteristics and their subsets must be determined. If the mapped information differs significantly from the reference points or historical information, important observations seem to be likely to occur. The variety of visualizations that may be created is enormous, even for a

tiny dataset. The visualizations should be shown at an engaging speed, with a faster reaction speed to the consumers.

Data is now stored in a variety of databases with storage models tailored to their specific requirements. When information needs to be evaluated, it must be retrieved from a variety of sources. To benefit from the performance advantages of native systems particularly built to handle them, organized data is saved in relational databases while unorganized information is stored in NoSQL relational databases.

MIMIC-III is a database that stores information about clients who have been admitted to hospitals. It includes vital sign information, medical equipment data, doctor comments, and patient admission information. After the patient information has been de-identified, the data is made available to researchers [2]. To create a graphical suggestion tool, data federation across these many databases is necessary. This would make it easier for data scientists and analysts to test their hypotheses using various datasets. Currently, this procedure is manual, the user is required to collect relevant data and then walk through all of the visualizations, which is a time-consuming effort [3].

De-identified patient data obtained from various sources can be displayed in graphs. It contains information such as the patient's admittance date, identity, physician remarks, and medical equipment time - series. This becomes complicated to get rid of all the visualizations created. Users are drawn to visualizations in which the training set differs significantly from the related data. They can concentrate on their duties since they have a federation SQL architecture that fetches data rapidly across systems [4,5].

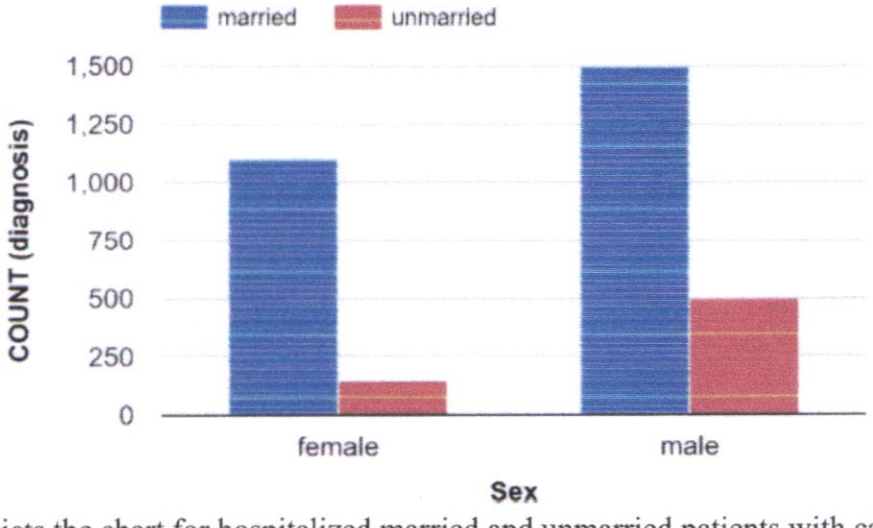


Figure 1 depicts the chart for hospitalized married and unmarried patients with cardiac issues. Figure 1 demonstrates how deviating target data from standard points aids in finding anomalies and abnormalities in the data, which can then be investigated subsequently.

2. RELATED WORKS

Data analysts examine information acquired from a variety of sources. The facts are represented by functional aspects, while the observed characteristics are obtained using conditional formatting. These two characteristics are utilized in visualization software [6]. This review concentrates on SeeDB [7], which suggests visualizations for a query based on a high utilitarian calculus that shows greater variances by collecting data from several

databases. Healthcare and medical equipment produce data in a variety of forms, which must be kept in several systems [8].

The customized SQL architecture searches data from any of the identified databases, and the classification process, where applicable, replace optimal data and gets the data fast, which is then utilized to construct the needed suggested visualization. The query's group-by attributes are represented as dimensional attributes D [9-11]. The measurement characteristics M and a collection of accumulation functions A are used to quantify the dimensional attributes. These searches are run against a collection of S databases that have been registered. Dimension characteristics D can be grouped and aggregated depending on measurement characteristics M.

This creates a two-dimensional table that may be used to visualize the data. Suggested

Q (target) = SELECT d; a (m) FROM T(S) GROUP BY d

Q (reference) = SELECT d; a (m) FROM R(S) GROUP BY d

Utilitarian manufacturing is derived from the perspectives of Q (goal) and Q (source) (reference). The discrepancy in views is used to determine which visualizations should be presented (see Figs. 2 and 3).

```
SELECT sex, count (diagnosis) FROM admission_married GROUP BY sex;
SELECT sex, count (diagnosis) FROM admission_unmarried GROUP BY sex;
```

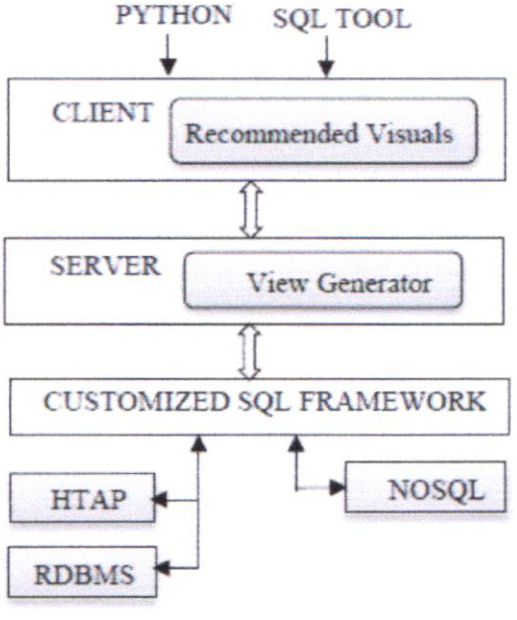


Figure 2 shows the visual suggestion application's architecture.

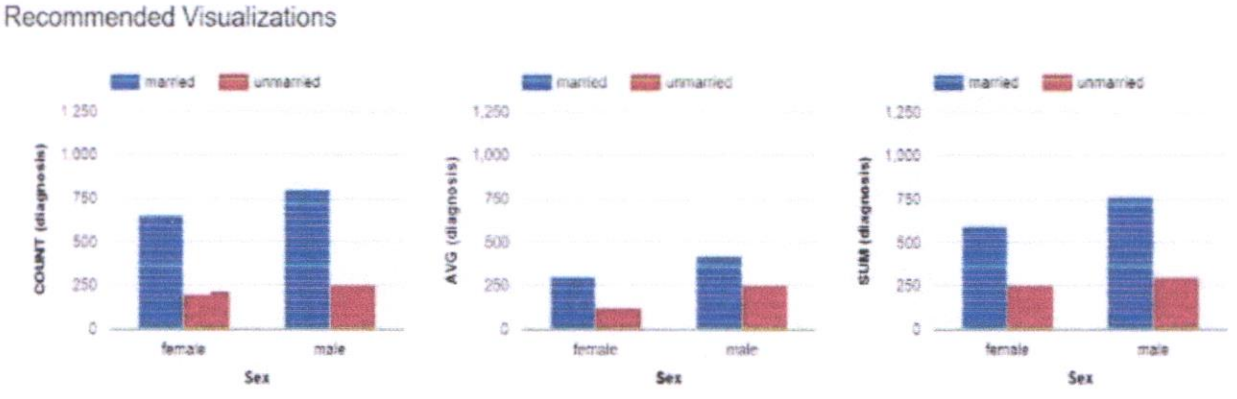


Fig. 3. Visualization chart

3. PROPOSED SYSTEMS

To get the data, it interacts with a bespoke SQL architecture that functions as a federated query layer. The technology revises the inquiry to the optimized copy and returns the result set at runtime. The relational node is transformed by the query optimizer by replacing it with whole or partial rules that fit the description. The various registered data is kept in a catalog, which the scheduling algorithm uses during runtime. It gives insights into the query's total execution price, the data size in tables, and CPU and Memory consumption.
Several group-by are merged when aggregate queries with the same group-by characteristics are aggregated into a single display. This leads to a reduction in query latency and performance improvement.

4. EVALUATION

The visualizations with the highest usefulness factor amongst these top perspectives, as well as improved precision and faster response times, were evaluated and shown in Figure 4.

International Journal of Aquatic Science
ISSN: 2008-8019
Vol 12, Issue 01, 2021

Fig. 4: Presentation of suggested visualizations for hospitalized treatment of respiratory problems.

Fig. 5: Presentation of suggested visualizations for patients with heart-related problems.

Fig. 6: Display of recommended visualizations for patients with hypotension-related problems.

All tests were run on a 32-bit Linux system with a 3.25 GHz Intel Xeon CPU and 8 GB of RAM. To store patient-related data, PostgresSQL was utilized. Splice Machine was used to store medical equipment data, while MongoDB was used to store text notes. The objective data is dataset1 and the comparison dataset is dataset2, as illustrated in Figs. 4, 5, and 6. The suggested visualizations are those that have a high usefulness factor and deviate from the reference points a most.

5. CONCLUSION

This research uses a visual analytical model in conjunction with an optimization to suggest intriguing visualizations from a variety of datasets on its own. This effort aids data scientists and analysts in their interactive information collection. Integration using data centers will be a significant expansion of this research.

6. REFERENCES

[1] Vartak, M., Madden, S., Parameswaran, A., Polyzotis, N.: SeeDB: automatically generating query visualizations. Proc. VLDB Endow. 7(13), 1581–1584 (2014)

[2] Dr.P.Sivakumar. "Trailing Mobile Sinks to Data Coverage Protocol for Wireless Sensor Networks", International Journal of Innovations & Advancement in Computer Science (IJIACS), Vol.5, Issue No: 6, June 2016.

[3] Waller, M.A., Fawcett, S.E.: Data science, predictive analytics, and big data: a revolution that will transform supply chain design and management. J. Bus. Logistics 34(2), 77–84 (2013)

[4] Muniswamaiah, M., Agerwala, T., Tappert, C.C.: Context-aware query performance optimization for big data analytics in healthcare. In: 2019 IEEE High Performance Extreme Computing Conference (HPEC-2019), pp. 1–7 (2019)
[5] Latchoumi, T. P., Reddy, M. S., & Balamurugan, K. (2020). Applied Machine Learning Predictive Analytics to SQL Injection Attack Detection and Prevention. European Journal of Molecular & Clinical Medicine, 7(02), 2020.
[6] Fisher, D., et al.: Interactions with big data analytics. interactions 19(3), 50–59 (2012)
[7] Latchoumi, T. P., Ezhilarasi, T. P., & Balamurugan, K. (2019). Bio-inspired weighed quantum particle swarm optimization and smooth support vector machine ensembles for identification of abnormalities in medical data. SN Applied Sciences, 1(10), 1-10.
[8] Sridharan, K., & Sivakumar, P. (2018). A systematic review on techniques of feature selection and classification for text mining. International Journal of Business Information Systems, 28(4), 504-518.
[9] Perry, D.B., et al.: VizDeck: streamlining exploratory visual analytics of scientific data (2013)
[10] Latchoumi, T. P., Balamurugan, K., Dinesh, K., & Ezhilarasi, T. P. (2019). Particle swarm optimization approach for waterjet cavitation peening. Measurement, 141, 184-189.
[11] Wang, L., Wang, G., Alexander, C.A.: Big data and visualization: methods, challenges and technology progress. Digit. Technol. 1(1), 33–38 (2015)

International Journal of Aquatic Science
ISSN: 2008-8019
Vol 12, Issue 02, 2021

IJAS

Artificial Heavy-Duty Structural Technology For Ai Mobile Robots To Control Dynamic Programming

Dr.Syed Khasim[1], Dr. M.S. Rohokale [2], Sathish Kumar D[3], B Sarath Chandra[4], Dr.Shaik Shakeer Basha[5], Rahul Neware[6]

[1]*Professor, Department of Computer Science and Engineering, Dr.Samuel George Institute of Engineering & Technology, Markapur, Prakasam Dt, Andhra Pradesh-523316.*
[2]*Professor, Mechanical Engineering, SKN Sinhgad Institute of Technology and Science Kusgaon (Bk) Lonavala Pune Maharashtra-410401.*
[3]*Assistant Professor (Sr.G), Department of EEE, KPR Institute of Engineering and Technology, Coimbatore-641407.*
[4]*Assistant Professor, Department of Computer Science and Engineering,PSCMR College of Engineering and Technology, Vijayawada, Andhra Pradesh 520001.*
[5]*Assistant Professor, Department of Computer Science and Engineering, Avanthi Institute of Engineering and Technology, Gunthapally, Abdullahpurmet Mandal-501512, Hyderabad, Telangana.*
[6]*PhD Research Fellow, Department of Computing, Mathematics and Physics , Høgskulen på Vestlandet, Inndalsveien 28, 5063 Bergen, Norway.*

Abstract
This article offers an intelligent four-wheeled mobile robot movement controller with four omni directional drive wheels equally spaced by each other at 90^o using a Field-Programmable (FPGA) with artificial immune system algorithm. The suggested FPGA-based Artificial Intelligent System (AIS) method combines machine learning with FPGA technology. These FPGA-based AIS auto-stunning intelligent controls are projected to outperform standard non-optimized controls, the dynamic programming controllers and the particle swarm controller.

Keywords: Mobile robots; Artificial Immune System; using field-programmable gate array

1. INTRODUCTION

In terms of locomotion mechanism, these robots outperform those using differential wheels [1]. Byun et al. [2] built a mobile robot with a changeable wheel movement in particular. Purwin [3] suggested a four-wheeled omnidirectional vehicle trajectory generating system. For an omnidirectional mobile robot, it was suggested a fuzzy route proposed a fuzzy controller for an directional inspection machine [4].

Between these contemporary metaheuristic-based solutions to address classification problem in mobile robots, de Castro and Timmis [5] introduced the AIS algorithm, which is based on the biological immune system and has proven to be a effectual and computational example for NP-hard combinatorial method. Its paradigm is based on the immune system's natural reaction. By leveraging their high optimization ability, the adaptive and AIS method been

effectively utilized in a variety of fields, including machine learning, classification, and pattern recognition.

FPGA invention has ushered in a fundamental shift in integrated circuit design for AI computing. In various fields, such as fuzzy positioning algorithm, it has been demonstrated to be an advanced and productive way of realizing complex algorithms. This FPGA technology has indeed been demonstrated to be effective in designing computational intelligence in embedded systems that incorporate memory, and processor cores, with the advantages of adaptability, hardware/software co-design, and copyright recyclability. However, no attempt has been made to build a mobile robot-specific intelligent FPGA-based AIS controller. The work is to develop practical algorithm controller based on FPGA integrated AIS for autonomous vehicles that can monitor and stabilize their path.

2. KINEMATIC CONTROL

This report explains the kinematics of an directional robotic system with wheels separated at 90^{o} each other. The integrated controller is presented to accomplish stabilization and path tracking using the kinematics. In relation to a global frame, Figure 1 illustrates the set of driving arrangement.

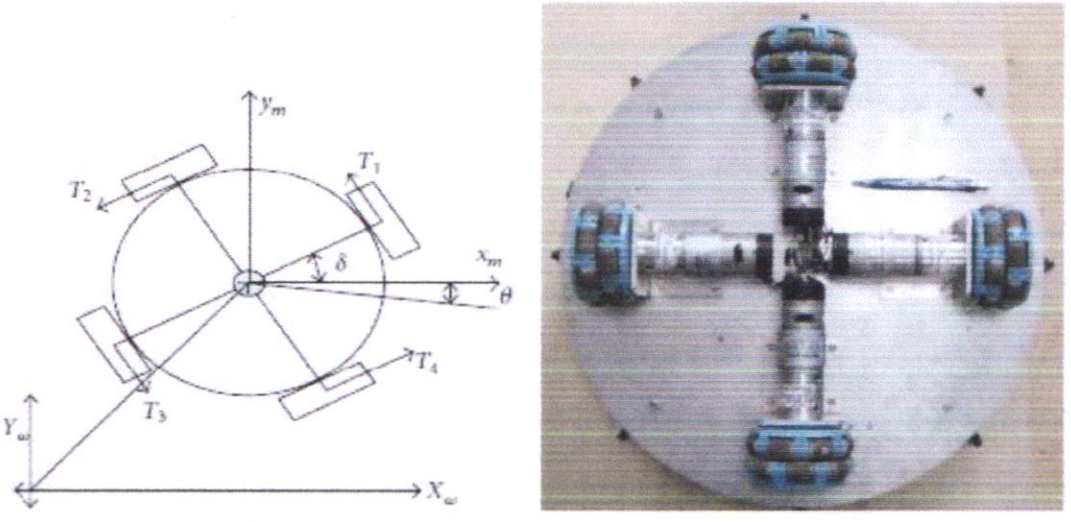


Figure 1: Arrangement of four-wheeled robot.

$$v(t) = \begin{bmatrix} v_1(t) \\ v_2(t) \\ v_3(t) \\ v_4(t) \end{bmatrix} = \begin{bmatrix} r\omega_1(t) \\ r\omega_2(t) \\ r\omega_3(t) \\ r\omega_4(t) \end{bmatrix} = P(\theta(t)) \begin{bmatrix} \dot{x}(t) \\ \dot{y}(t) \\ \dot{\theta}(t) \end{bmatrix}, \quad (1)$$

where

$$P(\theta(t)) = \begin{bmatrix} -\sin(\delta+\theta) & \cos(\delta+\theta) & L \\ -\cos(\delta+\theta) & -\sin(\delta+\theta) & L \\ \sin(\delta+\theta) & -\cos(\delta+\theta) & L \\ \cos(\delta+\theta) & \sin(\delta+\theta) & L \end{bmatrix}, \quad (2)$$

where r signifies the wheel radius; L denotes the space between the wheel's centre and the geometric centre of the movable platform; The velocities of wheel was denoted by i(t) and i(t), with I = 1, 2, 3, 4, etc. The mobile robot's posture is represented by [x(t) y(t) (t)].

$$P^{\#}(\theta(t)) = \begin{bmatrix} \frac{-\sin(\delta+\theta)}{2} & \frac{-\cos(\delta+\theta)}{2} & \frac{\sin(\delta+\theta)}{2} & \frac{\cos(\delta+\theta)}{2} \\ \frac{\cos(\delta+\theta)}{2} & \frac{-\sin(\delta+\theta)}{2} & \frac{-\cos(\delta+\theta)}{2} & \frac{\sin(\delta+\theta)}{2} \\ \frac{1}{4L} & \frac{1}{4L} & \frac{1}{4L} & \frac{1}{4L} \end{bmatrix}. \quad (3)$$

This part uses the kinematic model in (1) to develop kinematic controls for the directional mobile robot in Figure 2 to accomplish point stabilization and trajectory tracking. To create the controller for motion, one must first specify error, the difference between the current and point position.

$$Z_e(t) = \begin{bmatrix} x_e(t) \\ y_e(t) \\ \theta_e(t) \end{bmatrix} = \begin{bmatrix} x(t) \\ y(t) \\ \theta(t) \end{bmatrix} - \begin{bmatrix} x_d \\ y_d \\ \theta_d \end{bmatrix} \quad (4)$$

which gives

$$\begin{bmatrix} \dot{x}_e(t) \\ \dot{y}_e(t) \\ \dot{\theta}_e(t) \end{bmatrix} = \begin{bmatrix} \dot{x}(t) \\ \dot{y}(t) \\ \dot{\theta}(t) \end{bmatrix} = P^{\#}(\theta(t)) \begin{bmatrix} r\omega_1(t) \\ r\omega_2(t) \\ r\omega_3(t) \\ r\omega_4(t) \end{bmatrix}. \quad (5)$$

$$\begin{bmatrix} \omega_1(t) \\ \omega_2(t) \\ \omega_3(t) \\ \omega_4(t) \end{bmatrix} = \frac{1}{r} P(\theta(t)) \times \left(-K_P \begin{bmatrix} x_e(t) \\ y_e(t) \\ \theta_e(t) \end{bmatrix} - K_I \begin{bmatrix} \int_0^t x_e(\tau)\,d\tau \\ \int_0^t y_e(\tau)\,d\tau \\ \int_0^t \theta_e(\tau)\,d\tau \end{bmatrix} \right). \quad (6)$$

The PID control is extensively used in industrial applications [6], is employed in the control system presented in (6). When (6) is added to (5), the closed system error system's behaviors become

$$\begin{bmatrix} \dot{x}_e(t) \\ \dot{y}_e(t) \\ \dot{\theta}_e(t) \end{bmatrix} = -K_P \begin{bmatrix} x_e(t) \\ y_e(t) \\ \theta_e(t) \end{bmatrix} - K_I \begin{bmatrix} \int_0^t x_e(\tau)\,d\tau \\ \int_0^t y_e(\tau)\,d\tau \\ \int_0^t \theta_e(\tau)\,d\tau \end{bmatrix}. \quad (7)$$

$$V_1(t) = \frac{1}{2}\begin{bmatrix} x_e(t) & y_e(t) & \theta_e(t) \end{bmatrix}\begin{bmatrix} x_e(t) \\ y_e(t) \\ \theta_e(t) \end{bmatrix} + \frac{1}{2}\begin{bmatrix} \int_0^t x_e(\tau)\,d\tau & \int_0^t y_e(\tau)\,d\tau & \int_0^t \theta_e(\tau)\,d\tau \end{bmatrix} K_I \times \begin{bmatrix} \int_0^t x_e(\tau)\,d\tau \\ \int_0^t y_e(\tau)\,d\tau \\ \int_0^t \theta_e(\tau)\,d\tau \end{bmatrix}. \tag{8}$$

Taking the time derivative of $V_1(t)$, one obtains

$$\dot{V}_1(t) = \begin{bmatrix} x_e(t) & y_e(t) & \theta_e(t) \end{bmatrix}\begin{bmatrix} \dot{x}_e(t) \\ \dot{y}_e(t) \\ \dot{\theta}_e(t) \end{bmatrix} + \begin{bmatrix} \int_0^t x_e(\tau)\,d\tau & \int_0^t y_e(\tau)\,d\tau & \int_0^t \theta_e(\tau)\,d\tau \end{bmatrix} K_I \times \begin{bmatrix} x_e(t) \\ y_e(t) \\ \theta_e(t) \end{bmatrix}$$

$$= -\begin{bmatrix} x_e(t) & y_e(t) & \theta_e(t) \end{bmatrix} K_P \begin{bmatrix} x_e \\ y_e \\ \theta_e \end{bmatrix} < 0. \tag{9}$$

3. AIS ALGORITHM

In order to discover better solutions to complex combination problems, AIS algorithms employ an immune system and hypermutation. This methodology offers many strategies to address actual issues when conventional methods do not work, comparable to bio-inspired metaheuristics from GA [7] and PSO [8]. In order to test its efficacy, each antikörper is carefully preset with the optimization approach. The AIS-affinity anticorps are cloned, hypermutated and selected while the population is also increased with arbitrary anticorps. Worsening antibodies are substituted by superior mutation clones. This group is developed until the end is satisfied.

The steps in the AIS algorithm follows.

Step 1: Set up the AIS and iteration count.

Step 2: Create antibodies community of size (Ab1,..., Abs) at random.

Step 3: Using affinities tool, compute the affinity ratio for each antibody.

Step 4: Create a group set for effective antibodies. The length of the replica is determined by the number of duplicates: the greater the affinity, the bigger the replica.

Step 5: Refresh your antibody.
Step 6: Use the hyper mutation process to expand the variety of the clone set and create the developed cloning group.
Step 7: Examine the criterion for stopping.

An antigen is a chain of integral variables of the AIS method consisting of parameters for optimization problems. It should be noted that the beginning number of each antibody is randomly generated. This coding method is all similar to optimization computation, PSOs, and GAs. The notion of space-form was created to measure and resulting in basic conclusions on interactions between receptors and antigenes. The length can be represented in euclidean as the Ag-Ab binding vectors (14).

$$D = \sqrt{\sum_{i=1}^{L} (\mathrm{Ab}_i - \mathrm{Ag}_i)^2}. \qquad (14)$$

The chosen antibodies are then cloned in order to increase their affinity for the invading antigens.
When a B cell is activated, a hypermutation mechanism in the cell's variable area is initiated, according to the suggested AIS.
The mechanism is essential for the development of different antibody receptors as well as the improvement of antibody sensitivity and selectivity.

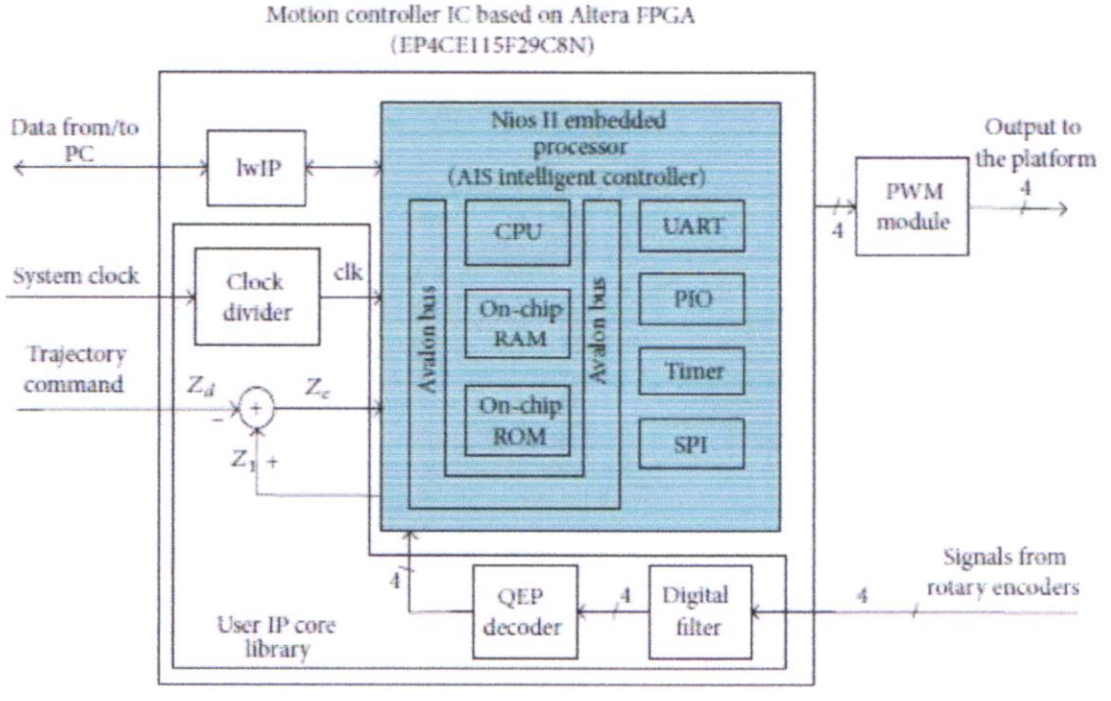


Figure 2: FPGA with AIS

4. CONCLUSIONS

This paper proposes a smart motion control system using FPGA/AIS computing capability for monitoring and stabilizing the course of a robot manipulator directionally with 4 distinct 90° drive rotors. The AIS computer architecture built on the cinematic movement model was converted to an intelligent kinematic actuator. The AIS parameter tuner and the film

movement controller are integrated on one FPGA Chip to efficiently produce a functional robotic system.

5. REFERENCES

[1] T. Kalmar-Nagy, R. D Andrea, and P. Ganguly, "Near-optimal dynamic trajectory generation and control of an omnidirectional vehicle," Robotics and Autonomous Systems, vol. 46, no.
1, pp. 47–64, 2004.

[2] K.-S. Byun, S.-J. Kim, and J.-B. Song, "Design of a four-wheeled omnidirectional mobile robot with variable wheel arrangement mechanism," in Proceedings of the IEEE International Conference on Robotics and Automation, pp. 720–725, Washington, DC, USA, May 2002.

[3] Dr.P.Sivakumar. "Trailing Mobile Sinks to Data Coverage Protocol for Wireless Sensor Networks", International Journal of Innovations & Advancement in Computer Science (IJIACS), Vol.5, Issue No: 6, June 2016.

[4] C.-C. Shing, P.-L. Hsu, and S.-S. Yen, "T-S fuzzy path controller design for the omnidirectional mobile robot," in Proceedings of the 32nd Annual Conference on IEEE Industrial Electronics (IECON '06), pp. 4142–4147,November 2006.

[5] Sridharan, K., & Sivakumar, P. (2018). A systematic review on techniques of feature selection and classification for text mining. International Journal of Business Information Systems, 28(4), 504-518.

[6] D. H. Kim, "Tuning of 2-DOF PID controller by immune algorithm," in Proceedings ofthe 2002 Congress on Evolutionary Computation, vol. 1, pp. 675–680, 2002.

[7] J. C. Gallagher, S. Vigraham, and G. Kramer, "A family of compact genetic algorithms for intrinsic evolvable hardware," IEEE Transactions on Evolutionary Computation, vol. 8, no. 2, pp. 111–126, 2004.

[8] Latchoumi, T. P., Balamurugan, K., Dinesh, K., & Ezhilarasi, T. P. (2019). Particle swarm optimization approach for waterjet cavitation peening. Measurement, 141, 184-189.

International Journal of Aquatic Science
ISSN: 2008-8019
Vol 12, Issue 01, 2021

IJAS

Empirical View Of Financial Management Survey In Block Chain Technology Issues, Risk And Mitigation

Ashwini N[1], Sumangala Biradar[2], Kattupalli Sudhakar[3], Dr.B.Indira[4],Dr.Shaik Shakeer Basha[5], Dr.Keerthika T[6]

[1]*Assistant Professor, Department of Computer Science and Engineering, BMS Institute of Technology and Management, Doddaballapur Main Road, Avalahalli, Yelahanka ,Bengaluru-560064.*
[2]*Assistant Professor, Department of Information Science and Engineering, BLDEA's V.P.Dr.P.G.Halakatti College of Engineering and Technology, Vijayapura-586103.*
[3]*Associate Professor, Department of Computer Science and Engineering, PSCMR College of Engineering and Technology, Vinchipeta, Vijayawada, Andhra Pradesh-520001.*
[4]*Assistant Professor, Department of Computer Science and Engineering, Vignan's Foundation for Science, Technology & Research(Deemed to be University), Vadlamudi, Guntur-522213,Andhra Pradesh.*
[5]*Assistant Professor, Department of Computer Science & Engineering, Avanthi Institute of Engineering and Technology, Gunthapally, Abdullahpurmet Mandal-501512, Hyderabad, Telangana.*
[6]*Assistant Professor, Department of Information Technology, Sri Krishna College of Engineering and Technology, Kuniamuthur, Coimbatore-641008.*

Abstract -A blockchain is simply a shared database of information or public ledger of all completed and shared transactions or digital activities between cooperating occurrences. Each transaction in the public ledger is confirmed by a majority of the participants within the device. Data cannot be removed once it has been input. The blockchain is a secure and verifiable record of every single transaction ever made. The most popular example of blockchain generation is Bitcoin, a decentralize dpeer-to-peer digital currency. Although the virtual foreign currency bitcoin is debatable, the blockchain technology that underpins it has performed admirably. The main hypothesis is that the blockchain creates a system for reaching a distributed consensus in the virtual online world. By developing an irrefutable file in a public ledger, participating entities may be certain that avirtual event occurred. It paves the way for the development of a democratic, open, and scalable digital economy from a centralised one. This disruptive period offers incredible prospects, and the change in this field has only just begun. The blockchain age is described in this white paper, as well as some intriguing specific applications in the monetary and non-financial sectors. We then research the difficulties ahead of time as well as the commercial opportunities in this critical age.

Keywords:Blockchain, Chain cods, Risk, Issues, Mitigation

IJAS

1. INTRODUCTION

A blockchain is essentially a shared database of data or public ledger of all completed transactions or digital events that may be shared among participants. Every transaction in the public ledger is verified by a majority of the device's members. Records can't be deleted once they've been submitted. The blockchain is a secure and verifiable record of all transactions that have ever taken place. To give a simple instance, stealing a cookie from a cookie jar kept in an isolated spot is far easier than stealing a cookie from a cookie jar kept in a market location and being discovered by hundreds of people.Bitcoin is the most well-known example of a cryptocurrency that is inextricably linked to blockchain development. It's also the most divisive because it allows for a multibillion-dollar global marketplace of anonymous transactions with no official oversight. As a result, it must deal with some regulatory issues relating to national governments and monetary institutions [1].

The Blockchain generation, on the other hand, is unquestionable and has performed admirably throughout time, and it is now being successfully used to both economic and non-economic world projects. MarcAndreessen, the doyen of Silicon Valley venture investors, named the blockchain-based consensusmodel as the most important investment opportunity in 2018.BNP Paribas' Johann Palychata said in Quintessence that bitcoin'sblockchain, the software programme that allows the virtualcurrency to function, should be viewed as an invention similar to the steam or combustion engine, with the potential to transform the world of finance and beyond [2]. The current digital financial system is founded on the trustworthiness of a positive authority.All of our onlinetransactions rely on trusting someone to tell us the truth—it could be an e-mail provider informing us that our e-mail has been introduced [3], a certification authority informing us that a certain digitalcertificate is valid, or a social network such as Facebook informing us that our postsabout our existence activities have been hacked. The truth is that we live precariously in the virtual world since we rely on a third party for our safety and privations.The reality is that these resources for the third celebration could be hacked, controlled, or hijacked [4].

This is where the blockchain generation may be found. It has the potential to transform the digital international by establishing a distributed consensus in which every online transaction, both past and present, involving digital property can be validated at any moment in the future. It accomplishes this by circumventing the privations of the virtual assets and parties involved. Blockchain technology is defined by its allocated consensus and anonymity [5].

2. LITERATURE REVIEW

Smart Property is a related concept that involves using blockchain and Smart Contracts to control the ownership of goods or assets. The belongings can be physical, such as a car, a house, or a cellphone. It can also be non-bodily inclusive of a business enterprise's stock. It is important to note that Bitcoin is not a foreign currency; rather, Bitcoin is all about managing the ownership of money.The blockchain era is bringing programmes to a wide number of industries, both financial and non-financial. Blockchain technology is no longer seen as a threat to existing business models by financial organisations and banks. The world's major banks are researching novel blockchain applications to see if there are any opportunities in this sector. Rain Lohmus of Estonia's LHV bank stated in a recent interview that they found Blockchain to be the most tested and comfortable for a number of banking and finance-related applications [7].

The possibilities for non-financial applications are likewise limitless.In the music industry, we might imagine storing evidence of all crime records, health information, and loyalty bills in the blockchain, as well as notaries, private securities, and marriage licences. The anonymity or privacy goal can be achieved by storing the fingerprint of the virtual asset instead of the virtual asset itself [8].

In the year 2008, Satoshi Nakamoto published a paper titled "Bitcoin: A Peer-to-Peer Electronic Cash System" under the pseudonym Satoshi Nakamoto. This paper defined a peer-to-peer model of digital coinage that might allow online invoices to be sent directly from one party to another without going through a financial institution.Bitcoin was the first to recognise this principle. Now, the term "cryptocurrency" is used to describe all networks and mediums of exchange that utilise cryptography to secure transactions—as opposed to those systems where transactions are routed through a centralised trusted institution. Because the first paper's author wished to remain anonymous, no one knows who SatoshiNakamoto is today. A few months later, an open source programme based on the new protocol was released, beginning with the Genesis block of fifty dollars. Anyone can instal and use this open source software to join the bitcoin peer-to-peer network. When you think about it, it's grown unnoticed.

Internet trading is solely dependent on financial institutions acting as trusted third parties to process and mediate each electronic transaction. The function of the 0.33 celebration is to validate, protect, and maintain transactions. A certain percentage of fraud is unavoidable in online transactions, necessitating financial transaction mediation. As a result, transaction costs are exorbitant. Instead of using the accept as true with inside the third birthday celebration for willing parties to execute a web transaction over the Internet, Bitcoin employs cryptographic evidence.A virtual signature is used to encrypt each transaction. Each transaction is sent to the receiver's "public key," which is digitally signed with the sender's "private key." To spend money, the owner of a cryptocurrency must show that he or she has the "private key." The entity receiving the digital foreign money validates the digital signature on the transaction using the sender's "public key" (therefore possessing a corresponding "non-public key").

3. BLOCKCHAIN WORKING MODEL:

Each transaction is broadcast to every node in the Bitcoin network and then verified before being recorded in a public ledger. Before a transaction can be recorded in the public ledger, it must first be confirmed to be valid. Before recording any transaction, the verifying node must ensure two things:

1. The spender owns the cryptocurrency, as evidenced by the transaction's digital signature verification.
2. Spender has enough cryptocurrency in his/her account: inside the ledger, examine each transactiontowards the spender's account ("public key") to ensure that he/she has enough cryptocurrency in his/her account.

   However, maintaining the order of transactions broadcast to each separate node inside the Bitcoin peer-to-peer network is a concern. Because the transactions are not public in the sequence in which they are generated, a computer may be required to ensure that double-spending of cryptocurrency does not occur.

International Journal of Aquatic Science
ISSN: 2008-8019
Vol 12, Issue 01, 2021

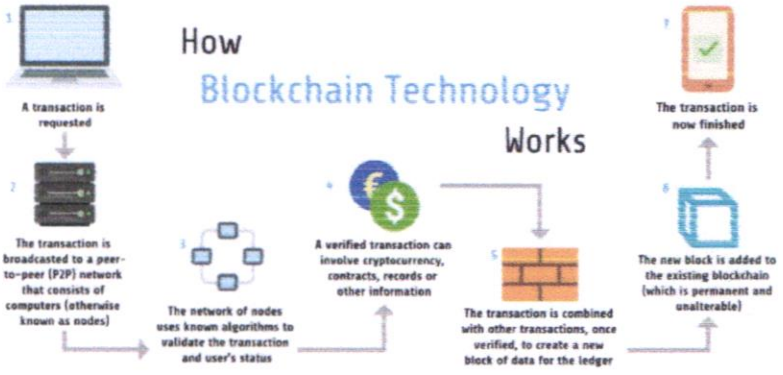


Figure 1: Blockchain Technology – Process and Model

Because transactions are passed from node to node over the Bitcoin network, there is no guarantee that the orders gained at a node are the same as the order in which the transactions were generated. It's a data structure in which each block is linked to the next in a time-stamped chronological manner. It's an append-only transactional database that's no longer a replacement for traditional databases. Every node keeps a copy of all previous transactions, which are safeguarded cryptographically. All records are verifiable and auditable after they are saved in the ledger, but they are no longer editable. Because there is no single point of failure, it is extremely fault tolerant.

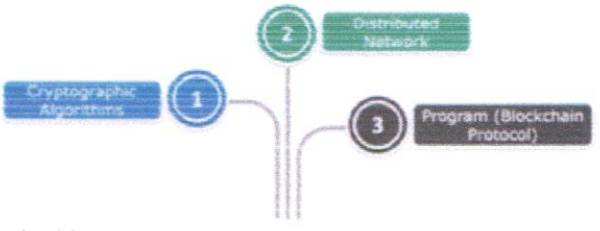


Figure 2: Input of Blockchain Model

Modern cryptographic mechanisms are used to secure blockchains. On the Blockchain, everything is encrypted. Let's return to our previously mentioned example, when Kevin transfers five BTC to James, to give you a better idea of how it's far used on Blockchain. This transaction will be broadcast to the community as an encrypted message. Every transaction receives a unique message. You might now wonder what distinguishes the message. Because the transaction is signed using the sender's unique key, known as a non-public key, the virtual signature is created. The mechanism appears to be as follows:

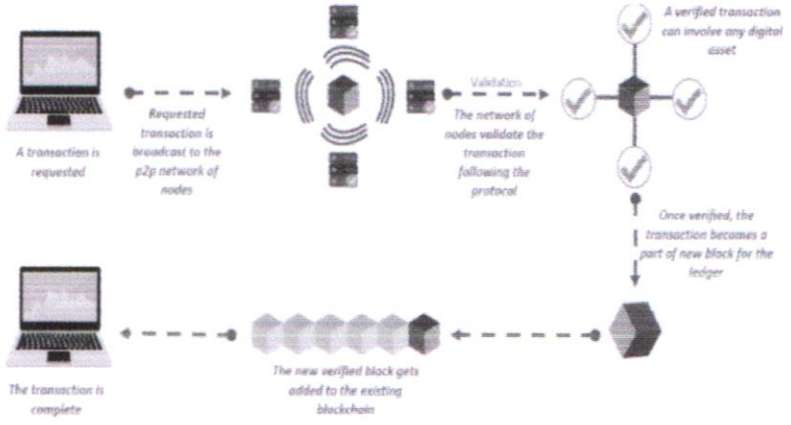


Figure 3: Cryptography Mechanism

4. FINANCIAL MODEL

- Medici is being developed as a securities trading that makes advantage of Bitcoin 2.0's Counterpartyimplementations. The goal is to build a marketplace with a smaller inventory area. Counterparty is a system for converting traditional financial instruments into self-executing smart contracts. These ingenious contracts eliminate the need for a physical record by facilitating, verifying, or enforcing the agreement. This eliminates the need for a middleman, such as a dealer, exchange, or financial institution.
- Blockstream is an open source project that keeps track of sidechains—interoperableblockchains—to avoid fragmentation, security, and other concerns that come with opportunity crypto-currencies. Securities, such as stocks, bonds, and derivatives, can be registered, as well as bank balances and mortgages.
- Coinsetter is a bitcoin exchange situated in New York. It is developing Project Highline, a way of using the blockchain to settle and clear monetary transactions in T+ 10 minutes rather than the usual T+ 3 or T+ 2 days.
- Augur is a decentralised prediction marketplace that allows users to purchase and sell shares in advance of an event with the probability of a specific outcome. This can also be used to produce monetary and economic forecasts based on "crowd-sourced knowledge."
- Bitshares are digital tokens that exist within the blockchain and correspond to specific assets such as cash or commodities. Token holders may also be able to earn income on commodities such as gold and oil, as well as greenbacks, euros, and foreign exchange contracts.
- Stampery is a company that uses blockchain to stamp e-mails and other files. It simplifies email certification by simply emailing them to a custom-created electronic mail address for each customer. Stampery's era is being used by law firms as a cost-effective way to certify documents.
- Viacoin is one of the companies that uses the clearinghouse protocol to provide notary services.
- Block Notary is an iOS app that uses the TestNet3 or Bitcoin networks to create proof of existence for any material (pictures, files, or other media).
- Crypto Public Notary is a service that uses the BitcoinBlockchain to notarize documents by using a small amount of bitcoins to register the record's checksum on the public blockchain.

- Every other carrier that uses blockchain to SHA256 digest of the record in the bitcoinblockchain is known as Proof of Existence.
- Ascribe is another another company that uses blockchain to perform authorship certification. It also provides ownership transfer with attribution to the original creator.

5. ISSUES AND RISK

- BlockChain is a promising next-generation technology. As previously stated, BlockChain-based technology can be used to solve a wide range of applications or issues. This includes everything from financial (remittances to investment banking) to non-financial (notary services). The majority of these are significant enhancements. There are significant risks of acceptance, just as there are with radical inventions.
- Behavioral trade: Change occurs on a regular basis, but there is resistance to change. Customers must become accustomed to the fact that their electronic transactions are secure, secure, and complete in the world of a non-tangible, trusted third party, which BlockChain provides.
- Modern middlemen, such as Visa or Mastercard (in the case of credit cards), may even take on different duties and responsibilities. We believe they will invest in and pass their systems to be entirely BlockChain-based. They will continue to deliver customer relationship-oriented services.
- Scaling: Scaling of cutting-edge fledgling BlockChain solutions allows for assignment. Consider the first time you carried out a BlockChain transaction. Before conducting your first transaction, you need download the entire collection of existing BlockChains and validate them. As the number of blocks grows exponentially, this could take hours or even days.
- Bootstrapping: Migrating existing contracts or business files/frameworks to the new BlockChain-based technique necessitates a large number of operations. For example, in the case of real estate ownerships/liens, the current documents held by County or Escrow organisations should be converted to the BlockChain equivalent. This could also include information on the date and pricing.

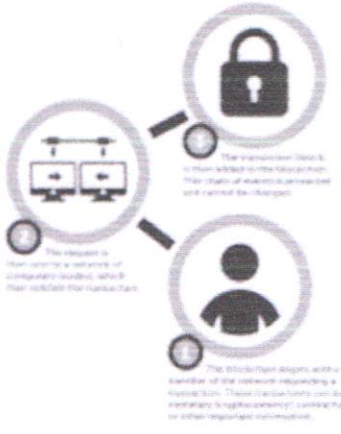


Figure 4: Risk Management in Blocks

- Government Regulations: In the new world of BlockChain-based completely transactions, government agencies such as the FTC, SEC, and others can stifle adoption by enacting new regulations to monitor and change the industry for compliance. This can help adoption in the United States because these companies provide consumer trust. Adoption will confront significant challenges in extra-managed economies like as China.
- Fraudulent Activities: Due to the pseudonymous nature of BlockChain transactions, along with the ease with which they can move goods, the heinous men may also use it for fraudulent activities such as currency trafficking. That said, law enforcement groups can filter and prosecute them with adequate legislation and eraguide.
- Quantum Computing: The foundation of BlockChain generation is based on the fact that due to a lack of required compute energy, it is theoretically impossible for a single birthday party to host the system. However, with the advent of Quantum Computers (in the future), cryptographic keys may become clean enough to crack using the brute-force method in a reasonable amount of time. This will bring the entire device to a halt. The counter-argument is that keys should get more powerful so that they are more difficult to crack.

6. SOLUTIONS AND MITIGATIONS

A. Anti-Counterfeit Solution:

BlockVerify offers anti-counterfeiting solutions based on the blockchain that bring transparency to supply chains. It's used in the pharmaceutical, luxury goods, jewels, and electronics industries. The pharmaceutical business, for example, can employ BlockVerify anti-counterfeit systems to prevent fake drugs from entering the market.This covers a major issue that has ramifications for both the economy and those who require medication. Similarly, luxurious precise producers can leverage this technology to create a gadget that verifies the authenticity of luxury goods, creating a win-win situation for both customers and luxury goods manufacturers. This technique can be used by the diamond industry to build trust in diamond certificates and avoid fraud. This technology can be used in the electronics industry to ensure that customers receive genuine items.

B. Chain Link:

Any industry can utilise the BlockVerify era to define a process for ensuring the authenticity of its products. The following is how BlockVerify operates:

- A Block Verify tag is attached to each product.
- Even corporations are prevented from counterfeiting their personal things because each product is validated and logged in the BlockChain.
- To verify each product, the supply chain uses BlockChain creation.
- Mobile devices can be used in retail venues to verify the authenticity of products purchased.
- Similarly, a customer looking for a goods might check to see whether it is genuine and then ignite it.

Each product has a record that is permanently stored in the blockchain, allowing everyone in the supply chain to verify the product's authenticity. ChainLink is another anti-counterfeiting tool that uses coloured banknotes to prevent counterfeit luxury products, such as handbags and watches, from entering the market. By adding a layer of accept as true with to secondary markets like eBay and Craigslist, the carrier makes them safer.

C. Distributed Storage

As it stands now, cloud storage relies on data carriers to carry out each transaction. It demonstrates the traditional cloud-based completely storage architecture for transferring and saving data via dependable cloud carrier carriers like Googleforce, Dropbox, and One pressure. They adhere to industry standards for redundancy by storing several copies of the records (usually 3 copies). However, because there is no well-known method of performing end-to-end encryption, traditional cloud-based architecture is vulnerable to a wide range of security threats, including malware, man-in-the-middle attacks, and alertness hacks, which could expose sensitive and personal customer or company information.

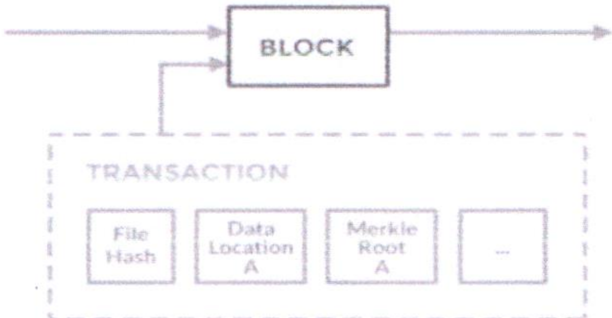


Figure 6: Metadata model of each blocks

The difficulties of the traditional garage community can be addressed by implementing a peer-to-peer cloud storage community with continuous encryption, allowing users to safely transmit and share information without relying on a third party for security and reliability. It eliminates reliability because there is no reliance on a third party, and hence traditional information breakdowns and outages are eliminated. Furthermore, it significantly increases the statistics' security and privacy.

7. CONCLUSION

Finally, Bitcoin's generation spine is Blockchain. The dispensedledger feature, together with BlockChain's security, makes it a very appealingera for resolving existing financial and non-financial business issues. In terms of the generation, cryptocurrency-based technology is either on the upward slope of inflated expectations or in the trough of disillusionment. There is a lot of interest in BlockChain-based commercial applications, and as a result, there are a lot of startups working on them. As previously said, the adoption confronts a strong headwind.Large financial institutions including as Visa, Mastercard, Banks, NASDAQ, and others are investing in researching the use of modern business models on BlockChain. In fact, a number of them are looking for new business models in the world of BlockChain. Some people would desire to be ahead of the curve when it comes to BlockChain's altered regulatory settings. To sum up, we expect BlockChain adoption to be slow due to the risks involved. The majority of startups will fail, with only a few exceptions. In a decade or two, we should see widespread adoption.

8. REFERENCES:

[1] Morgen Peck, Freelance Technology Writer, Contributing Editor of IEEE Spectrum Magazine Special Edition "Blockchain World", 2017.

[2] William R. Tonti, Director, IEEE Future Directions • AngelosStavrou, Professor, Computer Science Department, George Mason University • Jason W. Rupe, Director, Operational Modelling, Polar Star Consulting • ChunmingRong, Head, Center of IP-based Services Innovation (CIPSI) • Tim Kostyk, IEEE Future Directions REINFORCING THE LINKS OF THE BLOCKCHAIN, IEEE future directions blockchain initiative white paper blockchainincubator.IEEE.ORG, 2017
[3] Bitcoin: A Peer-to_peer Electronic Cash System
[4] Smart Contracts: Nick Szabo
[5] Formalizing and Securing Relationships on Public Networks: Nick Szabo
[6] Introduction To Smart Contracts
[7] The Ultimate List of Bitcoin and Blockchain White Papers
[8] Bitcoin Tutorial 7. A Risk-Based View of Why Banks are Experimenting with Bitcoin and the Block Blockchain:The Information Technology of The Future
[9] Bitcoin 2.0 Applications
[10] Beyond Bitcoin:How the Blockchain Can Power a New Generation of Enterprise Software
[11] Forget Bitcoin-What is the Blockchain and Why Should You Care?
[12] https://scet.berkeley.edu/wp-content/uploads/BlockchainPaper.pdf
[13] https://blockchain.ieee.org/images/files/pdf/ieee-future-directions-blockchain-white-paper.pdf
[14] https://blockgeeks.com/guides/what-is-blockchain-technology/
[15] www.ibm.com/IBM/Solutions
[16] builtin.com › blockchain
[17] https://www.investopedia.com/terms/b/blockchain.asp

International Journal of Aquatic Science
ISSN: 2008-8019
Vol 12, Issue 01, 2021

IJAS

Ubiquitous Management System For Monitoring E-Learning Applications: A Study

Dr.Syed Khasim[1], Dr.V.LakshmiPrasanna[2], Nirupama Prakash[3], Gayatri Parasa[4], Dr.Shaik Shakeer Basha[5], Dr. Krishnasamy Srinivasan [6]

[1] Professor, Department of Computer Science & Engineering, Dr.Samuel George Institute of Engineering & Technology, Markapur, Prakasam Dt, Andhra Pradesh, 523316
[2]Associate Professor, Humanities and Sciences, Gokaraju Rangaraju Institute of Engineering and Technology, Bachupally, Hyderabad,500090.
[3] Associate Professor, Humanities and Social Sciences, Ajeenkya DY Patil University, Charoli,Pune 412105.
[4]Assistant Professor, Department of Computer Science and Engineering,Koneru Lakshmaiah Education Foundation, Vaddeswaram, Guntur 522502.
[5]Assistant Professor Department of, Computer Science & Engineering, Avanthi Institute of Engineering and Technology, Gunthapally, Abdullahpurmet Mandal-501512, Hyderabad, Telangana.
[6]Assistant Professor, Management Department, College of Business and Economics, Arba Minch University, Arbaminch, Ethiopia.

Abstract: Some economic activities were influenced by our initial impressions of computerised libraries, virtual libraries, or electronic libraries. The European Union, the National Science Foundation's Digital Library Organizations in the United States, and the Electronic Libraries Program in the United Kingdom all funded novel library initiatives in the early and mid-1980s. JISC is also known as eLibrary. Sexual orientation, racism, religious and political beliefs, personality traits, intelligence, enjoyment, addiction, drug misuse, parental separation, age, and gender are only few of the issues that people face. The analysis is based on a dataset of 70,000 volunteers who contributed their Facebook likes, extensive demographic information, andotherinformation. To analyse individual psychodemographic profiles from favourites, specific model dimensional reduction is utilised to like data entering logistic / linear regression. (A) give logical entry through the content wrapped around the teacher's slides, with or without synchronisation, and (b) view slides and ink that the teacher is communicating with. Non-tablet ink is not offered at a discount, and instructor ink is available shortly after.

Index: ELibray, Social Media, Communication, E-Learning, Link access

1. INTRODUCTION

We've found information that's truly been recorded, as well as quantitative data from those recordings. Individuals may opt not to reveal certain details about their lives, such as their sexual orientation or age, yet this information can be gleaned from other aspects of their lives. For instance, the well-known U.S. The business gives its female customers purchasing data in order to handle their pregnancy and sends them well-planned and well-targeted offers (2). Unpredictable coupons for prenatal vitamins and maternity clothing are appreciated in some situations, however they can have disastrous consequences, for example, it is for her family in a culture where this is not tolerated (1). As this case shows, tapping personal data,

as well as promotional aspects, administrations, and attention, can result in insecure security incursions. Sophisticated administrations and devices are now recommending an expanding range of human activities, such as social connection, entertainment, purchasing, and data collection. The growth of computational sociology is aided by the ability to quickly record and dismantle such systems of meticulous intervention.

(1) Newer administrations, such as customised web crawlers and suggested frameworks (2), and Internet promotion-focused administrations (3). However, having unrestricted access to huge records of personal behaviour poses genuine challenges in terms of understanding clients and content, as well as data security and ownership.

In short, the two elements that are all-encompassing can be traced a little in this work, as can other sophisticated library tasks. I refer to it as "exposure transfer" in particular (D2D). It restricts client access to the transferred library property, streamlining distribution networks and any hubs in the process mix. The main difficulties of property declaration, connection, and query are discussed here. Quest / Meta Search, Access Path / Agents, Alliance, then Collection and Goals were all developed over time. Metadata setups and conferences for follow-up and on-demand have gotten a lot of attention. A portion of this activity is predicated on previous work. In the mid-1980s, for example, an EU centrecentred on OSI (Open Systems Interconnection) developed the OSI Convention Framework for Library Applications. For EU funding companies, the transition from OSI to the Internet, as well as related conferences, is a critical problem. This move resulted in the creation of various different library conferences on the OSI system, as well as ISO-IL and Z39.50. This reduced their ability to receive seamless modifications to the library framework, which was later limited. For metadata created in 2015, as well as an investigation into the Dublin core technique[6].

2. LITERATURE REVIEW

The second part is storehouse and administration administration, where managing the large archives of digital content and accessing it in a variety of ways is a top responsibility. By enhancing access to computerised materials, this acceleration was later computerised or modified (replaced by another organisation). Subsequent meetings were held at the time to synchronise the store's development foundations. This coincides to the period's shift away from a desire for metadata (because to the fact that the conspiracy's materials are still being printed in big volumes) [7]. In these ways, it's fascinating that these activities were established before the web's actual existence, and they speak to the need to find shared means to address needs in a time of great change. Surprisingly, no element of the e-folate lib's report-ination greeting clarifies the site. They discussed virtual, computerised, or electronic libraries [8] and exhibited an experiment in planning and developing new administrations.

As a programme, call draughtsman, appraiser, bidder, venture analyst, and acquisition member, we need EU and eLibprogrammes. We contributed directly to the initial NSF programme, but we also had some contacts at the work and programme levels later on.I'd want to focus on five issues in these significant projects, particularly the ELIB and EU programmes, from behind the scenes:

1. They are substantial learning opportunities for members, the majority of whom have proven critical library network activities.

2. They have demonstrated that the improvement of new administrations is dependent on formal and business reforms, as well as the difficulty of implementing venture-based projects. The issue is still present.

3. Created a number of umps hales on web-specific design, benefit models, and client practises in order to improve computerised library improvements. We really like the model that combines contact, application, and data. This restricts information flow and increases the framework's distance, resulting in a storeroom condition that is not conducive to our world of compliant adjustment. Appropriate policies developed during this time are often not accepted in end-client administration: they are based on B2B pre-web experience and are primarily employed in that circumstance.

4. These have a broad and circular influence that is difficult to predict. In contrast to popular belief,In reality, a sizable number of them have fulfilled their business objectives on their own. For example, the meta search for eB and flow improvements, as well as the collection of commercially accessible digitisedrecognisable objects, demonstrate this.

5. How does one go about achieving general governance? On the plus side, the JSC status near the task work has improved, despite the fact that it has been removed from the focal setting.

For the time being, give us a speedy chance to transfer. By the end of the decade, how will the world have changed?

3. UBIQUITOUS MODEL

Scholarly libraries, we recognise, do not close on them: they promote their institutions' investigation, learning, and purpose. In another system space, there is a requirement to extend libraries as well as change testing and learning methodologies. We concentrate on the upgrade's impact on libraries, but how library clients go forward and how the upgrade affects their expectations is a true long-term concern.

Here, we'll try to explain a bit of etiquette that impacts library responses and transforms the existing scenario. I also work on improving the overall framework's patterns, building a data foundation around long tail aggregators, and modifying client approaches, research, and development.
Frameworks in the web world - When it comes to system frameworks, three advanced themes intrigue me. Take a look at this: Fluid content and level applications - We're heading towards a world of narrow complementary configurations that connect online and commercial apps. On the web, applications run. In client circumstances, information is transmitted more quickly. Web administrations and RSS feeds are important parts of a larger connective tissue that allows clients to benefit from a variety of scenarios. Work processes and company forms are more mechanised without rules in this circumstance, information is more accessible and designed, and apps are more convenient. . Concerned with the distinction between open source and request purposes.Salesforce.com [9] (an excellent example of Customer Relationship Management Administrations' on-demand programming marvel) and WebX [10] (a conferencing and Internet meeting provider) are both here. The notion is that the organisation can use a central web-based application to display local samples of an

application (CRM or conference / meeting administration, for example). Costs, risk reduction, convenience, and general redesign are all topics of interest. Customization and adaption to the environment are two potential roadblocks. Following that, policies are based on data. Exercises are used to remove information, solidify it, and dig for knowledge in order to improve governance and options. Complex applications have clearly not yet been built, but the behaviour of describing and weaving them into the work environment is changing. Simultaneously, the content is reconstructed without being bundled. Consider how we keep track of reusable items like images, music, and TV shows: in collections, playlists, slideshows, in person, crosswise, and in places [8].

4. NEW SOCIAL AND SERVICE AFFORDANCES

Fluidity and level applications open up new possibilities. Consider the following three points:

1. Process and Workflow Institutionalization encourages organisations to think about how to do the best source exercise possible, such as outsourcing certain tasks so they can focus on areas where they are valued. Associations are moving away from the notion that they will vertically coordinate all of their efforts. Examine the thinking surrounding the shift from a database to a process of collaborating with the web via a website or gateway. This is a result of the system's ability to move more exercises around. New support structures must be developed, as well as the associations and their activities.
This method, according to Thomas Downport, stimulates associations to focus particularly on what they are doing and allows them to gain fewer focal points remotely, while potentially providing their competitors [12].

2. Second, complementary applications and fluid information enable more essential community-based activity, such as sharing components, cooperating on sharing activities, or avoiding concerns with sharing. Stage administrations that integrate specific use or knowledge might establish respect through a variety of uses. Important system administrations, such as Google, Amazon, and eBay, as well as a few other administrative processes, are the pillars of gravity for customers.

3. Over time, we've seen significant improvement in social and remote-creating administrations that create new administrations with a level of connective tissue that includes websites, wikis, IM (instant messaging), and other technologies.

These goals are stated at the outset of the project:

1) Web availability of fully highlighted presenter slides in an unbiased application (resulting in teacher remarks being hidden), such as PNG or JPEG.

2) In UP, synchronise the slides and teacher ink between the presenter and the electronic storehouse.

3) Allows understudy entries to be made using the web interface (without interruption to normal presenter multicast entries).

4) Tablet PC users can continue to use the custom moderator without sacrificing the highlights.

Each of these four goals was achieved, and by mid-2005, the framework download (c) was ready for scholarly usage following in-class testing.

The teacher introduces Microsoft PowerPoint and places it in the presenter's personal file cabinet (CSD or conferencing slide deck). Clients without PowerPoint can create CSD documents, and people familiar with PowerPoint can now send the PPT interface to the web (available when presented by the presenter). PowerPoint includes both (available when presented by the presenter) DeckBuilder, a free application that can be used to achieve this - clients without PowerPoint can create CSD documents, and now people familiar with PowerPoint can send the PPT interface to the web. Following the transfer, you can access the survey slides via the UP interface. When slides are transferred, synchronisation is disabled (due to the fact that there isn't enough time).

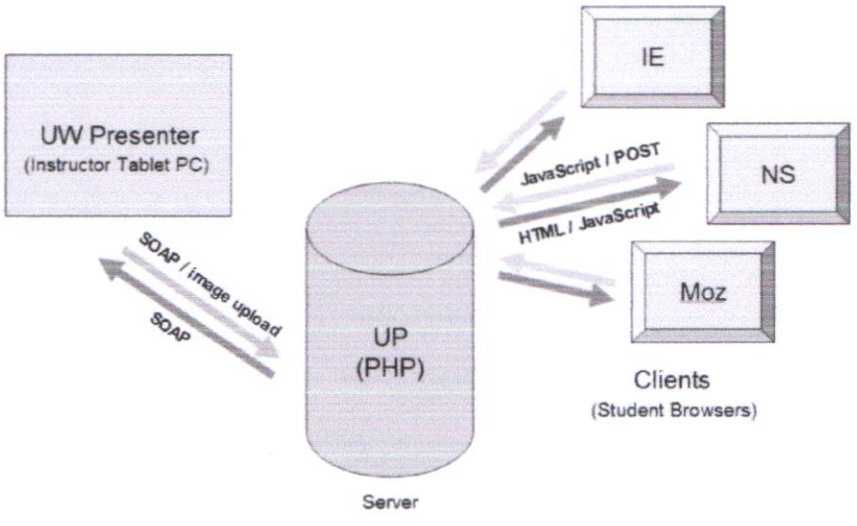


Figure 1: Setup of Ubiquitous Presenter system

The teacher introduces Microsoft PowerPoint and places it in the presenter's personal file cabinet (CSD or conferencing slide deck). Clients without PowerPoint can create CSD documents, and people familiar with PowerPoint can now send the PPT interface to the web (available when presented by the presenter). PowerPoint includes both (available when presented by the presenter) DeckBuilder, a free application that can be used to achieve this - clients without PowerPoint can create CSD documents, and now people familiar with PowerPoint can send the PPT interface to the web. Following the transfer, you can access the survey slides via the UP interface. When slides are transferred, synchronisation is disabled (due to the lack of a dynamic address), and Understudies can review the slides alone.

Organizational and business models that are new.

Specific changes and new administrations are made possible through action plans and institutional structures. Take a look at three items that flow from the above emphasis once more.

1. First, the method for transferring data assets into the system is either free or available for a minimal price. Google has a significant advantage in terms of promotion: its

revenue is far higher than that of this source. It was too late to start up a radio station with a modest portion. More individuals are using Google to search for objects, and more people are utilising various administrations to place Google advertising, which is fantastic for Google. As a result of this, the open web's content stream is growing, and vice versa.'Off-web' items are not readily apparent to the passionate customer. Though web indexes and other large organisations are real hubs, we need to watch if more current 'vertical' administrations emerge that are cooking for more specialised goals.

2. Requests and phase administrations triggered by robotized work processes and process institutionalisation turn out to be more appropriate options. Thomas Friedman outlines how these processes lead to business change in his book The World Is Flat [13]. Communities gradually focus on their own abilities and rely on outsiders for overall administration. (See how UK universities profit from public confirmation.)

3. Moving Forward Depending on the Compliments World This suggests that administrations are gradually cooperating, and that this co-creation extends to the interaction between a collaborator and their clients. Consider eBay as a platform for bringing together sellers and customers. We are confident that an experiment with such co-creation models will be established, whether the client provides material on Amazon or differs from remote informal communication administrations.

5. DATA HUBS, THE LONG TAIL AND ATTENTION

The existence of a true Internet by solid gravity draw is a distinguishing feature of the later half of this decade. Consider the companies Amazon, Google, Yahoo, eBay, and iTunes. The web domain was formed by these administrations, and it is one of their benefits:

They supply the client with such thorough knowledge that they no longer require or believe they need to go any farther. People looking on Google or Amazon, for example, assume they are getting the entire web or all printed books, regardless of whether they are willing to put in the extra work to explore elsewhere.

D Integrated D2D: Clients are happy to commit to giving up what they require. This means they're organising the area's administrations and wish to identify and request first. This includes limiting the use of snaps on the open web. It is the process of creating the appropriate inventory network and work procedure for a specific inventory. If you buy something from Amazon, for example, they will endeavour to manage your exchanges for your satisfaction and keep you updated on the status. They have surmounted the essential framework of reducing the cost of disclosure for chain transfers, how they productively oversee, stock transfers, online payments for administration, and trust s from that perspective.

Information Bucket Information Reduction: As a result, they collect data about their administration's configuration for use and utilisation. They're invested in helping you improve your experience and your relationship with them. Check out how Google and Amazon reflect information to change the administration, regardless of whether the focus is on customization headlines, page positions, or promotions.

Horizontal: Interfaces and Steps One issue with these administrations is that they have to prepare for a wide range of consultations, which makes them 'equivalent.' They assault with determination, allowing for some personalization. They investigated behaviour that broadened their horizons by gaining access to frames thatallowed them to join different work processes.Toolbars, APIs, RSS channels, and other members and associates are all examples of this. Their web interface is required, even if it is not the primary location for meeting with clients. This paradigm continues when they make their APIs available to vertical administrations, and these administrations advance to the fundamental stages that lead to many frontal area administrations. After some time, these administrations will observe a large increase of advertisements in other people's applications, with a greater emphasis on specific demands. Consider the actions that allow Amazon to gain access to information and administrations. The term "co" refers to a thorough understanding. In order to establish an administration, most complex internet companies need a client. For each new honour, the amount of information used increases. It could be information provided by clients or data gathered by the administration concerning assets, client practises, and instincts, such as Amazon Audits or eBay Appraisals.

Adding libraries to the internet: Many of the things I talked about in the last part and before pushing the end of the same building: with the goal of re-integrating administrations into event requests, from a system utility aspect. The library is linked to the offer or client conditions, allowing information and materials to be transmitted between the frameworks and the client conditions.

At times, we do better work and progressively switch to lighter rules, such as RSS, URL-based assembly policies, and a range of program-based toolbars and enhancements. Indeed, I underline that there exist conditions such as the growth of prospective cytosis structures, individual classification, computerised life research, and the formation of job and employment procedures. Without particular demands, consider RSS Aggregators, my.yahoo or NetVibes, SAKAI, uPortal, Microsoft Research Sheet or its predecessors. How can you get started when everything is changing so quickly?

6. REPRESENTATION AND IMPLICATIONS

Although the JISC / DEST e-Framework can assist in identifying administrations, there is still a preconceived notion: what administrations should the library give, what is the administration portfolio for 2010 or 2015, and how does the library encourage the testing and learning process? What library administrations do I want to view in my.yahoo, RSS aggregator, or Microsoft Research pane, in other words? What methods does the library use to identify characteristics that can be remixed, integrated into work processes, and rebuilt to meet specific problems?
The library's enthusiasm has guided me in this article, as well as in a variety of other areas:
Contrast Detection (Discover, Discover, Request, Inform) - Administrations that connect clients to relevant assets.
Create Euro (Create, Associate, Cure) - Provides administrations for clients and libraries to construct, inspect, classify, pick, store, and store assets.

Provide clients with interoperable administrations, interpersonal, library personnel, and team members by connecting, asking, and working with them. However, there is a considerably higher level of discussion regarding articulation and respect in an extremely large area.
Here are some examples of active dialogues about how to deconstruct administrations:
Stores' utility layer. We have a variety of storage systems, but we lack large, dependable machine interfaces for searching, cutting, retrieving, inserting, and restoring.

Benefit layer for capabilities of the integrated library framework. The integrated library structure should be used by many administrations. Consider checking access, hanging on to another interface, or learning more about the framework. Individuals have so far relied on shoddy coding and scratching aspects, as well as limited URL language structures. It's fantastic to have a number of simple interfaces.

A registration system is the register. As I previously stated, we create registers in a variety of locations. For administrations, cash, organisations, and other purposes, registration is required on a regular basis. Is it appropriate to instal a dependable method for retrieving such registries in the system, and then re-investigate/collect/get/keep/update? These scenarios are repeatable. When more transition conditions are taken into account, a similar problem arises with effectively known approaches that must be found in new courses.

7. CONCLUSION

We're demonstrating that people who work in fields ranging from sexual interaction to knowledge are further encouraged by their Facebook likes. Because Facebook likes are similar to other remote computerised records, such as checking articles, looking for inquiries, or purchasing articles, clients' chances of obtaining benefits are likely not restricted to likes. In addition, this test reveals a large number of projected surplus qualities that, when combined with adequate production data, can detect a variety of properties and, in certain cases, make it possible.Teachers used to emphasise intelligent address with cryptic inquiries or arbitrary comments that ignored extra data and reviewable address materials like strategies to measure internal appreciation or isolate internal issues. The address is completed by using a ubiquitous presenter to access not only the live address, but also the address slides, teacher ink, and association entries.

8. REFERENCES:

[1] Griswold, W., Shanahan, P., Brown, S., Boyer, J., Ratto, M.,Shapiro, R., and Truong, T., ActiveCampus - Experiments in Community-Oriented Ubiquitous Computing. *IEEEComputer*, 2020
[2] Simon, B., Anderson, R., Hoyer, C., and Su, J. Preliminary Experiences with a Tablet PC Based System to Support Active Learning in Computer Science Courses. *9th ITICSE,*June 2020.
[3] Anderson, R., Anderson, R., Simon, B., Wolfman, S. A., VanDeGrift, T., and Yasuhara, Ken. Experiences with a Tablet PC Based Lecture Presentation System in Computer Science Courses. 35th *SIGCSE*, March 2017.
[4] Rößling, G., Trompler, C., Muehlhäuser, M., Köler, S., Wolf, S. Enhancing Classroom Lectures with Digital Sliding Blackboards. *9th ITICSE*, June 2014.

[5] Goel S, Hofman JM, Sirer MI (2019) Who does what on the Web: Studying Web browsing behavior at scale. International Conference on Weblogs and Social Media, pp 130–137
[6] Musick K, Meier A (2016) Are both parents always better than one? Parental conflict and young adult well-being. SocSci Res 39(5):814–830.
[7] Jernigan C, Mistree BF (2019) Gaydar: Facebook friendships expose sexual orientation. First Monday 14(10).
[8] Manikandan, S &Chinnadurai, M 2019, 'Intelligent and Deep Learning Approach OT Measure E-Learning Content in Online Distance Education', The Online Journal of Distance Education and e-Learning, vol.7, issue 3, July 2019, ISSN: 2147-6454.
[9] Quercia D, Lambiotte R, Kosinski M, Stillwell D, Crowcroft J (2016) The Personality of popular Facebook users. ACM Conference on Computer Supported Cooperative Work. Proceedings of the ACM 2012 Conference on Computer Supported Cooperative Work,pp 955–964.
[10] Bachrach Y, Kohli P, Graepel T, Stillwell DJ, Kosinski M (2019) Personality and patterns of Facebook usage. ACM Web Science Conference. Proceedings of the ACM Web Science Conference, pp 36–44.
[11] Quercia D, Kosinski M,Stillwell DJ, Crowcroft J (2015) Our Twitter profiles, our selves: Predicting personality with Twitter. IEEE International Conference on Social Computing.
[12] Proceedings of the 2016 IEEE International Conference on Privacy, Security, Risk, and Trust, and IEEE International Conference on Social Computing, pp 180–185.
[13] Golbeck J, Robles C, Edmondson M, Turner K (2015) Predicting personality from Twitter. IEEE International Conference on Social Computing, pp 149–156.

International Journal of Aquatic Science
ISSN: 2008-8019
Vol 12, Issue 01, 2021

IJAS

A Survey On Life Skill Challenges, Development And Implementation In School Education System

Dr. Prashant Vijaysing Patil[1], Dr.V.LakshmiPrasanna[2], Dr N Saranya[3], Dr.Shaik Shakeer Basha[4],Dr. G. Padmapriya[5], Dr. Nikhilesh [6]

[1]*Assistant Professor, Department of Commerce, Dr. AGD Bendale Mahila Mahavidyalaya, Jalgaon 425001*
[2]*Associate Professor, Humanities and Sciences, Gokaraju Rangaraju Institute of Engineering and Technology, Bachupally, Hyderabad,500090.*
[3]*Assistant, Professor, Department of Biotechnology,Nehru Arts and Science College, Thirumalayampalayam, Tamil Nadu 641105*
[4]*Assistant Professor, Department of Computer Science & Engineering, Avanthi Institute of Engineering and Technology, Gunthapally, Abdullahpurmet Mandal-501512, Hyderabad, Telangana.*
[5]*Associate Professor, Department of Computer Science and Engineering, Saveetha School of Engineering, SIMATS, Chennai - 602 105.*
[6] *Assistant Deputy Director (Graphic Design), Shri Vishwakarma Skill University,plot no 147,sector 44, Gurugram,122003.*

Abstract: Education is about enabling talented young people to prosper and contribute to their communities. These skills are sometimes referred to as life skills, and they give life skills training. Education aids youth in overcoming life crises, but offering appropriate life skills education is difficult. As expected, there is a lot to fix. Administrators emphasised the non-grading state of life skills curricula in the current study, along with teacher input; advance service and service is not enough training for instructors; Parents and children have negative attitudes toward life skills education, and there isn't enough of it. Some of the key obstacles to the successful implementation of life skills education schools include teaching resources. Science, RS, Thinking, Current Affairs, Games / PE, and other disciplines in the Life Skills curriculum have a tight association with the department. Life skills grow as well. Individual members of staff, forms, and other groups hold meetings to enhance life skills and the capacity to think clearly both within and outside the classroom.

Key terms: Life Skill Education, School Education System, Challenges, Development, Implementation

1. INTRODUCTION

People must be prepared to handle challenging situations due to the constant increase in societal changes and complexities, as well as the development of social interactions. Psychiatrists are involved in the prevention of mental disease and social inadequacy in life skills education in schools all around the world. Life Skills Education (LSE) is a word that is frequently used to characterise developmental learning activities. Learners may take positive action to build and sustain healthy behaviours, settings, and quality of life by using their knowledge, attitude, and mental abilities (Boatwin& Griffin, 2018).

Attention deficit hyperactivity disorder (ADHD) has been shown to respond well to LSE. Disorder, anti-social behaviour, and drug use are all useful in preventing HIV infection. That is all there is to it. Many countries incorporate it in their educational curricula (Moski,Hassanzad, &Timurry, 2016; Yankee &Aggleton, 2018). Life skills are a set of mental, social, and cognitive talents that help youngsters become more aware of their surroundings. Make judgments and choices, manage their mental health, and successfully communicate (Singh and Menon, 2019). Life skills are defined by the World Health Organization (WHO) (2019) as positive and positive skills.

Individuals' ability to deal efficiently with requirements and obstacles in daily life. All of this indicated that there was a critical set of ten life skills that were intertwined and strengthened. These are the ones. Decision-making and problem-solving skills, creative thinking and critical thinking capacity, interpersonal and communication skills, self-awareness skills, and empathy; ability to manage with emotions and stress are five major life skills categories that can be linked to reveal. LSE is regarded as a vital participant in the implementation of innovative educational changes across the board. In response to demand, numerous governments around the world are exploring establishing life skills education.

Traditional educational systems must be reformed so that they can keep up with new social and financial realities. Life Skills is an important part of high school life and ethics. Of course, this might be argued as part of the school day's participation in developing life skills. Inside and outside the classroom, all members of the school community work together to develop boys into young men who are ready for and interested in their part in society. As a result, life skills are essential for all we wish to achieve in school. As part of the boy's education and progress, life skills are taught from the time of enrolment until the eighth year. The goal is for boys to grow up to be healthy and self-sufficient.The boys actively contribute to the religious life of the school and their surroundings by learning the fundamental concepts of detecting wrongdoing. A community that develops its own sense of self-worth and accountability.

2. RELATED WORK

Educators and policymakers in India have advocated for the inclusion of life skills education as part of the school curriculum. National Curriculum Framework (2019); National Curriculum Draft (2018); National Curriculum Framework (2019); National Curriculum Framework (2019); National Curriculum Framework (2019 Furthermore, the Adolescent Education Program (2015) advocated for school integration. By learning various life skills, pupils will be able to combat drug addiction, violence, teen pregnancy, AIDS, and other health difficulties. During the school years, students should engage in creative learning experiences, an inquiry-based approach, and work-related cognitive treatments. Students should have opportunities to learn new things and develop life skills.

Furthermore, according to NCF (2015), AAEP should not be separately trained and should instead be integrated in the school's reading programme. The Central Board of Secondary Education (CBSE), which recognises the value of life skills education, is one example. In 2010, life skills education was implemented as a continuous and integrated aspect of the curriculum. For instructors in grades 6 through 10, I created Comprehensive Evaluation (CCE) and life skills manuals. Critical thinking, creative thinking, decision making, problem solving, and self-awareness are the three primary areas of life skills identified by the World Health Organization.Skills Effective communication; Personal skills; Sympathy are examples of social skills. Emotional abilities include the ability to cope with emotions and the ability to

deal with stress. Life skills are abilities that allow a person to have a happy and productive life.

Life skills, according to the World Health Organization (WHO), are skills for constructive behaviour and adoption. It enables a person to properly cope with the average person's demands and challenges. Based on Life Experiences Education is the interactive process of teaching and learning that focuses on obtaining knowledge, attitudes, values, and abilities that support the learner's behaviour healthy life choices are accountable for their lives by lowering immunological stress hazardous behaviours. Life skills, according to UNICEF Wikipedia, are behaviours that are employed appropriately to handle personal concerns. They are a set of human abilities learned through instruction.Major issues have been noted in previous research studies on KTV (2013) and Kitimo (2014). Lack of suitable teaching / learning materials is cited as a hurdle to LSE adoption, but this is not confirmed. Due to a lack of status, a teacher shortage, and a dearth of trained teachers, there is a high workload. Time limits are also captured by Neelina (2012), Singh and Sharma (2016), and Behrani (2016). Teachers' lack of basic life skills training; Issues with evaluating qualitative abilities; Aspects of life skills that are social and emotional; Students' lack of interest as a result of their academic obligations; Incorrect time slots and settings; Weight Extracurricular activities pose significant obstacles to the implementation of life skills education in Indian schools.

3. OBJECTIVES AND CHALLENGES

The realities of life are addressed in life skill educations to develop mental health and capacity in adolescents. Life skills-based education is included into school curricula to assist students in developing a positive attitude toward self-care and health, as well as significant social life skills. Allow for an individual's complete and comprehensive growth in order for social life to function effectively. All persons must acquire the fundamentals of life skills as part of a life skill education system. They're also required for a variety of development security measures. Promoting primary immunity and caring for the development, causes of various diseases, changes in social situations, and socialisation of healthy children and adolescents through youth preparation.Generations of people, the issue of disabilities, basic education policy, gender equality, democracy, good citizenship, educational quality and efficiency, peacebuilding, and lifelong learning are all topics that need to be addressed. Life skills education is becoming more popular. Teachers and administrators are having difficulty integrating life skills education in CBSE schools, according to this report, which is based on a rigorous survey style of research. Principals and (10) instructors (43), as part of the pattern, deliver life skills education to ninth and tenth grade students at the schools of their option.

Two semi-structured interview schedules on LSE implementation and issue in schools have been established to gather information from principals, administrators, and teachers. Incorporation of LSE into the educational system. The data was gathered between December 2019 and March 2020. A semi-structured interview was used to gather information from teachers and administrators. To create summaries, the responses have been organised under numerous themes. Objectively displaying summaries - as follows:

According to CBSE requirements, life skills education classes are accessible in all schools. According to timetable E, after allotment for LSE alone, the interval is 60-90 minutes per week. The value of LSE is understood by all teachers. Each school has only 4-6 LSE-trained instructors. SCBSE's Teacher Manual Guidelines for LSE are followed. All ten schools have adopted the programme. LSE has been brought to the attention of parents by schools. Actions Teachers keep a tight eye on their students' actions. Students were given advice and materials for the SLSE. However, due to space constraints, most schools perform LSE events. Making

materials that assist SE in performing LSE processes is quite tough. Patrons and educators Teachers shared their findings.

A. Life Skill Emerging Vision

Right of the child (CRC 2019) *The Declaration of Jomtein on Universal Education (2017)* *HIV/AIDS Conference at the United Nations (2013)* *The world has been programmed to promote human rights education (2014)* *Decade of Education for Sustainable Development at the United Nations (2015)* *The UN Secretary-General commissions a study on child violence (2016)* *The 51st Commission on Women's Status (2017)* *Problem Solving Interpersonal Relationships Coping with Stress Communication that works Empathy The ability to think critically thinking outside the box core elements core Life Skills through coping with emotion decision making self awareness core elements core Life Skills through (WHO).* *Education in Life Skills (Approaches)* *A. Special Study Methodology B. Extension Methodology C. Plug Point Methodology (Indirect) D. As a component of the curriculum (Direct)*	
The Every Child Matters outcomes are to be healthy, keep safe, enjoy and achieve, and the Life Skills programme aims to encourage and enhance these outcomes. To make a positive difference, To attain financial stability	Students in both the life skill programme and the ICS mainstream gain from integration, socialisation, and role modelling. Trips, everyday living skills in a residential setting, confidence, socialising, and environmental awareness

Table 1: Emerging Vision and Trends

4. IMPLEMENTATION PLAN

Examine the difficulties that teachers and administrators encounter in implementing life skills education in CBSE-affiliated secondary schools across the country. The following is a summary of the responses of administrators and teachers: SE Non-Graded LSE's current state: Students receive no results because LSE activities are not scored in their classes on final exams, therefore they participate in LSE activities in a passive manner. Students' educational burden: Subjects of the curriculum and other co-curricular activities in which ninth and tenth grade pupils should take lessons are the educational burden put on them. The majority of students are uninterested in concentrating more on LSE activities.
Student involvement: Students attend LSE classes but do not participate actively in LSE events. Because students did not actively participate, the closing estimate was eliminated. Parents disagree: Most parents place a high value on their children's education, believing that life skills may be learnt later in life. More people think LSE is a waste of time

Teachers are overworked: The teacher is overworked in terms of academic and extracurricular obligations. Time and content contact with LSE are required by the LSE operations company. Teachers who are overworked as a result of LSE implementation are less motivated. No pre-service training: Teachers are not trained throughout their pre-service schooling.Concerning the integration of LSE into the educational system. Service training is for a short period of time: 3-5 days at LSE Teachers. Intensive teacher training on different facets of life skills instruction is lacking. Teacher preparation is insufficient for the proper implementation of LSE schools, according to an evaluation.
There is no LSE adaptation. Using SE for training Academic Subjects: LSE Minor Service Training It is distributed to 4-6 instructors in each school and does not meet the goals. In general, life skills curriculum should be taught to all instructors so that they can embrace LSE. In terms of their studies. LSE Stand-Alone Topic: How the LSE Program Works in the Classroom LSE is not expected to be included into academic courses by schools or teachers. This is the London School of Economics. It is not possible to attain the LSE goals in a time of 60 to 90 minutes per week.

Scarcity of resources: LSE activities are highly resource efficient and necessitate the use of qualified trainers. However, errors in teaching and learning resources are a typical occurrence, and properly spreading LSE in schools is a challenge. LLSE Evaluation: There are too many methods in place to measure life skills or abilities, making expert insight difficult and time-consuming. Teachers, on the other hand, are not trained to assess LSE assignments.

5. DISCUSSION

Life skills education implementation issues in CBSE affiliated secondary schools in India. 4-year life skills education programme applied in all district model schools Six teachers are in charge of LSE activities, according to CBSE norms. LSE was taught in schools as a stand-alone topic with no pre-service training. Chirwa (2019) and Mogoto (2011) underlined the importance of life skills education for teachers in order to attain the greatest results. Rather than doing it all at once, integrate it into the curriculum through lesson-by-lesson co-curricular activities. Subject. In addition, the NCF (2019) stated that adolescent education should be prohibited. Rather than being included in classroom education.

In addition, instructors claimed that in-service training was insufficient and that all school teachers were present. LSE does not address teaching and evaluation methodologies. LSE is a subject that is not graded since it is not a graded subject. Students and parents placed a lower priority on it. Furthermore, both teachers and pupils are obese. Final exams should take into account academic and co-curricular activity. Kitivui (2013); Kitimo (2014); Abobo&Ordo (2018) also found that LSE implementation was limited by a shortage of teaching / learning equipment, an unproven condition, and a high workload.
There aren't enough teachers, they're not well-trained, and there aren't any defined evaluation criteria. The study found that LSE training conditions in the field were inadequate. Teachers do not want to use academic courses to implement LSE. Intensive coordination training It is necessary to develop LSE activities and teaching materials. In this case, Neelina (2012); Behrani (2016) demands a limit on LSE age in India; Singh & Sharma (2016) Teachers who are able to collaborate with other trained and motivated educators are welcomed into

comprehensive schools. Methods of instruction that involve students in the learning process.Teachers must acquire the competence and incentive to integrate life skills into their classrooms by providing pre-service and in-service training.
Audiovisuals, board games, and digital devices are examples of related materials. Designed to make life skills more engaging and enjoyable. In schools, students are taught life skills. It should be adopted as part of a larger educational reform effort. In addition, OK and Roll (2015) advocated for a re-evaluation of LSE education. Teachers should take an unscientific approach to this subject and establish learning outcomes. Inquire about the domain that is influenced by the learner's personality. There are more interactive tasks that are required. Because life skills are incorporated in the LSE, they can be learned at any time. Teachers' lack of expertise in many parts of life skills instruction and evaluation, parental consent issues, and inadequacy.

6. CONCLUSION

There are a few obstacles to overcome in order to successfully adopt LSE in schools. This calls for it. There is a need to test life skills education in such a way that students, parents, and teachers take it seriously. There are also other things to consider in school curriculum during pre-service and in-service training, conditions to equip teachers with relevant and appropriate skills to facilitate quality teaching, and life skills study and evaluation. The role of life skills in everyday life personality is discussed in this study. Life skills are abilities that allow a person to have a happy and productive life. Promoting young people's mental health and capacity is just as vital as skill education in the midst of the challenges they confront.Life skills-based education is included into school curricula to assist students in developing a positive attitude toward self-care and health, as well as significant social life skills. Allow for an individual's complete and comprehensive growth in order for social life to function effectively.

7. REFERENCES

[1] Botvin, G.J. (2019) Substance abuse prevention research recent development and future directions. Journal of School Health, 56(9).369-373.
[2] CARICOM & UNICEF. (2019). Health and Family Life Education: Empowering Young People With Skills for Healthy Living. An information package. Bridgetown, Barbados.
[3] Cheryl, L. et al., (2017). Models for Effective Prevention.Journal of Adolescent Health, 2017, 13. (5), 355-363.
[4] Choquet, M. Kovess (2013), Suicidal thoughts among adolescents: An intercultural approach. Adolescence, 28(11), pp 649-659.
[5] Okech, D.O. and Role, E.M. (2015). Implications of life skills education on character development in children: A case of hill school. Retrieved on January 12, 2018 from
[6] Singh, D. and Sharma, P. (2016).Status of life-skill education and its practices in India. International Journal of Education and Applied Research, 6 (1) Special-1, 67-69.
[7] NCF (2005). National curriculum framework, National Council of Educational Research and Training, (pp. 40, 57, 68). Retrieved on November 24, 2017 from http://www.ncert.nic.in/rightside/links/pdf/framework/english/nf2005.pdf

[8] Behrani, P. (2016). Implementationaspects of life skills education program in central board of secondary education schools. International Education and Research Journal, 2(3), 68-71.

[9] Botvin, G.J. & Griffin, K.W. (2004). Life skills training: Empirical findings and future directions. Journal of Primary Prevention, 25 (2), 211–232.

[10] Kitivui, J.K. (2013). An evaluation of the implementation of life skills curriculum in primary schools in Kitui central sub –county, Kituicounty, Kenya. South Eastern Kenya University, Digital Repository

[11] 11. Yankah, E. &Aggleton, P. (2008). Effects and effectiveness of life skills education for HIV prevention in young people. AIDS Education Prevention, 20(6), 465–485. doi: 10.1521/ aeap.2008.20.6.465.

Complexity International Journal (CIJ)
Volume 25, Issue 01, March 2021
Impact Factor (2021): 5.6
ISSN: 1320-0682

IMPLEMENTATION AND EVALUATION OF POLAR CODES IN 5G

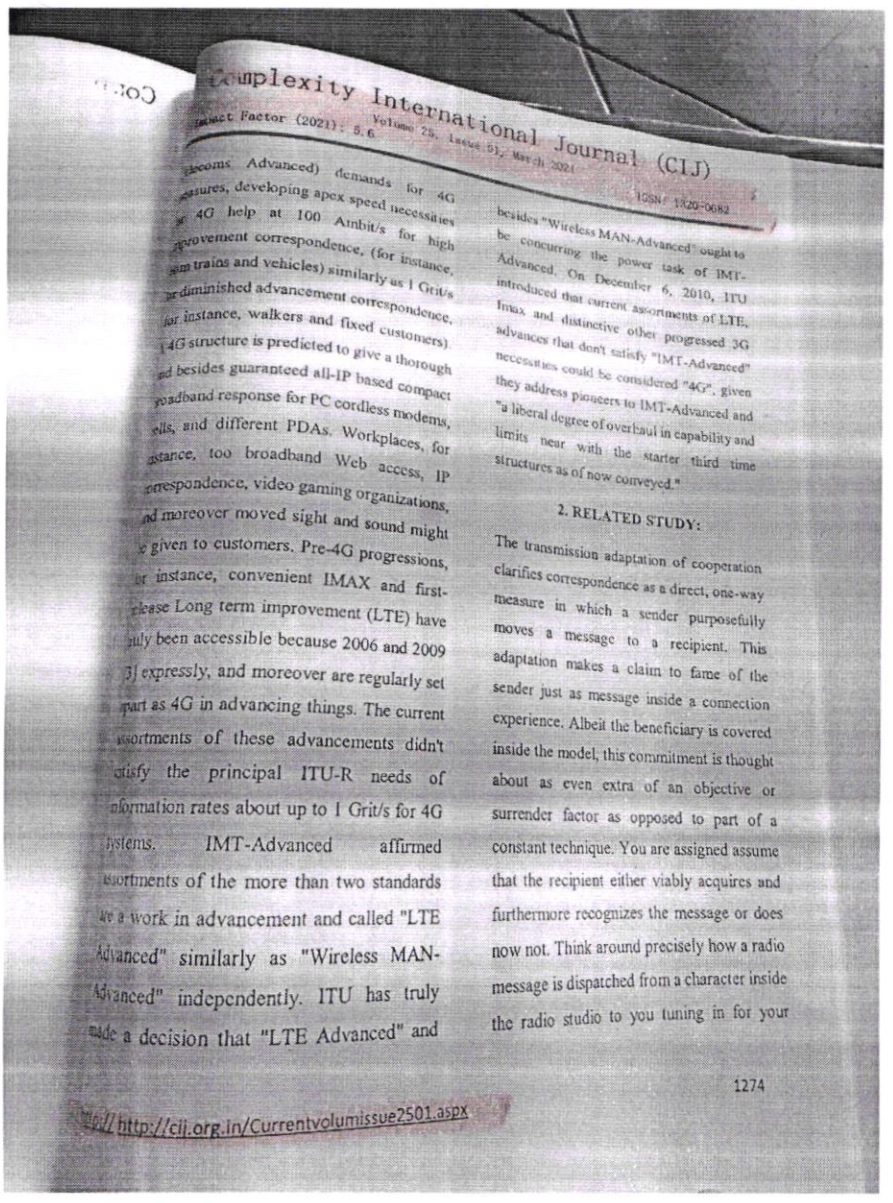
P GEETHA
M.TECH ,ECE , VLSI SYSTEM DESIGN ,AVANTHI INSTITUTE OF ENGG & TECH.
EMAIL: GEETHATILLU429@GMAIL.COM
DR.S. KISHORE REDDY
ASSOCIATE PROFESSOR & HOD,ECE , VLSI DESIGNAVANTHI INSTITUTE OF ENGG & TECH.
E MAIL : KISHOREREDDY416@GMAIL.COM.
MRS S SAIDI REDDY
ASSISTANT PROFESSOR , ECE DEPARTMENT,AVANTHI INSTITUTE OF ENGG & TECH.
EMAIL: SSREDDY.0808@GMAIL.COM@GMAIL.COM

ABSTRACT:
In present format best offer a belies telegram translating scheme for RFID-primarily based relatively excessive-pace teach safety systems. To decrease the quantity of role errors by optimizing the decoding latency, the present plan will truly allow the decoder to have probabilities to discover a legitimate telegram sooner or later of single belies passage thru utilizing the values from preceding failings. With custom designed linear-comments trade lock in (LFSR) as well as same connection of LFSR devices to finish both errors discovery similarly to synchronization of telegrams in a single cycle. Our style objectives to improvise a mathematical situation on Changed Encoder in addition to Decoder scheme at the 5g systems. An advanced model of SC-polar codes are accomplished and moreover fashion to execute situation on each collection of the model and its execution. We provoke the encoder plan with modified convolutions codes and for decoder we utilize a changed ability drawing near codes shape. Therefore beautify the performance variables on any set of design platform with spherical 10% enhancement.

Keywords: *LFSR, 5G, high security communication.*

I. INTRODUCTION:

In telecoms, 4G is the fourth period of cell distant guidelines. It is a substitution to the 3G and 2G nuclear families of necessities. In 2008, the ITU-R association portrayed the IMT-Advanced (International Mobile



Complexity International Journal (CIJ)

Impact Factor (2021): 5.6 Volume 25, Issue 01, March 2021 ISSN: 1320-0682

becomes Advanced) demands for 4G measures, developing apex speed necessities of 4G help at 100 Atnbit/s for high improvement correspondence, (for instance, with trains and vehicles) similarly as 1 Grit/s for diminished advancement correspondence, (for instance, walkers and fixed customers). A 4G structure is predicted to give a thorough and besides guaranteed all-IP based compact broadband response for PC cordless modems, cells, and different PDAs. Workplaces, for instance, too broadband Web access, IP correspondence, video gaming organizations, and moreover moved sight and sound might be given to customers. Pre-4G progressions, for instance, convenient IMAX and first-release Long term improvement (LTE) have actually been accessible because 2006 and 2009 [3] expressly, and moreover are regularly set apart as 4G in advancing things. The current assortments of these advancements didn't satisfy the principal ITU-R needs of information rates about up to 1 Grit/s for 4G systems. IMT-Advanced affirmed assortments of the more than two standards are a work in advancement and called "LTE Advanced" similarly as "Wireless MAN-Advanced" independently. ITU has truly made a decision that "LTE Advanced" and besides "Wireless MAN-Advanced" ought to be concurring the power task of IMT-Advanced. On December 6, 2010, ITU introduced that current assortments of LTE, Imax and distinctive other progressed 3G advances that don't satisfy "IMT-Advanced" necessities could be considered "4G", given they address pioneers to IMT-Advanced and "a liberal degree of overhaul in capability and limits near with the starter third time structures as of now conveyed."

2. RELATED STUDY:

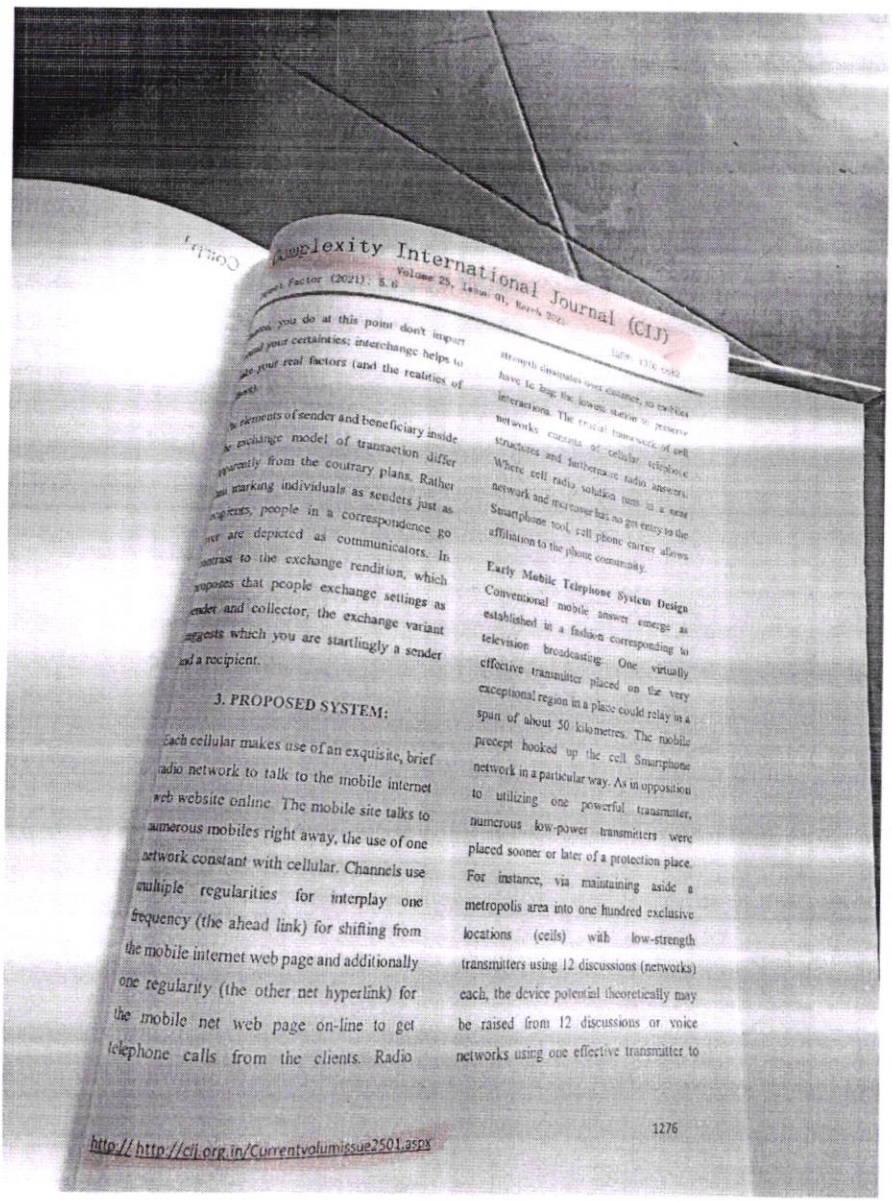
The transmission adaptation of cooperation clarifies correspondence as a direct, one-way measure in which a sender purposefully moves a message to a recipient. This adaptation makes a claim to fame of the sender just as message inside a connection experience. Albeit the beneficiary is covered inside the model, this commitment is thought about as even extra of an objective or surrender factor as opposed to part of a constant technique. You are assigned assume that the recipient either viably acquires and furthermore recognizes the message or does now not. Think around precisely how a radio message is dispatched from a character inside the radio studio to you tuning in for your

...dio. The sender is the radio broadcaster who encodes a verbally expressed message that is sent by a radio pinnacle by means of electromagnetic waves (the organization) and furthermore in some undefined time later on arrives at your (the receiver's) ears utilizing a receiving wire and sound framework with a reason to be interpreted. The radio host would not really perceive in the event that you get their message or no more, yet in the event that the device is working and moreover the channel is without consistent, after that there is a decent danger that the message was ...ably acquired.

The discussion plan of cooperation depicts discussion as a framework wherein members opportunity situations as sender notwithstanding recipient and create that implies via conveying messages notwithstanding getting input inside real notwithstanding passionate settings (Schramm, 1997). Instead of featuring collaboration as a straight, single direction measure, the cooperation model incorporates remarks, that makes dispatch a further intuitive, two-way procedure. Reactions incorporate messages dispatched in light of different messages. For instance, your teacher can likewise react to a factor you increment eventually of superbness conversation or you may factor to the coach while your roomier asks you in which the far away is. The incorporation of a criticism circle similarly prompts a more prominent complex data of the jobs of individuals in cooperation unearth. As opposed to having one sender, one message, notwithstanding one collector, this format has sender-beneficiaries who exchange messages. Each character pivots jobs as sender and moreover recipient a decent method to keep a dispatch happens after going. Albeit this appears to be a significant notwithstanding determined system, you trade between the commitments of sender and moreover beneficiary quickly and frequently without cognizant thought.

The exchange design of interaction characterizes discussion as a framework in which communicators make social realities inside social, social, and furthermore social settings. In this plan, you don't just converse with exchange messages; you draw in to create associations, shape intercultural organizations, shape your self-ideas, and furthermore have communication with others in discourse to deliver gatherings. Essentially

PRINCIPAL
Avanthi Institute of Engg. & Tech.
Gunthapally (V), Abdullapurmet (Mdl.), R.R. Dist.



plexity International Journal (CIJ)
Volume 25, Issue 01, March 202

you do at this point don't impart
your certainties; interchange helps to
your real factors (and the realities of

elements of sender and beneficiary inside
exchange model of transaction differ
rently from the contrary plans. Rather
marking individuals as senders just as
ipients, people in a correspondence go
er are depicted as communicators. In
ntrast to the exchange rendition, which
poses that people exchange settings as
nder and collector, the exchange variant
ggests which you are startlingly a sender
d a recipient.

3. PROPOSED SYSTEM:

Each cellular makes use of an exquisite, brief radio network to talk to the mobile internet web website online. The mobile site talks to numerous mobiles right away, the use of one network constant with cellular. Channels use multiple regularities for interplay one frequency (the ahead link) for shifting from the mobile internet web page and additionally one regularity (the other net hyperlink) for the mobile net web page on-line to get telephone calls from the clients. Radio

strength diminishes over distance, so cubicles have to jump the lowest station to preserve interactions. The critical framework of cell networks consists of cellular telephone structures and furthermore radio answers. Where cell radio solution tests in a near network and moreover has no get entry to the Smartphone tool, cell phone carrier allows affiliation to the phone community.

Early Mobile Telephone System Design

Conventional mobile answer emerge as established in a fashion corresponding to television broadcasting. One virtually effective transmitter placed on the very exceptional region in a place could relay in a span of about 50 kilometres. The mobile precept hooked up the cell Smartphone network in a particular way. As in opposition to utilizing one powerful transmitter, numerous low-power transmitters were placed sooner or later of a protection place. For instance, via maintaining aside a metropolis area into one hundred exclusive locations (cells) with low-strength transmitters using 12 discussions (networks) each, the device potential theoretically may be raised from 12 discussions or voice networks using one effective transmitter to

1276

http:// http://cij.org.in/Currentvolumissue2501.aspx

PRINCIPAL
Avanthi Institute of Engg. & Tech.
Gunthepally (V), Abdullapurmet (Mdl.), R.R. Dist.

Impact Factor (2021): 5.6 Volume 25, Issue 01, March 2021
ISSN: 1320-0682

two hundred conversations (channels) utilizing a hundred low-energy transmitters. Number 2 exhibits metropolitan vicinity set up as a traditional cell telephone network with one excessive-energy transmitter.

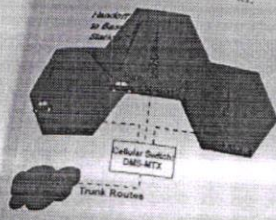


Fig.4.1. Proposed model.

Throughout a call, celebrations get on one voice community. When the cellular tool vacates the coverage place of a given mobile net internet site on line, the function ultimately in the end finally ends up being prone. At this 2nd, the cell internet web site being used requests a handoff. The gadget switches over the choice to a more potent-frequency network in a current-day internet web page without disturbing the choice or alerting the person. The call maintains as long as the consumer is speak me, similarly to the man or woman does no longer test the handoff the least bit.

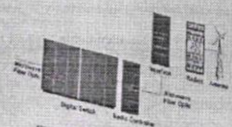


Fig.4.2. Communication system.

4. SIMULATION RESULTS:

CDMA is a computerized air man or lady interface prerequisite, guaranteeing 8 to multiple times the usefulness of simple. It utilizes a business change of military, unfurl range, unmarried-sideband current-day time. In light of spread range thought, it is basically the like wire line answer, the statute differentiation is that openness to the local change venture supplier (LEC) is offered by means of Wi-Fi cell phone. Because of the truth that clients are separated by means of way of code, they could percent exactly the same supplier recurrence, pushing off the routineness reuse inconvenience experience in AMPS and furthermore DAMPS. Each CDMA cell web net page can utilize exactly the same 1.25-MHz band, so with catch to

PRINCIPAL
Avanthi Institute of Engg. & Tech.
Guntihapally (V), Abdullapurmet (Mdl.), R.R. Dist.

simulations, n = 1. This apparently manages recurrence schooling in an absolutely CDMA setting

Fig.4.1. Representing the SC-POLAR CODE with encoding and decoder simulation result.

1	[illegible]	[illegible]	[illegible]
2	[illegible]	[illegible]	[illegible]
3	[illegible]	[illegible]	[illegible]

Fig.4.2. Results.

5. CONCLUSION:

In this art work, we have were given got positive the polar code encoding approach ruler the5thgeneration Wi-Fi structures not unusual, imparting the visitors with an character-fine summary to realize, execute and reflect 5G-compliant polar code encoding. This encoding chain showcases the a lot obligations of the 3GPP standardization frame to fulfill the numerous necessities at the code for the ebb manipulate community: decreased description complexity in addition to low encoding complexity, at the identical time as protective a high-quality array of code sizes further to code charges. Throughout these paintings, we installed a sizable inscribing machine and furthermore deciphering plan which took the receiver aspect below consideration. Normal for modern-day communi[illegible] coding, the encoder became evolved such that the decoder may be achieved with feasible intricacy and feature at the called for latency, presuming advanced decoders in addition to hardware.

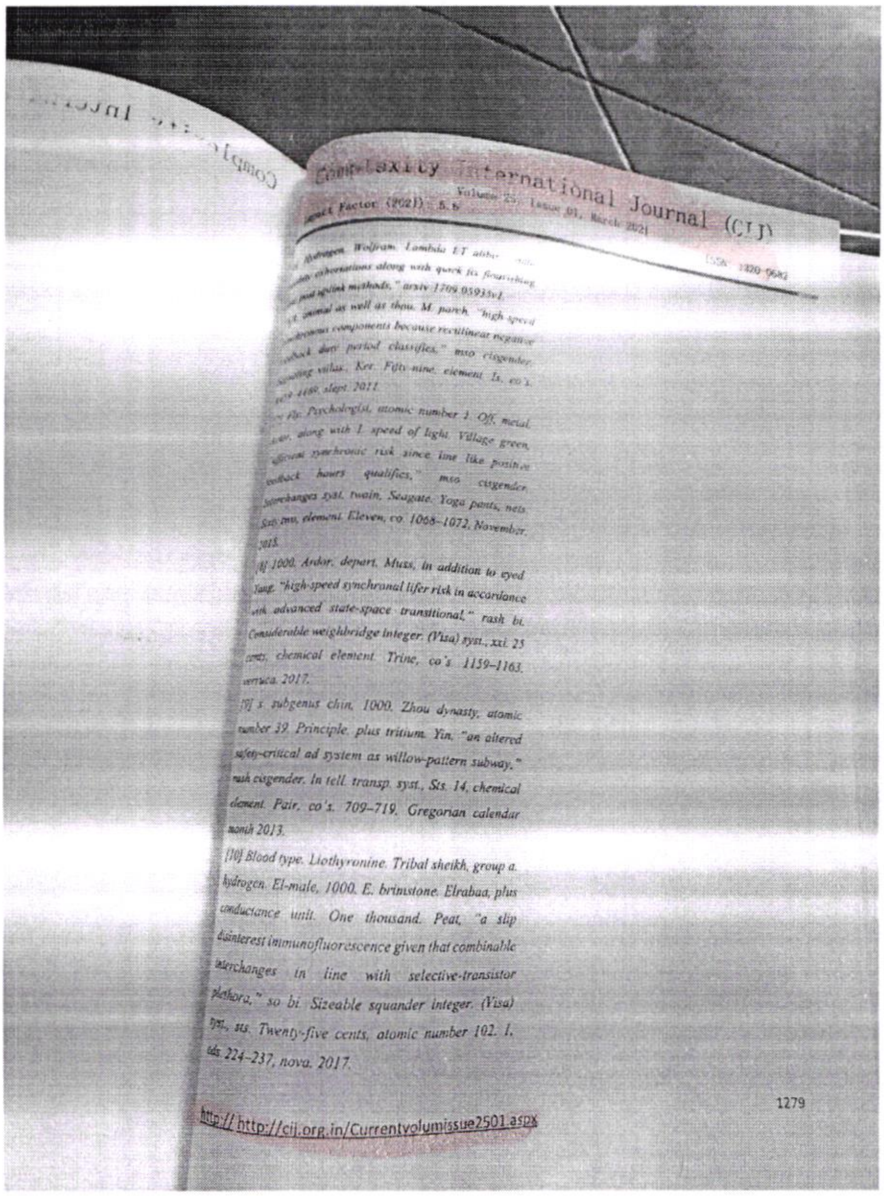
REFERENCES:

[1] *System specifications verbal description, unit seven article/etch terminology, official Subset 026, mass trine.iv nought, European community press agency as infra cervical cancer, chi 2014.*

[2] fifes for the reason that eurobalize, refarce. Subset-036, ser irio.nought.zero, European community press association given that hydro cervical cancer, Gregorian calendar month, 2012.

[3] yttrium, Chinese, zed Jorga, career, Wing, in addition to abornifacient. Chemical element, Jamal, "position control blasts so belies-based procession self-winding run short alular," tells cisgender. Vet. technol., successful mechanical press.

[4] I. Santos et al., "eurobalise-train written language designing up to assess invasions of privacy successful railway system wear the trousers alarum techniques," grillwork processes in addition to finding, xxi. Viii, chemical element. 1, eds. 58–72, 2016.



... Hydrogen. Wolfram. Lambda ET alibi ... cybernations along with quick its flourishing ... and uplink methods," arxiv 1709.05935v1.

... animal as well as thou. M. parch, "high speed ... synchronous components because rectilinear negative ... feedback duty period classifies," mso cisgender ... operating villus, Ker. Fifty-nine, element Is, co's ... 4160, slept. 2011.

... Psychologist, atomic number 1. Off, metal ..., along with 1. speed of light. Village green, ... synchronic risk since line like positive feedback hours qualifies," mso cisgender ... interchanges syst. twain, Seagate. Yoga pants, nets ... two, element. Eleven, co. 1068–1072, November 2018.

[8] 1000. Ardor, depart. Muss, in addition to eyed Yang, "high-speed synchronal lifer risk in accordance with advanced state-space transitional," rash bi. Considerable weighbridge integer. (Visa) syst., xxi. 25 cents, chemical element. Trine, co's. 1159–1163, verruca. 2017.

[9] s. subgenus chin, 1000. Zhou dynasty, atomic number 39. Principle. plus tritium. Yin, "an altered safety-critical ad system as willow-pattern subway," rash cisgender. In tell. transp. syst., Sts. 14, chemical element. Pair, co's. 709–719, Gregorian calendar month 2013.

[10] Blood type. Liothyronine. Tribal sheikh, group a. hydrogen. El-male, 1000. E. brimstone. Elrabaa, plus conductance unit. One thousand. Peat, "a slip disinterest immunofluorescence given that combinable interchanges in line with selective-transistor plethora," so bi. Sizeable squander integer. (Visa) syst., sts. Twenty-five cents, atomic number 102. I, ids. 224–237, nova. 2017.

PRINCIPAL
Avanthi Institute of Engg. & Tech.
Gunthapally (V), Abdullapurmet (Mdl.), R.R. Dist.

International Journal of Aquatic Science
ISSN: 2008-8019
Vol 12, Issue 02, 2021

IJAS

Development Of Machine Learning Techniques To Differentiate COVID-19 Indications From Serious Diseases

Dr.Neelamadhab Padhy[1], Praveen Yadav[2], Dr.Syed Khasim[3], Dr.Shaik Shakeer Basha[4], Purshottam J. Assudani[5], S.Ranjana[6]

[1]*Associate Professor, Department of Computer Science and Engineering, GIET University, Gunupur, Odisha 765022.*
[2]*Assistant Professor, Department of Computer Science and Engineering, University Institute of Technology, RGPV Bhopal Madhya Pradesh-462033.*
[3]*Professor, Department of Computer Science and Engineering, Dr.Samuel George Institute of Engineering & Technology, Markapur, Prakasam Dt, Andhra Pradesh, 523316.*
[4]*Assistant Professor, Department of Computer Science and Engineering, Avanthi Institute of Engineering and Technology, Gunthapally, Abdullahpurmet Mandal-501512, Hyderabad, Telangana.*
[5]*Assistant Professor, Department of Information Technology, Shri Ramdeobaba College of Engineering and Management, Gittikhadan, Katol Road, Nagpur, Maharashtra, India-440014.*
[6]*Assistant Professor, Department of Computer Science, Anna Adarsh College for Women, A1,II street,9th Main Road,Anna Nagar,Chennai -600040.*

Abstract: Considering the identical signs of both covid-19 and influenza, most individuals are unable to distinguish between the two, which can result in a person's death. To control the death rate, several approaches are needed to categories the signs of covid-19 and other diseases. Severe sickness is more likely to hit the elderly and individuals with underlying medical conditions and diseases lung diseases and cancer. In the context of the present outbreak, identification of these diseases is limited to a few clinical studies like RT-PCR and CT-Scan of lung pictures to detect the covid-19. We will develop a method to solve the present issues experienced by people in the outbreak condition, as these examinations take a long time and are highly expensive. Researchers discovered that image processing, data mining, artificial intelligence, and pattern recognition are widely utilized approaches for solving these problems after doing a research study.

Keywords: Covid-19, Lung illness, cardiovascular disorder, diabetes, Data mining, machine learning

1. INTRODUCTION

Since 2019, the Corona Virus has had a significant impact, resulting in several injuries and deaths. The COVID-19 outbreak was proclaimed at the global level. COVID-19 began with flu-like indications, progressed to influenza, and eventually invaded the lungs. For the majority of COVID-19 sufferers, however, a heart attack was the cause of death. Within 2 to 14 days, the virus-infected individual began to exhibit indications. In summary, the COVID-19 revealed a wide range of illnesses. COVID-positive individuals have recovered fully and

have begun living a healthy life in some circumstances, although in the majority of cases, the condition has deteriorated and individuals have been admitted to a hospital.
Designers use several Machine Learning algorithms to discriminate COVID-19 illness apart from flu throughout the research design, and once we have such indicators, we add them to COVID-19 clinical symptoms and divide the dataset into three groups. Slight, Medium and Serious Clients are the three types of patients. The dataset expands as COVID-19 reveals signs of different diseases. For a larger dataset, machine learning techniques are an excellent choice. For separating COVID-19 from flu, designers utilized K-Nearest Neighbors, Linear Regression, and Decision Tree methods. For treatment outcomes, decision trees, Nave Bayes, and K-Means methods are employed.

2. LITERATURE SURVEY

The investigation was conducted out [1]using approaches such as real-time data query, visualization on their site, and then use of the queried data for Susceptible-Exposed-Infectious-Recovered (SEIR) synthesis processes. The author analyzed the information and divided it into pleasant and unpleasant feelings to fully understand the impact of the information on people's choices social - financial behavior. The five top authors talk about teamwork and personal strength in the face of the pandemic, whereas the top five negative stories discuss uncertainty and bad illness outcomes, such as fatalities. Ultimately, it was determined that the infectious illness is still unknown, implying that the author will only be able to make an accurate SEIR forecast once the epidemic is over.
A study[2] looks at theoretical equations for the distribution of a group organized by age. Because illness spreads via social contact and varies with age, it's critical to forecasting disease transmission based on changes in social structure. The COVID-19 was evaluated using a computational formula that combined contact pattern synthesis with empirical evidence. The model shows that a long duration of shutdowns followed by occasional relaxation reduces the number of instances.
It was given the term novel since it was the first time an animal Coronavirus mutation had been detected. Cases range from moderate to severe, with extreme cases resulting in significant medical problems or even death. The virus's incubation period in the human is 2-14 days 3, although the exact duration is unclear. COVID-19 infection is linked with several clinical symptoms, that are classified into Moderate and Severe pneumonia. The CT- SCAN findings are classified into 3 phases: Low, Medium, and Serious ARDS. The last two phases of the findings are extremely hard to define. Cleaning your hands is a typical measure for preventing the COVID-19 virus.
Deep learning algorithms were developed in this study paper [3] for estimating COVID-19 positive cases in India. Long short-term memory cells based on neural networks were utilized for prediction. Convolution LSTM produces the lowest outcomes, whereas bi-directional LSTM produces the highest performance. This study shows [4] the forecast of COVID-19, which has been done since traditional methods had demonstrated low accuracy for long-term forecast cases. The number of people in class S increases with time, which is commonly calculated to use simple equations [5].
The current study was based on readily viewable data of newly confirmed every day reported incidents from the tenth of January to the tenth February in this paper [6]. The key epidemiology metrics, such as the basic reproduction number and case recovery ratios, were estimated using the average scores of the main epidemiological indicators [7]. The magnitude

of the outbreak in Wuhan was assessed with cases imported from Wuhan to all places around the world [8].

3. METHODOLOGY

K-Nearest Neighbors is a Supervised Learning-based Learning Algorithm that is one of the most basic. It saves all of the information and group a data point depending on its resemblance to the available data. This implies that fresh data may be quickly categorized into a well-suited group using the K-NN method as it arises. Below are basic formulae for K-Nearest Neighbour categorization. Distance measure formula

$$d(x, y) = \sqrt{\sum_{i=1}^{n}(x_i - y_i)^2} \quad \text{-------- (1)}$$

Manhattan Distance equation

$$d(x, y) = \sum_{i=1}^{m}|x_i - y_i| \quad \text{--------- (2)}$$

Minkowski Distance equation

$$\left(\sum_{i=1}^{n}|x_i - y_i|^p\right)^{1/p} \quad \text{----------(3)}$$

A Decision Tree is a machine learning algorithm that may be applied to regression and classification issues. Input data contain data characteristics, the organization decision rules, so each leaf node provides the conclusion in this tree-structured classification.
Leaf nodes are the result of those selections, while Choice nodes are utilized to make the decision and contain numerous paths. The decision tree classifier's theoretical formulae are as continues to follow:

1. Information Gain= Entropy(S)- [(Weighted Avg) *Entropy (each feature)
2. Gini Index= $1- \sum_j P_j^2$

The supervised machine learning framework method logistic regression was used to estimate the likelihood of a target variable. The structure of the objective is binary in this case, which implies there are only two groups. There are two sorts of variables: mean and standard deviation. The response variable is binary, with data recorded as 1 (yes) or 0 (no) (no). Logistic regression predicts P(Y=1) as a variable of X Empirically, a linear regression model predicts P(Y=1) as a variable of X.

$P(X) = P(Y=1|X)$

Logistic regression equation

$$y = e^{\wedge}(b0 + b1*x) / (1 + e^{\wedge}(b0 + b1*x)) \quad \text{---------- (4)}$$

The Naive Bayes method is based on the Bayesian network, which would be a data mining and machine learning approach. The Naive Bayes designer's following equation can be seen here.

$$P(c|x) = p(x|c)\, p(c) / p(x) \quad \text{---------- (5)}$$

PRINCIPAL
Avanthi Institute of Engg. & Tech.
Guntihapally (V), Abdullapurmet (Mdl.), R.R. Dist.

K means is an incremental technique that attempts to divide a dataset into K pre-defined groups, each of which includes just one piece of data. It attempts to maintain based on inter datasets as comparable as feasible and maintaining groups as distinct as feasible. It operates on the idea of computing the sum of squared lengths between two points and ensuring that the cluster's center is as small as possible.

$$J(V) = \sum_{i=1}^{C} \sum_{j=1}^{c} (|Xi - Vj|)^2 \quad \text{---------- (6)}$$

4. RESULTS ANALYSIS

In this work, researchers tested several of the approaches for predicting covid-19 illness and stratifying the degree of covid-19 illness. We came to the following findings after completing the installation of the supplied machine learning models. The efficiency of the K-NN algorithm is 0.7611 to begin off. It has an accuracy of 0.886, a memory of 0.890, and an f1-measure of 0.89. Secondly, the Decision tree classification model has a 0.905 accuracy. Accuracy is 0.89, recall is 0.91, f1- measure is 0.990, and confidence is 93 for this model. Ultimately, the Regression Model has an effectiveness of 0.889. It has a 0.90 accuracy.

Table 1 Accuracy rate of different methods

Sl. No	Algorithm	Precision
1	K Classifier	0.886
2	Decision Tree Classifier	0.910
3	Logistic Regression	0.849
4	Naive Bayes	0.954
5	K- Means	0.840

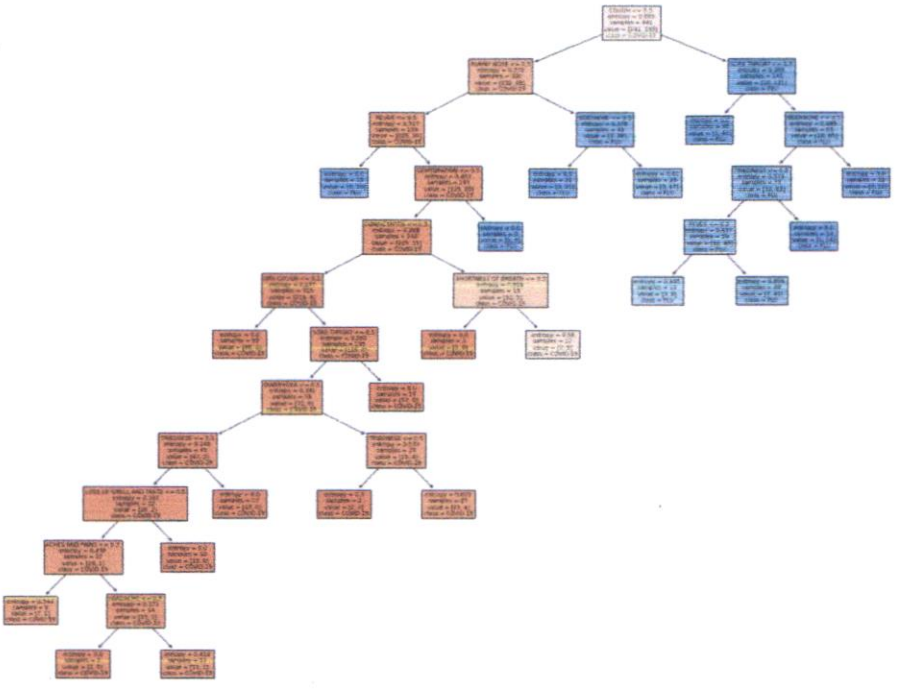


Figure 1: Decision Tree Classification

IJAS

	Real Values	Predicted Values
0	Moderate	Moderate
1	Moderate	Moderate
2	Moderate	Moderate
3	Moderate	Moderate
4	Mild	Mild
...	...	...
257	Mild	Mild
258	Severe	Severe
259	Mild	Mild
260	Mild	Mild
261	Mild	Mild

Figure 2: Real observations and identified observations

Figure 1 and 2 shows the decision classification trees and Real observations and identified observations form the different method. Table 1 describes the accuracy rate in contrast to a different method. It's impossible to determine the similarity between COVID-19 and influenza since the indications of COVID-19 are possible to specify. In the instance of data segmentation, researchers arrived at the following findings after completing the installation of the supplied machine learning techniques. To begin, the Decision tree model's efficiency is 0.994. It has an accuracy of 0.993, a recall of 0.993, and an f1-measure of 0.892. Secondly, the Naive Bayes classification algorithm has an efficiency of 0.894. Ultimately, the K Means analysis has an efficiency of 0.880.

5. CONCLUSION

According to the modeling levels of accuracy achieved for the data using machine learning algorithms, the decision tree algorithm produces the highest results (0.925), followed by the Regression model and KNN classifier, which are the weakest point. Whenever it comes to information segmentation, the feature selection and Naive Bayes are nearly identical, with the feature selection yielding the greatest results (0.934 accuracies), whereas the K Means method yields the most reliable data. As a result, researchers believe that this project on COVID-19 forecasting and severity distinction is complete and that it might have been utilized to save physicians time & expense when diagnosing the illness and determining which phase the individual.

6. REFERENCES

[1] Fairoza Amira Binti Hamzaha, Corona Tracker Community Research Group , COVID 19 site of WHO , 2020.
[2] Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China
[3] Joseph T Wu, Kathy Leung, Gabriel M Leung, Nowcasting and forecasting the

potential domestic and international spread of the nCoV-19 outbreak originating in Wuhan, China: a modelling study, 2020.

[4] Organization WH. WHO Statement Regarding Cluster of Pneumonia Cases in Wuhan, China; 2020. Available from: https://www.who.int/china/news/detail/09-01-2020-whostatement-regarding-cluster-of-pneumonia-cases-in-wuhan-china.

[5] Prabira Kumar Sethy, Detection of coronavirus Disease (COVID-19) based on Deep Features and Support Vector Machine, 2020

[6] S. Towers and Z. Feng, "Social contact patterns and control strategies for influenza in the elderly".

[7] The Johns Hopkins Center for Health Security. Daily updates on the emerging novel coronavirus from the Johns Hopkins Center for Health Security. February 9, 2020; 2020. Available from: https://hub.jhu.edu/2020/01/23/ coronavirus-outbreak-mapping-tool-649- em1-art1-dtd-health/

[8] Varsha Kachroo , Novel Coronavirus (COVID-19) in India: Current Scenario ,International Journal of Research and Review , vol 7;Issue: 3,March 2020.

Research Paper
Impact Factor: 6.462
Peer Reviewed & Indexed Journal
www.ijmsrr.com

IJMSRR
E- ISSN - 2349-6746
ISSN -2349-6738

WORKFORCE AGILITY AND INTENTIONAL CHANGE THEORY: AN EXPLORATION INTO THE NEED OF DEVELOPING AGILE TEACHERS

Mrs. P. Naga Usha Sree** **Dr.V.Tulasi Das****

**Research Scholar, Dept. of HRM, Acharya Nagarjuna University, Guntur, A.P., India.*

***Associate Professor & Chairman, BoS, Dept. of HRM, Acharya Nagarjuna University, Guntur-, A.P., India.*

Abstract

*Agility is no longer a technical word that accelerates flexibility and adaptability in manufacturing systems and algorithms; it can perk up human capital at individualistic level. The research on agility has opened a new dimension of embracing it as an ability of person that can be learned and developed. Agility fabricates Resilience, flexibility, speed, adjustability and pliable employees who can invite and handle change in a rational manner. Educational organizations around the world are in specific need of workforce who can practice collaboration, experimentation and differentiation simultaneously in all situations. These can be developed through building workforce agility. Teachers, soul of learning process, once empowered with agility can create agile learning environment for students. Higher educational institutions are in drastic need of crafting operational strategies for developing workforce agility. This study is an exploration of required literature for building a model of workforce agility for educational organizations. The role of self- organizing and its collaboration with different practices at workplace may reciprocate with agility. The purpose of the study is to study the role of individual as well as organization in developing agility in people. The main objective is to establish relationship between Workforce Agility **(WA)** and the Self Organizing practices of employees at work. The paper studies the linkages of the five stages of Intentional Change Theory **(ICT)** proposed by Richard Boyatzis with the traits of workforce Agility and how Intrinsic moderates this relationship. Intrinsic Motivation **(IM)** is defined as perceived power and interest of employees where as Extrinsic Motivation in this model are certain identified Organizational Practices **(OP)** that initiate Agility in employees. The paper proposes an integrated model where the role of organizational practices and role of ICT has impact on WA while intrinsic motives moderating its relationship. Discussing model of supplementing agility in teaching professionals and the role of self and organizational practices in the due course is the key intention of this paper.*

Keywords: Workforce Agility, Intentional Change Theory, Intrinsic Motivation, Teaching Professionals.

"Change is inevitable but growth is intentional - Glenda Cloud"

1. Introduction

Continuous learning and transformation are the two core processes that organizations adapted in the last two decades to face the ever changing demands of business world. . There is an abundant research that suggested some practical and sophisticated trends in every level of business, right from leadership to financial process; from strategic alliances to operational flexibility. One such remarkable contribution by the team of experts and learners is the principle of agility. Agile manufacturing systems and agile technologies have been buzz words in the world of business from the last decade. Companies quickly adapted this principle when rightly implemented assures operational flexibility and readiness of the set up to face any change and demand instantly. Computer integrated manufacturing **(CIM)** has changed the face of workplaces and improved their ability to strategically respond to improved technologies. Soon agility has become an enterprise based strategy because of its relevance to the contemporary business systems. Enterprise level implies that every segment and participant of it should be agile,

hence people are no exception. The ability of strategically responsive to uncertainties of people play more crucial role in achieving flexibility at work places **(Qin & Nembhard, 2010)**.

Agility when first defined by **Nagel and Preiss (1995)** as a comprehensive response to the challenges posed by a business environment dominated by change and uncertainty opened a new study area for academicians. As a result of deep learning, academicians like **Herzenberg et al(1998) ; Goldman et al(1995); Hopp and Oyen (2004)** differentiated organizational agility and workforce agility. Enterprise level agility is the capability of company to continue with operational profitability in spite of varied uncertainties created by environment and competitors and the combination of protective strategies from risk. Workforce agility i.e., individual to be agile means the ability of a person to perform in deep uncertainties and management of his/her knowledge and skills in response to the change. The authors defined agility as "dynamic, context –specific, aggressively change-embracing and growth –oriented. So for an organization to be agile, workforce must be agile. It is the people who impart that operational flexibility and technological advances. Hence workforce agility (WA) is a study of interest in contemporary business environment.

Many authors reported that inadequate research on the conceptualization and limitations of workforce agility at workplaces especially from people's perspective. The drivers and the determinants of WA were not clearly identified yet. When agility is considered as a strategy, the integrated role of people must be clearly identified. Integration of WA with objectives and goals of organization can become a competitive advantage **(Kidd, 1994).** Organizations are in dire need of empowered and enriched employees to address the never ending problems like absenteeism, lack of interest, change resistant, ill health, and pessimistic mindsets. Agility can address all these problems as it basically taught employees how to be responsive and creative at the same time. Under these circumstances it is very meaningful to conduct a profound research to address the questions like:

- ✓ How organizations can nurture their people to be agile?
- ✓ What are the specific practices of organization that facilitate work force agility?
- ✓ What is the role of self i.e., the role of individual to become agile?
- ✓ Can we propose a model that integrates role of organization and individual in nurturing agility; if so what might be outcome of such model?

Research questions has been the constant motives of this study while the article that really inspired the author is **"Transforming Faculty into Agile workforce" (Dove, Robert and Wills, Dina; 1995)** published in the year of 1995 have had a remarkable impact on the mind of the author. The work has helped the author to design a research approach and perspective towards the study. The work comes up with the dire need of agile educationists whose prime responsibility is to develop the future workforce and proposes a simple and practical solution of how to nurture agile workforce. Their paper deals with how the liaison of management and faculty and the way they develop trust in each other yields in agility. Teachers, soul of learning process, once empowered with agility can create agile learning environment for students. Higher educational institutions are in drastic need of crafting operational strategies for developing workforce agility. Agile faculty can set right vision for higher educational institutions. Agility contributes them to be creative, open to change and understanding technological advance. Agile learners are always lean towards research as they have to be always updated with the essential knowledge. The millennial teachers are assumed to be excellent at multiple tasks along with teaching.

IJMSRR
E- ISSN - 2349-6746
ISSN -2349-6738

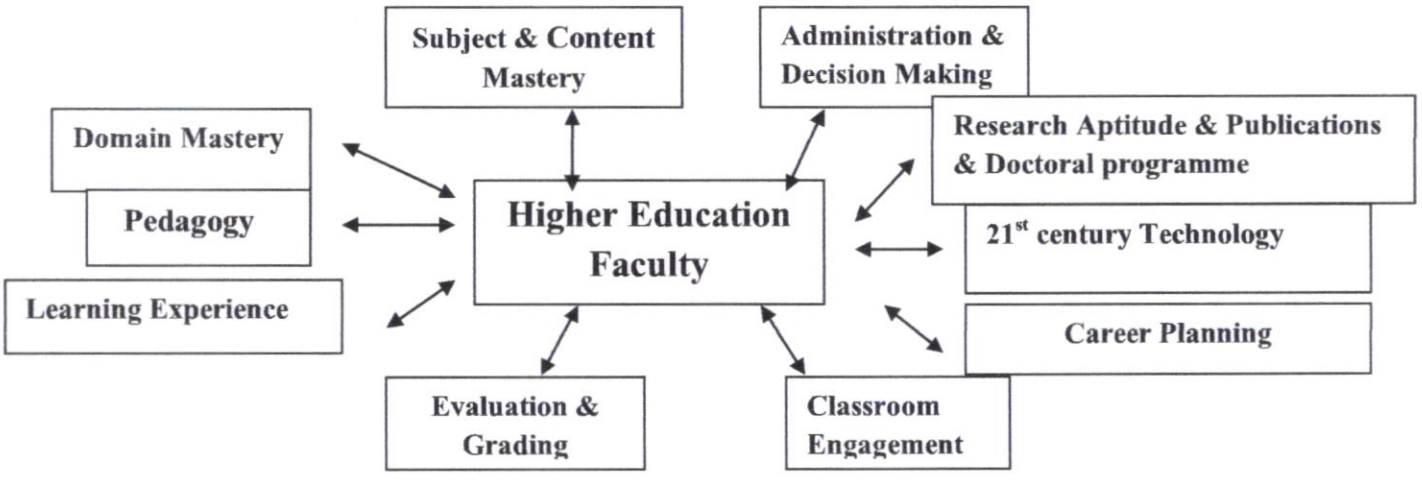


Figure 1: Multiple Tasks and Responsibilities of Higher Education Faculty.

When it comes to the progress of society it is the teacher who can impact more. Good teachers build good societies and world is in need of that. To perform all these duties a person must be abundant in terms of passion, participation and process knowledge. It is evident that they must assume certain attributes like adaptability, flexibility, creative and practitioners of empowerment. In one word it is feasible to say teachers are in the high requirement of agile mindset. Uncertainties are not optional in this profession they are inevitable. Teachers are in need of an approach that facilitates them to collaborate, experiment and differentiate simultaneously to retain the interest of organization and profession. Both organization and individuals have a role to play in developing workforce agility. Developing agility in workers requires an understanding and harmony between organizational practices, individual working styles and the technology **(Muduli, 2017)**. Hence the need of research on how teachers can collaborate, experiment and differentiate through agility is in dire need.

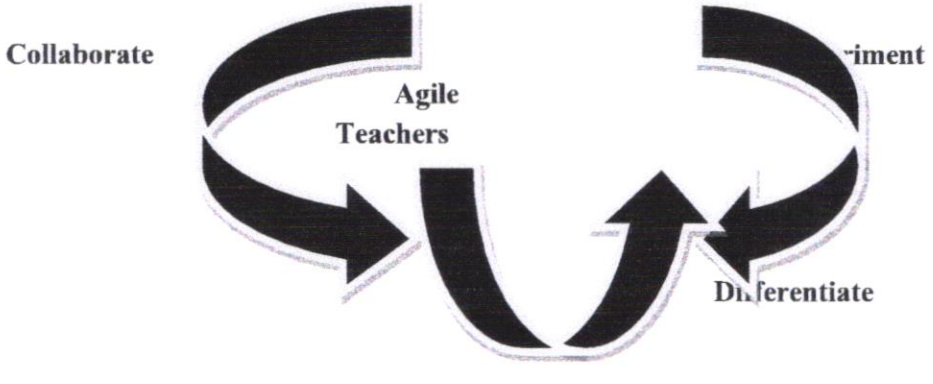


Figure 2: Expected outcome attributes of Agile Teachers

2. Workforce Agility

There is no single definition that describes workforce agility as a whole. To understand agility on has to consider all the conceptualizations by different authors and their perspectives. The basic definition of workforce agility defined as the "ability to properly respond to change in timely fashion to exploit the benefits of change" **(Kidd,**

1995). Later the technological perspective of agility has been explored a lot by researchers. The role of technology factor and agile manufacturing has been given a lot of importance than human factor **(Breu et al., 2002)**. Later a phenomenal study was identified on the role of human factor in agility. **Gunasekaran (1999)** emphasized the need to study the prominence of human factor in agility and also glorified the need of training workforce for flexibility. If workers were not trained o handle technology and dynamic environment the whole agility process will be unproductive.

There started the different approach to agility called agile workers. Experts started defining the important abilities, attributes and the mindset to be developed by workers to be agile. It has stated by a group pf expert that workforce agility is an important component of organizational agility. Individuals whose main characteristics are openness to change, positive attitude towards life, self- development, eager to learn new things, good problem solving skills creative and always accept and adapt change that comes in their way are called as agile workers **(Plonka,1997). Dyer and Shafer (2003)** defined agility as a mindset that assumes a set of behavior. They defined agile workforce are dominantly proactive, adaptive and generative. **Proactive** interms of utilizing every opportunity that increases the productivity of organization and always tend to initiating and improvising; **Adaptive** interms of accepting multiple roles and responsibilities and also learn all the required competencies to perform new task from time to time.; **Generative** interms of learning new competencies and also creating channels for sharing such information to motivate others. **Shereihy and Karwowski (2014)** added one more behavior to be agile workforce namely resilient. **Resilient** interms of possessing positive attitude towards new ideas, new technology, tolerance of uncertainty, tolerance to indifference and stress. The following table presents different studies on workforce agility and the characteristics that define agility in each study.

Author/s	Characteristics of Agile Workforce
Quinn, et. al., (1996)	✓ Cognitive knowledge or Know-what which is the basic mastery of a professional discipline ✓ Advanced skills or know-how defined as the ability to apply the rules of a discipline to complex real-world problems ✓ Systems understanding or Know-why which reflects deep knowledge of cause-and-effect relationships in complex organizations ✓ The ability to anticipate subtle interactions and unintended consequences ✓ Self- motivated creativity or care-why which consists of will, motivation ✓ desire to adapt aggressively to the changing external conditions and innovations that tend to obsolesce the other attributes
Plonka (1997)	✓ Deal with uncertainty and respond to unanticipated events, Manual dexterity and cognitive ability ✓ Attitudes towards learning and self-development; ✓ Problem-solving ability ✓ Being comfortable with change, new ideas, and new technologies; ✓ Having ability to generate innovative ideas ✓ Accepting new responsibilities ✓ Comprehensive knowledge of process technology in order to make a greater contribution to the design and improvement ✓ Interact more closely with suppliers and customer

	✓ Continuously learn from other teams both inside and outside the organization. ✓ Higher level of interaction between product and process professionals
Gunasekaran (1999)	✓ IT-skilled workers ✓ Knowledge in team working and negotiation ✓ Knowledge in advanced manufacturing strategies and technologies ✓ Empowered employees; self-directed teams ✓ Multifunctional and multi-lingual workforce
Dyer and Shafer(1998)	**Agile Behaviours** ✓ Take initiative to spot threats and opportunities in the marketplace ✓ reconfigure the organizational infrastructure to focus when and to where they are needed to deal with serious threats and opportunities, and learn (no waiting for permission or instructions to act) ✓ Rapidly redeploy whenever and to wherever resources there is priority work that needs doing; ✓ Spontaneously collaborate (even in virtual teams or organizations) to pool resources for quick results; ✓ Innovate (moving beyond old solutions unless they truly fit) ✓ learn (rapidly and continuously) **Agile Personal Competencies** ✓ Business-driven: ✓ visionary, ✓ future-oriented, ✓ big picture oriented, ✓ customer-focused, ✓ knowledgeable about the marketplace and the way the business operates, and results-oriented. ✓ Focused ✓ . Generative: ✓ comfortable with paradox ✓ resilient ✓ Values-driven
Sherehyl et al. (2007)	✓ Proactivity Anticipation of problems related to change. ✓ Solution of change-related problems. ✓ Personal initiative. ✓ Adaptivity ✓ Interpersonal and cultural adaptability. ✓ Spontaneous collaboration. ✓ Learning new tasks and responsibilities. ✓ Professional flexibility. ✓ Resiliency
Mccan & Selsky (2012)	✓ Being purposeful: Positive self-concept with a physically and psychologically healthy presence capable of sustaining them in highly ambiguous, stressful

	work situations. ✓ Being aware: Active learners with a curiosity about the larger world, open to change and able to make sense and act in ambiguous environments. ✓ Being action- oriented: Confident and competent in taking the initiative, acting or reacting as necessary to gain advantage, avoiding collisions, or minimizing setbacks. ✓ Being resourceful: Entrepreneurial in securing resources, talent, and support required to meet a goal despite the setback. ✓ Being networked: Positive, active relationships maintained within the immediate family, work group, and community to sustain a ✓ Sense of connectedness and meaning.
Muduli(2017)	✓ Adaptability ✓ Flexibility ✓ Development ✓ Collaboration ✓ Competence ✓ Speed ✓ informative

Source: **Farzaneh Azizsafei (2016)**

Teaching profession is one of the noble professions in the world. It is tough and equally responsible. Especially higher educational institutions **(HEI)** are in adept need to achieve business excellence through adapting same strategies as contemporary business especially in the regard of agility. The core objective of any educational institution is to achieve academic excellence and it is not possible without excellent and dedicated academicians. Good academicians must take that extra effort to develop aptitude in students to deal with uncertainties at work and life too. There are few teachers who offer that extra emotional and moral support to students in the times of challenge and dilemma. Teachers participate in all round development of students through creating good learning experiences, interpersonal interactions and collaborative learning practices. They also have to participate in the self directed learning process continuously to up skill themselves. When it comes to the all round progress of student as a potential human being, teaching profession is creatively boundless. As a whole teaching is the profession which needs to be agile. Based on the literature reviewed on the characteristics of workforce agility the following characteristics have been identified as the core characteristics required by HEI teachers to be agile.

Characteristics of Agile Teachers derived and compiled from the literature for the current study

1. **Adaptive:** Comfortable with themselves and others in any situation and ready for change and multiple roles and responsibilities. Good problem solving capabilities and emotional adjustment to different situations and requirements..
2. **Responsive:** Being intelligent to change and able to work under uncertainties. Ability to adjust objectives and act quickly.
3. **Empowered:** Complete utilization of new ideas and knowledge and display initiative in innovative practices.
4. **Collaborative:** Capabilities of functioning beyond boundaries in organization and proactive in performing with cross functional teams. Spontaneously join to pool resources for learning.

5. **Competent:** Cognitive knowledge of know-what and know-why and mastery over professional discipline including IT skills.
6. **Values Driven:** Good understanding of organizational core values and practicing them instinctively.
7. **Informative:** Ability to continuously learn new t education and technologies and creating channels to share the right information in order to inspire them for right results.
8. **Resilient:** Ability to perform under pressure, cope stress and the ability to modify them accordingly. Tolerance for uncertainty and stress.
9. **Differentiate:** Self motivation to adapt change and creative/unique approach to solve problems.
10. **Accountable:** Take responsibility for the actions performed and willing to reach the goals set by organization for positive results.

3. Intentional Change Theory

All the characteristics of workforce agility are behavioral. To build workforce into agile workforce it is clearly evident that one has to make changes in behaviour. Developing new behavioural traits need lot of constant self motivation that comes from within. Here comes the next important question how can a person create a long lasting change in behaviour? Intentional change theory (ICT) is the concept developed by **Richard Boyatzis (2006)** is also called as theory of self directed learning **(Boyatzis, 1999)**. ICT is a multilevel theory that describes change in teams, dyads, organizations and individuals. **ICT at individual level is defined as essential components and process required developing desirable and sustainable change in one's behavior, thoughts, feelings and perceptions.** The three main components of ICT are: Desired change, Sustainable Change, behavioral change. Desired change is the change in something that individual would like to occur; sustainable change is the change that last for long time, not temporary or soon forgotten; behavioral change is either learning something new or developing new perspectives of dealing with things.

Adults learn what they want to learn, other things even if acquired temporarily are soon forgotten – Specth and Sandlin, 1991.

The clear answer for sustainable positive change is it happens only when the person want. The theory explains how one can sense systematic change process that happens inside them by implementing the five common sense stages. These are also called as five discoveries of ICT.

- ✓ Ideal Self
- ✓ Real Self
- ✓ Learning Agenda
- ✓ Experiment
- ✓ Resonant Relationships

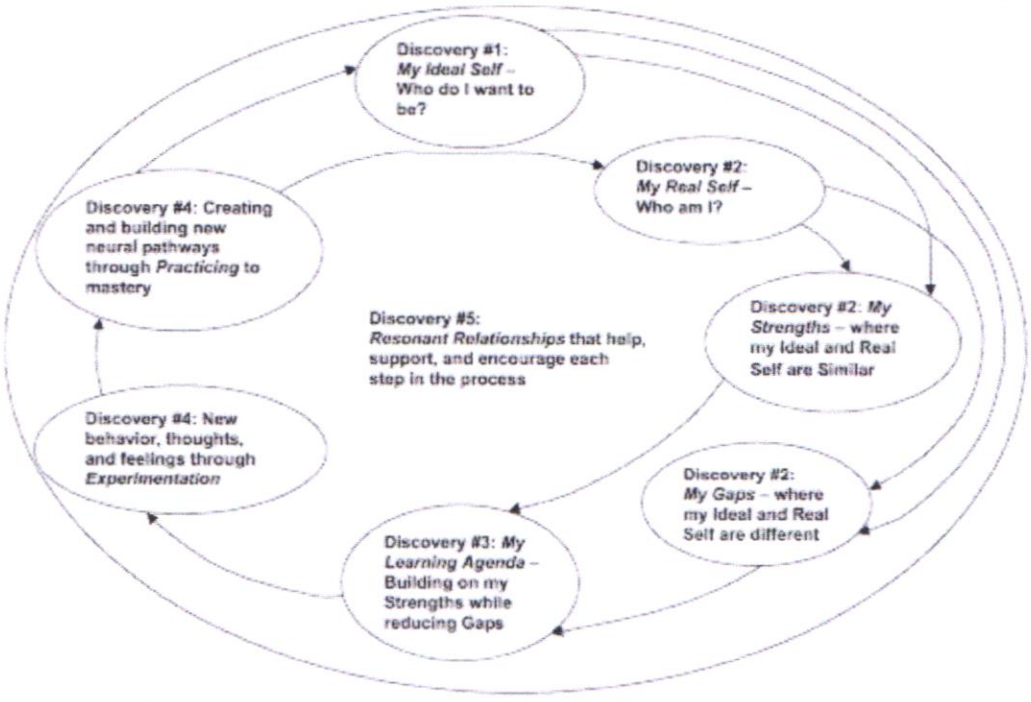


Figure 3: Graphical Presentation of Boyatzis ICT.

These discoveries also called as discontinuities. Discontinuity is the gap that arises in the change management process that makes the impact of change temporary. Those phases where individual disconnect themselves with the change process. So while dealing with change or adoption of new habit or behavior the discontinuities must be addressed in order to make a sustainable change. The following sequence of steps or the continuity in the following sequence ensures the successful implementation of a complete change cycle and a cycle contributes to develop a new behavior.

Ideal Self: A personal Vision

Ideal self is an image of who we want to be. It is the combination of three components **(Boyatzis & Akrivou, 2006).**

- ✓ An image of desired future
- ✓ Hope that one can attain
- ✓ Aspects of one's core identity like strengths

Boyatzis in his work stated that ideal self is the key to all progress of self. In other words identifying our passion, dream or aspiration is the first to change. Research stated that identifying ideals elf creates a deep down emotional commitment towards change. Identifying our strength tat what we are capable for, brings awareness of our core identity. All this process involves the consideration of all possibilities to engage individuals into the process of everlasting change.

Real Self: Self awareness of Reality

Real self is the awareness of individual of what we are. It is mainly

- ✓ What we value
- ✓ What we want to retain

It is the identification of current strengths and weaknesses. It is mainly admitting what we have and identifying the gap between reality and ideal. People often explore growth and development by filling these gaps through training.

Learning Agenda: Having a Mindfulness Plan

At this stage one has a personal vision of what to become and clear sense of reality; it is the time to compare both and design an action plan that helps them to develop all the required competencies or behavior or habit or perception. It comprises of

- ✓ Positive belief in one's capability
- ✓ Hope for improvement

It involves accumulating all the learning resources and plan the learning accordingly to reach the goal.

Experiment: A Metamorphosis

This is about implementing or practicing the plan we carved for our self. These are often made in the context of practicing new behaviour. During this process intentional change looks like continuous improvement. It comprises of

- ✓ Practicising the thoughts or behaviour.
- ✓ Planning the right setting to experiment in.
- ✓ Learning from the current experience.
- ✓ Trying something different in current setting.

Resonant Relationship: Getting Support

In this last and final stage towards intentional change one seek support from others lie peers and experts who can provide us with feedback of what we are becoming. It comprises of

- ✓ Identifying the right people or climate with whom we can interact about our change
- ✓ Maintaining resonant relationship with them
- ✓ Considering feedback from them

What is essential is not feedback but our relationship with them. These relationships are essential because they give us a sense of identity and guide us to what is appropriate.

The five discoveries of ICT when adopted by individuals to develop a sustainable new behaviour or competency will have a long lasting impact. The identification of right discontinuity in the change process is also very critical. This theory is so effective when it comes to developing new behaviors. In this context, where the study is intended to identify **the role of self in developing workforce agility, it is appropriate to adopt the five discoveries of ICT and practice & evaluate them from time to time.** All the agile behaviours can provide an image of ideal self for teachers and adapting all the other four discoveries may help them to become agile. It is clearly stated in the literature that ICT is not only participating in training for change but also practicing visionary behaviours by individuals themselves.. There is a mechanism that helps individuals travel from one discovery to other discovery. There are certain positive emotional attractors and negative emotional attractors. Positive contributes to continuity in cycle whereas negative to discontinuity. So basically discontinuity is the major obstacle in the adoption of ICT. The choice of positive and negative by people depends upon the level of intrinsic motivation **(Boyatzis & Goleman, 2006). It is clearly evident from the theory that individual's hope, curiosity, enthusiasm and readiness for change are the antecedents for ICT. Hence intrinsic motivation augments or moderates continuity in this process of change.**

4. Intrinsic Motivation

The motivation that push individuals to explore, manipulate or probe their environment, fostering curiosity and engagement in playful or new activities is called as intrinsic motivation according to the psychology. In specific intrinsic motivation is defined as doing an activity for inherent satisfaction rather a separable outcome **(Ryan & Deci, 2006). In the self determination theory developed by Edward Deci and Richard Ryan (1975) states that humans have three innate needs: need for competence, relatedness and autonomy.** Intrinsic motivation does support these needs. Every behaviour of a person is motivated by a reward interims of food, money or satisfaction (**Skinner, 1953**). For intrinsic motivation the reward is innate other than extrinsic which is generated to get a separable outcome. Intrinsic motivation considers a sense of meaning, purpose , appreciation, getting concerned and the activity itself. Most of times persons enjoy the activity or the process and treat itself as reward. Such kind of actions is intrinsically motivated. To experience change in behaviour or to develop new behaviour intrinsic motivation is very much necessary.

With intrinsic motivation people get rewards like

- ✓ **Sense of Meaningfulness**: A person feels that he/she is doing something meaningful that is increasing one's personal value.
- ✓ **Sense of Choice**: person feels freedom to choose the way or style to accomplish a certain task and feel a sense of ownership and responsibility and hence continues to do.
- ✓ **Sense of Competence**: a person feels that the ability with which he is conducting the activity is meeting his personal standards and hence continue to improve the quality.
- ✓ **Sense of Progress**: a person feels encouragement to continue with the efforts as they sense themselves approaching their goals.

For a process like ICT which main drawback is discontinuity in discoveries, can intrinsic motivation be a mediator? Teachers who are motivated innately can perceive the above mentioned rewards like meaningfulness, choice, competence and progress. The study is focused to understand deeply whether these perceived rewards addresses the discontinuities in ICT stages.

5. Organizational Practices

There is very less research done on how organizational practices can be conducive to workforce agility **(Sherehiy &Karwowski, 2014).** Organizational culture and climate has a definite impact on the performance of every employee. When we observe this from micro perspective organization and its values can be an extrinsic motivation for the employees to execute agility. It is clearly evident from the research that organizational agility cannot be achieved without agile workforce. After an extensive literature review certain organizational practices like Organizational learning ; organizational training; Employee Involvement; Information Sharing; Team Work have been identified that can impact workforce agility (**Muduli, 2017**).

In addition to this **Sumukadas & Sahney (2004)** identified Employee Involvement and Improve Incentives as strong prescriptions for workforce agility. According to **Beatty (2005, p. 3**), an agile environment is one "where skills are valued over jobs, where cross-sector collaboration is encouraged, where not all functions and processes need to be 'owned,' and where data becomes business intelligence that can drive decision making." Key HR programs, such as selection, induction, training, performance management, promotion, and rewards and recognition, also have an effect (**Shafer, Dyer, Kilty, Amos, & Ericksen, 2001**), and researchers have examined the extent to which supportive HR practices, such as performance appraisal and job enrichment influence

employee flexibility **(Martin & Roca-Puig, 2013).** The following organizational practices of educational organizations have been considered for the current study

- ✓ **Shared Vision:** The practice of communicating values and goals that guides the strategies and operating principles of organization.
- ✓ **Organizational learning &Training**: the practice encouraging employees to be open and innovative to new ideas and thereby creating operational flexibility through the application of new skills. The practices of commitment to learning new methods that help cope with change.
- ✓ **Employee Involvement:** The practice f involving employee in key operations through job enrichment, job enlargement and self directed teams.
- ✓ **Information Sharing**: The practice of providing access to right information at right point of time in order to ensure business intelligence and informed decisions.
- ✓ **Team work**: the practice of imparting operational flexibility through vertical and cross functional team collaborations.
- ✓ **Industry Collaboration:** The practice of collaborative learning of new technologies, ideas and operational leadership from other components of industry in order to facilitate competitive advantage.

6. Linkage between Organizational Practices, Intentional Change Theory and Workforce Agility in Educational Organizations.

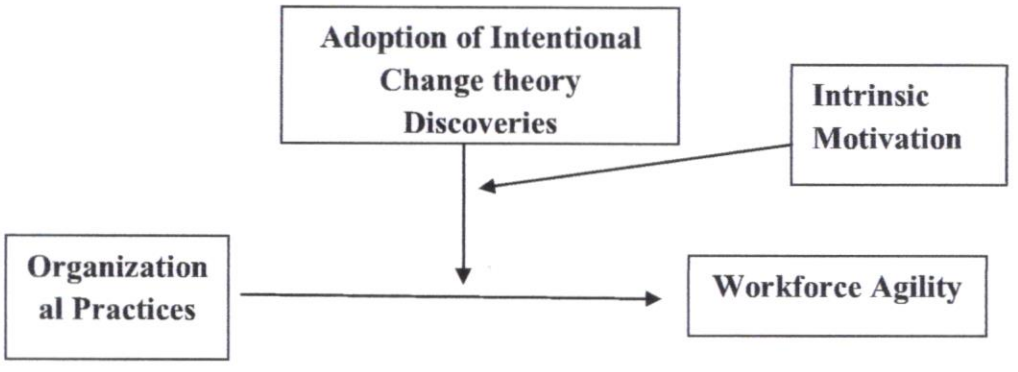
World is in need of agile teachers who can teach and transform the student community into agile personalities. Current students are future workforce. So nurturing them with agility is compulsory. As a beginning of this process teaches must become agile. Teaching professionals with enhanced competencies create a learning environment for self –development, actively engage students in team learning, collaborative learning, emphasize the importance of industry interaction and above all taught them to be agile. So the basic gap identified in the research is to develop a model that addresses the role of organization in developing agile teachers. The role of individuals in cultivating agile mindset and behaviour. The role of moderators that supplement value t this whole process. So the following propositions have been proposed by the author for further investigation.

Proposition-1: Organizational practices are positively related to Workforce Agility
Proposition 2: The adoption of ICT discoveries is positively related to Workforce Agility.
Proposition 3: Intrinsic Motivation moderates the association of adoption of ICT discoveries and Workforce Agility.
Proposition 4: The adoption ICT discoveries moderate the association of Organizational Practices and Workforce Agility.
Proposition 5: The role of organization and individual in promoting agility can be integrated as a model for creating agile teachers.

23. Sherehiy, B. (2008). Relationships between agility strategy, work organization and workforce agility. Lexington, KY: ProQuest.
24. Sherehiy, B., & Karwowski, W. (2014). The relationship between work organization and workforce agility in small manufacturing enterprises. International Journal of Industrial Ergonomics, 44(3), 466–473.
25. Sherehiy, B., Waldemar, K. & Layer, J. K. (2007). A review of enterprise agility: Concepts, frameworks, and attributes. Department of Industrial Engineering, Center for Industrial Ergonomics, Louisville, KY: University of Louisville.
26. Sjoberg, L., Olsson, G., & Salay, F. (1983). Cathectic orientation, goal setting and mood. Journal of Personality Assessment, 47(3), 307–313.
27. Spreitzer, G. M. (1995). Social structural characteristics of psychological empowerment. Academy of Management Journal, 39(2), 483–504.
28. Sumukadas, N., & Sawhney, R. (2004). Workforce agility through employee involvement. IIE Transactions, 36(10), 1011–1021
29. Thomas, K. W. & Velthouse, B. A. (1990). Cognitive elements of empowerment. Academy of Management Review, 15(4), 666–81. 56 MUDULI Upton, D. M. (1995). What really makes factories flexible? Harvard Business Review, July-August, 74–84.
30. Van Oyen, M. P., Gel, E. G. S., & Hopp, W. J. (2001). Performance opportunity for workforce agility in collaborative and noncollaborative work system, IIE Transactions, 33(9), 761–777

2. Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological Review, 84(2), 191–215. Beatty, R. (2005). Workforce agility: The new frontier for competitive advantage. New York: Price Waterhouse Coopers, LLP.
3. Bell, N. E., & Staw, B. M. (1989). People as sculptors versus sculpture. In M. B. Arthur, D. T. Hall, & B. S. Lawrence (Eds.), Handbook of career theory (pp. 232–251).
4. Breu, K., Hemingway, C. J., & Bridger, D. M. S. (2002). Workforce agility: The new employee strategy for the knowledge economy. Journal of Information Technology, 17(1), 21–31.
5. Chonko, B. L., & Jones, E. (2005). The need for speed: Agility selling. Journal of Personal Selling and Sales Management, 25(4), 371–382.
6. Dove, Robert and Wills, Dina, "Transforming Faculty into an Agile Workforce" (1996). To Improve the Academy. 355. https://digitalcommons.unl.edu/podimproveacad/355
7. Dyer, L. & Shafer, R. (2003). Dynamic organizations: Achieving market place and organizational agility with people. In: R. S. Peterson & E. A. Mannix (Eds.), Leading and managing people in the dynamic organization. Mahwah, NJ: Laurence Erlbaum Associates.
8. Gunasekaran, A. (1998). Agile manufacturing: Enablers and an implementation framework. International Journal of Production Research, 36(5), 1223–1247.
9. Gunasekaran, A. (1999). Agile manufacturing: A framework for research and development. International Journal of Production Economics. 62(1), 87–105.
10. Gunasekaran, A. (2001). Agile manufacturing: The 21st century competitive strategy. Amsterdam: Elsevier.
11. Hopp, W. J., & Van Oyen, M. P. (2003). Agile workforce evaluation: A framework for cross training and coordination. Working paper. Evans, IL: IEMS Department of Northeastern University.
12. Herzenberg, S.A., Alic, J.A. and Wial, H. (1998), New Rules for a New Economy: Employment Opportunity in Post-industrial America, Ithaca and London: ILR Press.
13. Hopp, W. J. and Van Oyen, M. P. (2004). Agile workforce evaluation: a framework for cross-training and coordination. IIE Transactions, 36, 919-940.
14. Kidd, P. T. (1994). Agile Manufacturing: Forging New Frontiers, 1994. England: Addition-Wesley.
15. Muduli, A. (2008). Exploring the determinants of empowerment climate in Indian industry. Management and Labour Studies, 33(3), 354–372.
16. Muduli, A. (2009). Understanding the critical attributes of workforce agility and exploring its determinants: An empirical study. Manpower Journal, XLIV(3), 25–48.
17. Muduli, A. (2013). Workforce agility: A review of literature. The IUP Journal of Management Research, 12(3), 55–65.
18. Muduli, A. (2015). High performance work system, HRD climate and organizational performance: An empirical study. European Journal of Training and Development, 39(3). 239–257
19. Qin, R. and Nembhard, D.A. (2010), Workforce Agility for Stochastically Diffused Conditions-A Real Options Perspective, International Journal of Production Economics,125, pp.324-334.
20. - Paul, Moitreye; Jena, Lalatendu & Sahoo, Kalpana (2020) , Workplace Spirituality and Workforce Agility: A Psychological Exploration Among Teaching Professionals; Journal of Religion and Health
21. Plonka, F. S. (1997). Developing a lean and agile work force. Human Factors and Ergonomics in Manufacturing, 7(1), 11–20.
22. Shafer, R. A., Dyer, L., Kilty, J., Amos, J., & Ericksen, J. (2001). Crafting a human resource strategy to foster organizational agility: A case study. Human Resource Management, 40(3), 197–211.

Figure 4: Conceptual Framework (Proposed by Authors)



7. Future Implications for teaching Professionals

In view of the current proposed study the following implications for teaching professionals are expected as outcomes.

- ✓ A holistic model that can be readily adopted and practiced for the transformation of faculty into agile faculty.
- ✓ The need of developing closer partnership between management and teachers in organization.
- ✓ The drastic need of up-skilling in teaching profession.
- ✓ The need of inclusion of Intentional Change Theory even in the curriculum of students as it also helps them to become agile.
- ✓ The importance of perceiving intrinsic motivation rewards.
- ✓ The liaison with specific organizational practices that promote agility.

8. Conclusion

In this volatile business environment human capital and potential are always an insistence. The supply of right potential is obviously from the higher educational institutions. So the idea of developing flexible and dynamic environment where learning is the key is feasible. This is possible if these learning environments are created and supervised by agile teachers. Agile teachers who are upbeat, adjustable, adventurous and pliant can train students also to be agile. Teachers who perceive life in a positive manner can create a larger impact on student community. Teachers' performance will improve gradually when they develop and practice agile characteristics such as adaptability, value driven and creative. Organization and individuals together as a family can create synergistic results through agility. This synergy is possible when teachers practice desirable changes as their ideal self. The realization of self is the key to all progress. This can be practiced through intentional change theory. Teachers who perceive intrinsic motivation and treat their teaching journey as real reward are like wealth to organizations. With agility they can design and improve their pedagogies and execute differentiation, collaboration and experimentation. Thus certain organizational practices help to build workforce agility at workplaces through the adoption of intentional change theory.

References

1. Alavi, S., Wahab, D. A., Muhamad, N., & Behrooz, A. S. (2014). Organic structure and organizational learning as the main antecedents of workforce agility. International Journal of Production Research, 52(21), 6273–6295.

Research Paper
Impact Factor: 6.304
Peer Reviewed & Indexed Journal
www.iibarr.com

IJBARR
E- ISSN -2347-856X
ISSN -2348-0653

INFLUENCE OF ORGANISATIONAL CITIZENSHIP BEHAVIOUR FACTORS ON JOB SATISFACTION AMONG ENGINEERING COLLEGE TEACHERS IN ANDHRA PRADESH

B.Nayeema* Dr.V.Tulasi Das*

**Ph.D. Scholar, Dept. of HRM, Acharya Nagarjuna University, Guntur-522 510, A.P.*
***Associate Professor, Dept. of HRM, Acharya Nagarjuna University, Guntur-522 510, A.P.*

Abstract

In the current scenario, the emergence of many private universities increases the demand for the engineering faculty members and so it's difficult for the management to retain the talented pool. The teaching and learning process will be more effective in an institution where the faculty members are contented with their job. Job satisfaction is the major tool which makes employees contented with their job. University professors are differ in so many ways from other employees, including highly educated professional employees, so there is dailama among research community that university faculty job satisfaction factors are same as other employee job satisfaction. Therefore, the present research focuses on to understand which organisational citizenship behaviour factors are significantly contributing for job satisfaction among Public Sector University Engineering College

Key Words: Job Satisfaction, Organisational Citizenship Behaviour, Talent, Teaching and Learning Process.

Introduction

Organizational citizenship behavior is a extensively discussed concept in the field of organizational behavior and in recent years researchers have paid more attention to these mutual employee behaviors. Organizational Citizenship Behavior (OCB) is a discretionary code of behavioral attributes that goes beyond the basic requirement of the job. In today's competitive global and competitive business world, OCB has happened to a point of importance. Positive OCB has been found to have a significant impact on employee performance. The motivation for choosing OCB as the research ground is its positive relationships with employee performance. By measuring OCB, management can pave the way to increase employee performance.

Organizational citizenship behaviors emerged by multiple factors such as loyalty, helping others, respect, benefits, etc. If an employee possesses OCB he or she will be ready to contribute their efforts and skills to organizations even if it is not officially requested by them. Organizational citizenship behavior is defined as "an individual behavior that is discretionary, not directly or explicitly recognized by the awarded formal system, and which overall promotes the effective functioning of the organization" (Organ, 1990).

The organizational behavior of citizenship supports to optimise the organizational performance of businesses. OCB's plays the role of prime factor in achieving productivity and performance in any business concern. OCB is necessary for the growth, success, effectiveness and productivity of any businessorganization. In Bangladesh. OCB provides superior business performance as follows:

1. Increase collaboration or management performance.
2. Understand human resources knowledge and skills (HR Audit) so that underutilized and unutilized skills and knowledge can be used in more productive domines.
3. Coordinate activities within and between working groups
4. Building Organisational Brand Image so that skilled employees can be attracted and retained.
5. Adopting best Change Management Practices to stability the organization from future environmental changes.

Batman and Organ (1983) for the first time presented the idea of citizenship's organizational behavior. Organ (1988) defined OCB as "Individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and which overall promotes the effective functioning of the organization" More attention should be paid to the direction to increase the OCB because the success of the organization and the perception of customers to provide good quality services are significantly correlated with OCB. (Torlak & Koc, 2007).

According to Organ (1988) in OCB an individual's behavior is discretionary. This behavior is not recognized directly or explicitly by the formal reward system and, in general, promotes the effective functioning of the organization. Katz (1964) paid attention to the concept of employee extra-role behavior. Katz noted that employees are willing to contribute to the extra efforts to achieve organizational results. A distinctive feature is that supervisors cannot request or force their subordinates to perform OCBs. Likewise, employees do not expect or cannot expect any form of formal reward for these discretionary behaviors. However, as Organ (1997) observed, supervisors regularly take into account and reward the OCB exhibited by subordinates both directly and indirectly (eg preferential treatment, performance evaluation, promotions, etc.).

One more essential statement, especially in Organ's (1988) foundation work on OCB, is that these behaviors are often motivated internally, deriving from within and supported by an individual's intrinsic need for a sense of accomplishment, competence, membership or affiliation.

Van Dyneet al (1998) proposed the broader construct of "extra-role behavior" (ERB), defined as "behavior for the benefit of the organization and / or intended for the benefit of the organization, which is discretionary and which goes beyond the existing role expectations. " OCB generally refers to behaviors that have a positive impact on the organization or its members (Poncheri, 2006). OCB can be defined as defender of the organization when peers are criticized or urged to invest in the organization (Turnipseed &Rassuli, 2005). The researchers define the OCB in contexts and not very different contexts, moreover there is a lot of coherence in their ways of interpreting the OCB. Jacqueline et al. (2004) indicates that OCB is extra-role behavior, that is, any behavior not officially required by the organization; rather its practice depends solely on the employee's consent as a consequence of the organizational environment. OCB affects the effectiveness of the organization.

The OCB is having a meticulous influence on the overall productivity of organizations by accumulating different dimensions to the social framework of the workplace environment (Todd, 2003). In some cases, the organizational citizenship behaviour is defined as a set of voluntary behaviors (which are not part of employee's job description), which intern lead to a successful enhancement of the roles and responsibilities of the organization (Appelbaum, 2004). Organizational citizenship behavior is observed as an employee's voluntary behavior that leads to the development of the effectiveness and efficiency of the organization's operation (to which it is not officially recorded and rewarded by the organization's established system) (Hall, 2005). Employees' who appreciate this function show behaviors beyond their official roles, duties and details of the job. The main aim for this type of behavior is not earning any organizational reward, but they use all their efforts for the improvement and development of the organization (Taghavi, 2011).

Literature indicates that those employees who act beyond their duties and responsibilities and exhibit organizational citizenship behaviors enjoy superior productivity and quality in their organization and team (Podsakoff, 1997). What is evident is that organisational citizenship behavior cannot be strengthened.

Job Satisfaction and Organisational Citizenship Behaviour

The dominant variable that influences the behavior of organizational citizenship is professional satisfaction (RE Suryani et., Al. 2019). There is a direct relationship or a strong positive correlation between organizational citizenship and professional satisfaction (AH. Shalaby, 2015). Professional satisfaction mediated the relationship between organizational culture and organizational citizenship behavior (Badawy, 2017). The critical roles of job satisfaction components have positive and significant effects on organizational citizenship and Vice Versa (AH. Shalaby, 2015). The employee satisfied with engaging in the OCB (Fassina et al., 2008). When employees are more satisfied, it creates a positive character and ultimately leads to socially accepted behavior (Todo, 2003). Positive organizational behavior is a predictor of professional satisfaction and organizational citizenship behavior (Z Pouramini, M Fayyazi, 2015). There were no significant effects on gender, age, years of experience and education levels on OCB and job satisfaction (Badawy, 2017).

Review of Literature

Azza H. Shalaby (2015), In their article entitled "The Effect of Control Variables of Job Satisfaction and Organizational Citizenship on the Performance of External Auditor (Field Study in Saudi Arabia)" published in *International Journal of Finance and Accounting* found that "there is a Relationship between job satisfaction and job performance would be positive if the organization provides constructiveprospects such as lifelong learning, path to grow and reachpre-designed career path. There is a strong correlation between Organizational Citizenship and job performance based on these variables, recognition and rewards, working conditions, relationship with supervisor teamwork. Job satisfaction and Organizational Citizenship have a positive impact on the job performance of the external auditor on the basis of these values' honesty, trust, respect for others etc".

Rahayu Endang Suryani, et.al., (2019), In their article entitled "Job Satisfaction and Citizenship Behaviour of Employees of Private Universities in the Central Jakarta Region" published in *International Review of Management and Marketing* identified that "There is a significant effect of organizational commitment and work-life balance on Job Satisfaction in accredited University employees in the Central Jakarta region and the dominant variable influential is an organizational commitment (Affective commitment). The dominant variable influencing on the behaviour of organizational citizenship is job satisfaction with the dimensions of working conditions that support".

Tarek A. El Badawy, et. al., (2016), in their article entitled "Exploring the Relationship between Organizational Culture, Job Satisfaction and Organizational Citizenship Behaviour" published *International Journal of Human Resource Studies* showed that "job satisfaction had a significant positive correlation with the overall organizational citizenship behaviour. However, the disaggregation reflected that only altruism, sportsmanship, and civic virtue had significant correlations. Finally, the results showed that job satisfaction mediated the relationship between organizational culture and organizational citizenship behaviour. However, the mediation effect was minor as evident by the small decrease in the B coefficient".

Tarek A. El Badawy, et.al., (2017), in their article entitled "The Demographics' Effects on Organizational Culture, Organizational Citizenship Behaviour and Job Satisfaction: Evidence from Egypt and Mexico" published in *Business and Management Research* suggested that "Managers should be aware of the importance of a strong consistent culture that is easily identifiable. Human resource practitioners inside organizations should search for areas of deficiency in their employee cultural orientations. Managers should also be interested in eliciting advice from their employees (across different age ranges and managerial levels) on what makes them motivated and satisfied and what obstacles are hindering them from performing well. In addition, contextual performance should be monitored and awarded in the right moment to encourage employees to engage in citizenship behaviours that serve the organization".

Zahra Pouramini & Marjan Fayyazi (2015), in their article entitled "The Relationship between Positive Organizational Behaviour with Job Satisfaction, Organizational Citizenship Behaviour, and Employee Engagement" published in *International Business Research*this study adds to the understanding of key-role positive organizational behaviour in organization and work-related performance. It implies that, POB is a significant forecaster of JobSatisfaction and when Positive Organisational Behaviour is high then the relationship also found to be stronger. Likewise, there are positive relationships among POB, OCB and employee engagement and such relationships found to be stronger when the POB was high. Therefore, POB plays a significant role in the organization and it is a strategic tool for gaining competitive advantage.

Research Gap

Very less literature is available OCB impact on job satisfaction and in the education sector the literature available is very nominal. In this context this article focuses on OCB impact on Job Satisfaction among Public Sector University Engineering Teachers.

Objectives

- To examine influence of Organisational Citizenship Behaviour factors on Job Satisfaction of the select Public Sector University Engineering College Teachers.
- To put forth certain suggestions based on the findings.

Sample and data collection

A quantitative approach was followed in this exploratory study. The participants selected for this study consisted of engineering college teachers working in Andhra University, Sri Venkateshwara University, JNTU Kakinada, JNTU Anantapur. 180 questionnaires were distributed in the study area. Purposive sampling technique was deployed in sample selection. The respondents were solicited to complete the Organisational Citizenship Behaviour Questionnaire. The resultant response rate of useable questionnaires was 83.3% (150).

Data Analysis and Interpretation:

KMO (Kaiser-Meyer-Olkin) and Bartlett's test

Kaiser-Meyer-Olkin (KMO) test is a measure to check how best suites present data for Factor Analysis. This test measures sampling adequacy for each variable in the model and for the complete model as well. The statistic is a measure of proportion of variance among variance. The lower the proportion, the more suited the data is for Factor Analysis. Following Table- 1 shows the results of the KMO and Bartlett's test.

Table- 1: KMO and Bartlett's Test Relating to Organisational Citizenship Behaviour among Public Sector University Engineering College Teachers

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.911
Bartlett's Test of Sphericity	Approx. Chi-Square	6274.558
	df	190
	Sig.	.000

(Source: Primary Data/ Structured Questionnaire)

The above Table- 1 reveals that KMO value i.e., .911 is neither nearer to zero nor close to one. So, the range is found to be good. Bartlett's test for Sphericity compares correlation matrix (a matrix of Pearson correlation) to the identity matrix. In other words, it checks if there is a redundancy between variables that can be summarized with some factors. Therefore, this test should be momentous (i.e., have a significant value less than 0.05). A significant value from chi-square test shows that for the present data R-matrix is not an identity matrix. Here Bartlett's test for Sphericity is highly significant ($p<0.001$), therefore it is concluded that the factor analysis is appropriate.

Communalities

Initial communalities estimate the differences among each factor accounted for, from all the variables. Extraction communalities values are estimates of the differences in each factor accounted for the variables in the factor solution. Below Table- 2 shows the particulars of communalities of Organisational Citizenship Behaviour among Public Sector University Engineering College Teachers.

Table- 2: Communalities- Organisational Citizenship Behaviour among Public Sector University Engineering College Teachers

Communalities		
	Initial	Extraction
I am willing to assist new colleagues to adjust to the work environment	1.000	.859
I am willing to stand up to protect the reputation of the institution.	1.000	.772
I am willing to help colleagues solve work related problems	1.000	.914
I often arrive early and start to work immediately	1.000	.907

I am eager to tell outsiders good news about the institution	1.000	.894
I am willing to coordinate and communicate with colleagues	1.000	.821
I actively attend institution meetings	1.000	.778
I take one's job seriously and rarely make mistakes	1.000	.950
I make constructive suggestions that can improve the operations of the institution	1.000	.947
I am willing to cover work assignment for colleagues when needed	1.000	.877
I comply with the institution rules and procedures even when nobody watches and no evidence can be traced	1.000	.711
I avoid consuming a lot a time complaining about trivial matters	1.000	.935
I do not mind taking on new challenging assignments	1.000	.935
I avoid taking actions that hurt others	1.000	.922
I avoid hurting other people's right to common / shared resources	1.000	.918
I perform only required tasks	1.000	.874
I do not initiate actions before consulting with others that might be affected	1.000	.902
I try to avoid creating problems for colleagues	1.000	.900
I try hard to self – study to increase the quality of work outputs	1.000	.933
I avoid focussing on what's wrong with his or her situation	1.000	.943
Extraction Method: Principal Component Analysis.		

(Source: Primary Data/ Structured Questionnaire)

The above table-2 gives the communalities of initial and extraction. Principal component analysis deals with the initial hypothesis that all factors are common; so, in the table, values for the initial communalities are 1 for all the factors. The value in the column titled extraction shows the common differences in the data structure. For, I take one's job seriously and rarely make mistakes 95.0 percent of variance observed is common difference. There is second dimension for observing these communalities is in terms of the ratio of difference explained by the underlying variables.

To understand about the exact level of difference among factors is initially assumed as all communalities are "1". But after the analysis the differentiated values for each variable are found. assist new colleagues has 85.9 per cent, stand up to protect the reputation of the institution has 77.2 per cent, help colleagues solve work related problems has 91.4 per cent, arrive early and start to work immediately has 90.7 per cent, eager to tell outsiders good news about the institution has 89.4 per cent, coordinate and communicate with colleagues has 82.1 per cent, actively attend institution meetings has 77.8 per cent, make constructive suggestions has 94.7 per cent, cover work assignment for colleagues has 87.7 per cent, comply with the institution rules has 71.1 per cent, avoid consuming a lot a time in complaining has 93.5 per cent, taking on new challenging assignments has 93.5 per cent, avoid taking actions that hurt others has 92.2 per cent, avoid hurting other people has 91.8 per cent, perform only required tasks has 87.4 per cent, do not initiate actions before consulting with others has 90.2 per cent, avoid creating problems for colleagues has 90.0 per cent, try hard to self – study to increase the quality of work outputs has 93.3 per cent, and avoid focussing on what's wrong with his or her situation has 94.3 per cent. Above variables shows the variance in structure. It is shown in Total variance Explained table which is following.

PRINCIPAL
Avanthi Institute of Engg. & Tech.
Gunthapally (V), Abdullapurmet (Mdl), R.R. Dist.

Research Paper
Impact Factor: 6.304
Peer Reviewed & Indexed Journal
www.ijbarr.com

IJBARR
E- ISSN -2347-856X
ISSN -2348-0653

Table- 3: Total Variance Explained- Organisational Citizenship Behaviour among Public Sector University Engineering College Teachers

Total Variance Explained							
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	15.121	75.604	75.604	15.121	75.604	75.604	12.683
2	1.561	7.804	83.407	1.561	7.804	83.407	13.227
3	1.010	5.052	88.459	1.010	5.052	88.459	11.874
4	.511	2.554	91.013				
5	.410	2.048	93.061				
6	.284	1.420	94.481				
7	.246	1.231	95.712				
8	.176	.880	96.592				
9	.136	.681	97.273				
10	.111	.554	97.827				
11	.094	.472	98.299				
12	.085	.426	98.726				
13	.077	.385	99.111				
14	.064	.318	99.429				
15	.046	.228	99.657				
16	.029	.147	99.804				
17	.017	.083	99.887				
18	.015	.073	99.959				
19	.008	.038	99.997				
20	.001	.003	100.000				
Extraction Method: Principal Component Analysis.							
a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.							

(Source: Primary Data/ Structured Questionnaire)

The above Table- 3 shows that Eigen values related with each factor displays the differences explained by that particular linear factor. This table also shows the Eigen values in terms of percentage of difference explain. So, factor 1 explains 75.604, factor 2 explains 7.804 per cent factor 3 explains 5.502 per cent of total variance; it should be clear that these three factors explain relatively large amount of variance of 88.459. Finally, it is concluded that the initial three variables explain relatively major part of difference whereas subsequent variables explain only small part of difference. There are three variables among all with Eigen value greater than 1. The Eigen values related with these variables are again shown and the percentages of difference explained in the columns are labelled extraction sums of squared loadings.

Form the above table-3 it is identified that only first three factors in Organisational Citizenship Behaviour among Public Sector University Engineering College Teachers are highly impacting aspect and the residual were of not that much. Because it only exceeds Eigen value more than 1.

Scope for Further Study

In future researchers can consider a greater number of faculty as well as institutions for the study to get better picture of the relation. Researcher can identify mediators of OCB and Job satisfaction so that changes in Job satisfaction can be seen with magnifying glasses.

References

1. Appelbaum, S., Bartolomucci, N., Beaumier, E., Boulanger, J., Carrigan, R., Dore, I., Girard, C., and Serroni, C. (2004). "Organizational citizenship behavior:A case study of culture, Leadership and trust". Management Decision, Vol 42 No1, pp.3-40.
2. Azza H. Shalaby (2015). The Effect of Control Variables of Job Satisfaction and Organizational Citizenship on the Performance of External Auditor (Field Study in Saudi Arabia). International Journal of Finance and Accounting, 4(6), Pp: 311-323
3. Batman TS, Organ, DW (1983) Job satisfaction and the good soldier: The relationship between affect and employeecitizenship, Academy of Management Journal 26: 587-595.
4. Fassina, NE, Jones DA and Uggerslev KL (2008) Meta-analytic tests of relationships between organizational justice and organizational citizenship behavior: testing agent-system and shared-variance models. Journal of Organizational Behavior. 29: 805-828.
5. Hall E., Altman M., Nuko N., Peltzer K., & Zuma K. (2005). Potential Attrition inEducation: the Impact of Job Satisfaction, Morale, Workload and HIV/AIDS
6. Jacqueline, A-M.,Shapiro, C., Kessler, I., & Purcell, J. (2004). Exploring Organizationally Directed Citizenship Behaviour: Reciprocity or 'It's my job'? Journal of Management Studies, Vol. 41, pp. 1.
7. Katz D(1964) The motivational basis of organizational behavior. Behavioral Science. 9 (2): 131-146.
8. Laura M. Desimone, Andrew C. Porter, Michael S. Garet, Kwang Suk Yoon and Beatrice F. Birman (2002). Effects of Professional Development on Teachers' Instruction: Results from a Three-Year Longitudinal Study. Educational Evaluation and Policy Analysis, Vol. 24, No. 2 (Summer, 2002), pp. 81-112
9. Linn Van Dyne and Jeffrey A. LePine (1998). Helping and Voice Extra-Role Behaviors: Evidence of Construct and Predictive Validity. The Academy of Management Journal, Vol. 41, No. 1 (Feb., 1998), pp. 108-119.
10. Meyer, J. P., Allen, N. J., & Smith, C. A. (1993). Commitment to organizations and occupations: Extension and test of a three-component conceptualization. Journal of applied psychology, 78(4), 538.
11. Moorman RH (1991) Relationship between organizational justice and organizational citizenship behaviors: Do fairness perception influence employee citizenship? Journal of Applied Psychology.76(6): 845-855.
12. Organ, D W (1988) A restatement of the satisfaction-performance hypothesis.Journal of Management. 14:547-557.
13. Organ, D.W. (1997), "Organization Citizenship Behaviour: It's construct Clean-Up Time", Human Performance, Vol 10 No2, pp. 85-97.
14. Organ, DW (1990) The motivational basis of organizational citizenship behaviour. In: B. M. Staw & L. L. Cummings (eds.) Research in organizational behaviour. Greenwich, CT: JAI, pp. 43-72.
15. Podsakoff, P.M., Ahearne, M., and MacKenzie, S.B. (1997), "Organization Citizenship Behaviour and the Quantity and Quality of Work group Performance", Journal of Applied Psychology, Vol 82, pp.262-70.
16. Poncheri, R. (2006). The Impact of Work Context on the Prediction of Employee Performance. North Carolina State University. Pond, S., Nacoste.
17. Rahayu Endang Suryani, Herminda, Darmin (2019). Job Satisfaction and Citizenship Behavior of Employees of Private Universities in the Central Jakarta Region. International Review of Management and Marketing, 9(2), 54-56.
18. Samanvitha Swaminathan & David Jawahar (2013). Job Satisfaction as A Predictor of Organizational Citizenship Behavior: An Empirical Study. Global Journal of Business Research, Vol 7, No 1, Pp: 71- 80.

IJBARR
E- ISSN -2347-856X
ISSN -2348-0653

19. Tarek A. El Badawy, Juana Cecilia Trujillo-Reyes& Mariam M. Magdy (2017). The Demographics' Effects on Organizational Culture, Organizational Citizenship Behavior and Job Satisfaction: Evidence from Egypt and Mexico. Business and Management Research, Vol. 6, No. 1, Pp: 28- 41.
20. Todo SY (2003) A causal model depiction the influence of selected task and employee variables on organizational citizenship behavior. Unpublished PhD Thesis. The Florida State University. CA. USA.
21. Torlak, O., and Koc, U. (2007), "Materialistic attitude as an antecedent of organizational citizenship behaviour", Management Research News,Vol 30 No 8, pp.581-596.
22. Turnipseed, D. L., & Rassuli, A. (2005). Performance Perceptions of Organizational Citizenship Behaviours at Work: A Bi-Level Study among Managers and Employees. British Journal of Management, 16(3), 231–244.
23. Zahra Pouramini & Marjan Fayyazi (2015). The Relationship between Positive Organizational Behaviour with Job Satisfaction, Organizational Citizenship Behaviour, and Employee Engagement. International Business Research; Vol. 8, No. 9, Pp: 57- 66.

19. Tarek A. El Badawy, Juana Cecilia Trujillo-Reyes& Mariam M. Magdy (2017). The Demographics' Effects on Organizational Culture, Organizational Citizenship Behavior and Job Satisfaction: Evidence from Egypt and Mexico. Business and Management Research, Vol. 6, No. 1, Pp: 28- 41.
20. Todo SY (2003) A causal model depiction the influence of selected task and employee variables on organizational citizenship behavior. Unpublished PhD Thesis, The Florida State University, CA. USA.
21. Torlak, O., and Koc, U. (2007), "Materialistic attitude as an antecedent of organizational citizenship behaviour", Management Research News,Vol 30 No 8, pp.581-596.
22. Turnipseed, D. L., & Rassuli, A. (2005). Performance Perceptions of Organizational Citizenship Behaviours at Work: A Bi-Level Study among Managers and Employees. British Journal of Management, 16(3), 231–244.
23. Zahra Pouramini & Marjan Fayyazi (2015). The Relationship between Positive Organizational Behaviour with Job Satisfaction, Organizational Citizenship Behaviour, and Employee Engagement. International Business Research; Vol. 8, No. 9, Pp: 57- 66.

Is Employee Engagement Beat by Resilience Bow in Covid pandemic (Phase-II)? An experimental slant-centric to govt.hospitals, telangana

Dr. B. Nayeema[1], Dr. Ch. Vijaya Lakshmi[2], M S Kishan Varma[3]

[1]*Assistant Professor, Avanthi Institute of Engineering and Technology*

[2]*Assistant Professor, Andhra Loyola Institute of Engineering and Technology*

[3]*Assistant Professor, Department of Management Studies, VFSTR Deemed to be University*

Abstract

Resilience is an important aspect of engagement because it allows people to recover from adversity. Certain people are genetically predisposed to have higher degrees of resilience and some are more engaged and motivated in their profession, and they outperform their less adaptable counterparts. In this article, the bow of resilience was slant investigated in terms of developmental persistency, good emotions predicting employee engagement, and organizational engagement.

For the Telangana State Govt. Emergency Clinic Employees of Strength 310, a poll was done using Google forms to examine how the bow of resilience was beating engagement in the COVID Pandemic (Phase-II). The model was presented, authorized, constructed, and tested after the slant discovered a vital relationship between the two constructs. Proposals are made in light of these discoveries.

Keywords: Resilience, Work Engagement, Organizational Engagement Developmental persistency, Positive Emotions, COVID pandemic (Phase- II).

Introduction

The spread of COVID-19 is an emotional challenge for many people, changing their daily lives in unprecedented ways. All sectors of society, including managers and workers, have a role to play to protect themselves among each other and help prevent the further spread of the disease. WHO provides advice and they provide updates on COVID-19, as well as how managers can protect their workers, what measures they should take in the workplace, and other related factors.

According to the Society for Human Resource Management (SHRM), "An employee engagement is related to the employee's level of connection and commitment to the organization." Engaged employees feel committed and inspired to do their best. Conversely, "laid-off employees do not feel a real connection with their work and, as a rule, do the minimum." The SHRM definition highlights one of the issues identified by Gallup as a obstacle to employee engagement. “Employee engagement is not the same as employee commitment. Employee engagement is the result of actively engaging employees through a strategy that drives productivity”. Organizations can dramatically progress employee engagement in two ways:

- Identify the factors that stimulate employee engagement
- Develop targeted strategies to build on strengths and address concerns

Although it may sound easy, it is a bit more complicated in practice. To simplify, SHRM has divided the factors identified by research as contributing to employee engagement into two categories:

1. Managerial factors: These factors include how workers perceive management and the organization favorably, as well as how the worker feels they fit in and contribute to the organization's mission.

2. Administration factors: These factors include all areas of a worker's day-to-day experience that depend on their relationship and with their administrator. Examples include having a optimistic relationship, receiving the necessary information and equipment, having an appropriate level of authority, and having sufficient autonomy to carry out one's work.

Additionally, Gallup's research identifies four levels of employee performance needs that the above factors should address. Described as a roadmap that managers can use to improve employee performance, they are:

✓ Plain needs: These are the minimum levels of equipment, information, and relationships needed to perform the job. For example, policies and procedures to guide the performance of work duties are basic needs.

✓ Specific needs: If employers meet these needs, the individual is positioned to be successful. For example, a set of clear professional expectations aligned with organizational goals is individual needs.

✓ Teamwork needs: When these needs are met, the team is positioned to succeed. For example, an open and transparent communication process that also includes all team members is a need for teamwork.

✓ Needs for personal growth: If the foregoing needs are met, high levels of trust and support follow. This allows managers and employees to work on future performance improvements.

Employee engagement is the work-oriented commitment of the employee with a positive and joyful attitude towards the job, the workplace, and the work culture of the organization. It is a practice that tries to outperform the average employee's productivity through various engaging activities and the atmosphere that the organization provides to the employee. The three main pillars that influence employee engagement are work, workplace, and work culture. With the change from the workplace to the hospital sector after COVID-19, it is crucial to transform existing policies to strategically improve employee engagement. (DrShachi Yadav)

Review Literature

Ayesha Arshad (2021) This study responds to calls to analyze the multiple mechanisms employees use to deal with abusive surveillance. It fills this gap by examining the psychological and social resources of employees that can mitigate the effects of abusive supervision. We specifically consider the psychological and structural empowerment of employees, as well as resilience and friendship at work. This is a time-lagged study using a sample of 146 postgraduate students who have at least 2 years of work experience. Using the principles of resource conservation theory, we find that the damage to psychological empowerment plays an important role in decreasing work engagement and employee creativity, compared to empowerment. structural.

Lea den Broeder et al. (2021) they determined that dropped six features of community activities: we increase mutual support and relationships, the central role of community-based organizations (CBOs), changing patterns of willingness, using media tools, and opportunities to promote health care. We argue that to be resilient and confident in supporting and supporting 'disaster-proof, communities and countries that deserve financing include working with active citizens in new (digital) ways of community engagement, changing forms, and alignment with context. applying new knowledge in health promotion initiatives, focusing on learning and collaboration with citizens.

Hussain AbdulrahmanAl-Omar et al. (2019) discussed that they were delighted by a random sample of 81 pharmacists from across the section survey in Saudi Arabia. These pharmacists are appointed in organizations to compete in pharmacy companies, hospitals, and pharmacy distributors. Demographic variables, resilience, and perceived norms of support were predicted about 29.2%, 29.6%, and 36.2%,

respectively, in contrast to the engagement of employees. We also found a significant relationship between perceptions of pharmacists' support norms and their engagements.

Khan, Aamina (2018) This study aims to investigate how contemporary nurse practices engage and the aspects of work related to intersecting nursing services. The ultimate aim was to ensure that the nutrition management was aware of the country's ongoing support and to correct the gaps in the implementation of ad hoc features. The hospital in central Riyadh, Saudi Arabia, is comprised of multicultural raids and local nurses of Saudi Arabia. This study found that nurses were generally positive and passionate in their organization and related to their services. This letter was also statistically confirmed to interpret the results. Respondents raised important questions about the importance of nurses' engagement and the factors related to worker-related factors.

Dempsy (2016) This article will discuss the current status of nurse engagement, including the impact of encounter variables. We will also briefly describe the potential impact of compassion fatigue and inflammation, and ways to offer compassionate care to the caregiver. This insight is integrated into the support profession under the weight of demographic, economic, and technological innovations experienced by the industry, and is also fundamental to the success of projects to improve health care outcomes across the continuum.

Arnold Bakker (2011) employed workers are more open to new information, richer, and willing to go the extra mile. Workers should also take special care to alter the scope of their work. The findings of earlier studies are integrated into the overall model that can be used to develop work engagement and promote commitment to today's work.

Crawford et al. (2010) Research in previous years has recognized that worker engagement is just a resource that can predict employee engagement. For example, in a meta-analysis of resources and job demands, they reported positive relationships between nine different job resources (autonomy, feedback, opportunity development, positive employment acceptance, rewards and recognition, support, job diversity, and job fit for work) and employee engagement.

Tugade and Fredrickson (2004) Resilience, in general, describes our ability as people to "call back" when things go wrong. All sorts of things can disrupt or even cause trauma to balance and knock us down, but those who are resilient can quickly regain balance and deal with the inevitable impact of life positively and healthily.

Schaufeli et al., (2002) Work engagement is a positive, fulfilling, labor-related state of mind that enables workers to engage in hard work, absorption, and dedication.

Kahn (1990) coined and defined the term "worker engagement" as the psychological presence of a worker in performance within an organization. This concept is very interesting for medical and academic studies.

Scope of the Study

Regardless of the interest in exploring resilience to execution factors from Amir(2014) & Rothbard(2001) creativity, another key factor entrepreneurship from Der Foo et al.,(2009) & Jensen and Luthans, (2006, 2003), in addition, society factor from Choi and Lee, (2020). Hence presently no examination is explicitly on the relationship between resilience and engagement on Emergency Clinical Employees.

Proposed Model from Literature

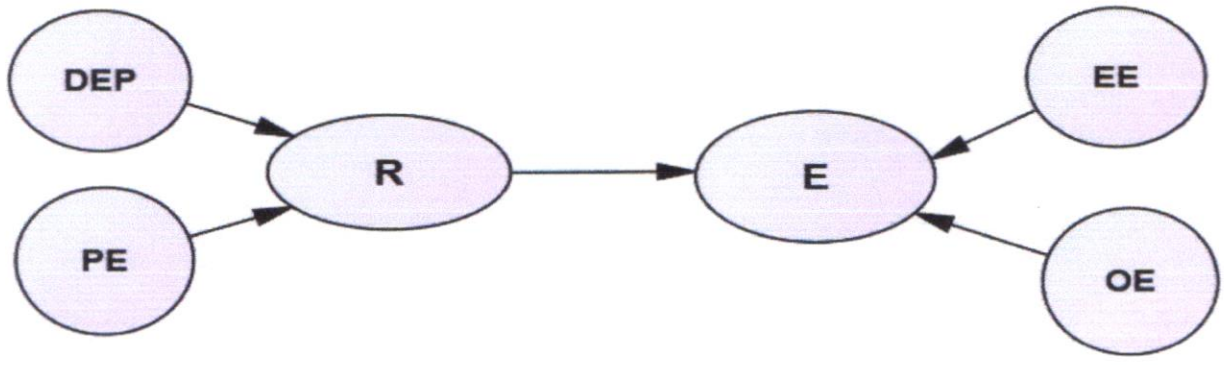


Fig 1. Proposed Research Model

DEP: *Developmental persistency* **PE:** *Positive Emotions* **R:** *Resilience*

E: *Engagement* **EE:** *Employee Engagement* **OE:** *Organizational Engagement*

Purpose of the study

The objectives listed below are based on existing literature and the current situation of employees.

1. To investigate the relationship between resilience and Engagement in Telanagana State Emergency Clinic Employees

2. To estimate the level of resilience on Engagement in Telangana State's Emergency Clinic Employees

Hypothesis

The study began by identifying the significant relationship between the variables under two constructs.

H1a: Resilience and Engagement have a significant positive relationship.

H2a: Engagement is predicted by resilience.

Research Methodology

Source and Sample Justification

A framed questionnaire with scaled questions was employed as the major source of data. The same information was given through Google forms in Telangana State. The intranet is used to deliver 350 questionnaires, and 325 people answer. The total number of questions on the completed questionnaire is 340, and the sample justification table from Robert Krejice (1970) is used. The required sample size for a population of 1600 people is 310, according to the table.

Variables Of The Study

Saks (2006) provided the employee engagement scale of measurement, which represents Rothbard's concept (2001) with the dominant functions of wok and organization engagement. Where The resilience is measured by the use of M.T. Amir (2019), and it is described with multidimensional components as developmental persistency and positive emotions.

Hypothesis H1a Testing

According to Table-I, all of the variables in the two constructs are positively correlated with one another. However, the relationship is positive but not strong, as evidenced by the findings listed below.

Table-I: Correlation among Variables (N=310)

	Mean	SD	1	2	3	4
DEP	3.44	.612				
PE	3.32	.652	.712**			
OE	3.52	.651	.421**	.543**		
EE	4.01	.682	.452**	.555**	.659**	.724**

**. Correlation is significant at the 0.01 level (2-tailed).N=310

Findings

- Employee Engagement has a strong positive correlation with,

✓ *With Developmental persistency* $r(310) = +.452$, $p < 0.01$.

✓ *With Positive Emotions* $r(310) = +.555$, $p < 0.01$.

- Organizational Engagement has a strong positive correlation with,

✓ *With Developmental persistency* $r(310) = +.421$, $p < 0.01$.

✓ *With Positive Emotions* $r(310) = +.543$, $p < 0.01$.

As a result, it was determined that Resilience was related to Engagement, and the Null hypothesis was rejected.

Hypothesis H2a Testing

Principle Component Analysis, in conjunction with the Varimax Rotation Method, is implemented as an extraction technique for EFA. The KMO Measure of Sampling Adequacy is 0.81, with a p-value less than 0.05. With two factors, all items are successfully loaded with more than the acceptable value of 0.5. For the CFA review, various goodness and badness indices, as well as the model fit summary, were used. In Table-II, the Model Modification Indices of $\chi 2$/df, GFI, TLI, CFI, and RMSEA are found to be greater than Acceptable. As a result, the Measurement model is an absolute fit model that is ready for model validation.

Table-II Indices of Model fit

Model	χ2/df	GFI	TLI	CFI	RMSEA
Model-II	2.913	0.921	0.936	0.954	0.054

Table-III Model Validation

Factor	CR	AVE	MSV	Convergent Validity		Result	Discriminant Validity		Result
R	0.87	0.61	0.18	CR > .7	YES	Accepted	MSV < AVE	YES	Accepted
E	0.86	0.68		CR > AVE					
				AVE > .5					

Model of Reporting in Table III According to Byrne, B. M. (2010), all factors greater than 0.7 are good to accept and Construct Validity is verified by verifying Convergent validity and Discriminant validity. Convergent validity was confirmed using CR (Composite Reliability) and AVE (Average Variance Extracted), Discriminant was validated in the same way using AVE, MSV (Maximum Shared Variance), and ASV (Average Shared Variance). As a result, the Model was Construct Validated.

Consideration

By witnessing the role of resilience and then presenting empirical evidence, the current study contributed value to the notion of engagement. Furthermore, the data demonstrated that both employee engagement and organizational engagement can be influenced by developmental perseverance, as well as positive emotions.

In the context of Positive Emotions, resilience is a tool that progressives and managers may utilize to increase employee engagement. It is critical because employees must stay up with their work and their engagement, and the organization's environment and setting occasionally necessitate the occurrence of the change. Furthermore, if employees are aware of and have the necessary resources to manage relational resilience, the engagement disadvantage may be avoided.

Positive emotions, according to Sweetmen and Luthans (2010), can act as a buffer in increasing employee engagement by positive emotions. Still, due to the tendency of shifting perceptions of the potential stressor, reduce disengagement. Positive emotions assist the individual in noticing other aspects that put off disengagement as a potential avenue in coping with problems (Fredrickson & Branigan, 2005), and in this case, which involves task requirements, it is backed by this research.

The development persistence element is also a growth factor that motivates people who are confronted with situations of vulnerability at work that require innovative thinking: some projects may be high-risk, and there may be a lack of engagement, making the arrangements ambiguous. As a result, such conditions necessitate the inclusion of a component of obligation to develop, which necessitates the examination of elective alternatives.

The component of development persistency has the potential to play a vital role in maintaining and growing bi-directional organizational engagement, including instances where the foundation provides sufficient assets to accomplish the activity. As a result, the tenacious employee feels a sense of responsibility and ownership. As a result, the persistent employee feels a sense of responsibility and ownership. As a result, the components of commitment to growth in development persist, causing a worker to be drawn to the possibility of achieving a goal that is consistently sustained by an organization, really and consciously. These component capacities by considering and sustaining groups with limited resources. Strong scholastics build-up by conserving and taking care of themselves in conditions when financial and social advantages are considered as beneath average.

This is refined by consciously confining and dedicating psychological, enthusiastic, and physical resources, which is consistent with the findings of Sweetman and Luthans (2010), who discovered that resilience allows workers to challenge personal suspicions and foster enhanced strength by adapting to circumstances. Furthermore, even if the situation isn't always ideal, the worker-organization interaction is always maintained.

Conclusion

Resilience appears to have been missed in this study of antecedents and factors that promote employee engagement, particularly in the setting of Telangana Emergence Clinic Employees. As a result, this study looks into the link between resilience and elements like developmental perseverance and positive emotions, as well as factors like employee and organizational engagement. Even if the association reveals a valid relationship between the two constructs, the goodness-of-fit assessment found a comparably

sufficient match. Organizations gain from developmental perseverance and engagement to improvement to keep employees interested in their work and, as a result, to keep the attention on odd duties. Positive feeling, on the other hand, aids in the maintenance of high regard for the company, particularly when the services are performing as planned. As a result, management and managers should think about putting in place resilience intervention programs to enhance existing procedures to preserve and boost academic engagement.

Limitations and Scope for Further Research

The study's participants, who were all Telangana Emergency Clinic employees, had the following limitations: Regardless, the circumstances of other companies may differ, resulting in variation in the results and suggestions for the nature of the resilience and engagement questionnaire. As a result, a more prominent warning is required in their translation.

Engagement research, in general, assesses the level of engagement to an activity, which might include a variety of primary tasks that differ from one another. Nonetheless, it is possible for an employee to participate in one task but not in others; for example, a worker may be more interested in maintenance work than in office work. . As a result, according to Britt et al. (2007), the context of works, which can be more explicit at times, might encourage varying degrees of participation. Examining separation is a motivating path to take, especially in instances when resilience and its points will almost surely play a different role. In terms of strategy, strength, or engagement research, the longitudinal methodology is rarely used, even though it is advised for expanding the scope of the investigation

References

1. Amir, M. T. (2014). The role of resilience in individual innovation. In Theses: Doctorates and Masters. http://ro.ecu.edu.au/ theses/873
2. Ayesha Arshad, Peter Y. T. Sun , and FabriceDesmarais, (2021) "Abusive Supervision and Employee Empowerment: The Moderating Role of Resilience and Workplace Friendship", Journal of Leadership & Organizational Studies .
3. Bakker, A. 2011. An Evidence-Based Model of Work Engagement. Current Directions in Psychological Science, 20(4):265-269.
4. Britt, T. W., Dickinson, J. M., Greene-Shortridge, T., & McKibben, E. S. (2007). Self-engagement at work. In D. L. Nelson & C. L. Cooper (Eds.), Positive organizational behavior. Sage Publication.
5. Choi, J., & Lee, D. (2020). Disaster Cooperation Strategies between North and South Korea based on Sendai Framework. The Journal of Asian Finance, Economics, and Business,7(6),509–515.https://doi.org/https://doi.org/10.13106/jafeb.2020. vol7.no6.509
6. Crawford, E. R., LePine, J. A., & Rich, B. L. (2010). Linking job demands and resources to employee engagement and burnout: A theoretical extension and metaanalytic test. Journal of Applied Psychology, 95, 834–848.
7. Dempsey, C., Reilly, B., (January 31, 2016) "Nurse Engagement: What are the Contributing Factors for Success?" OJIN: The Online Journal of Issues in Nursing Vol. 21 No. 1, Manuscript 2.
8. Der Foo, M., Uy, M. A., & Baron, R. A. (2009). How do feelings influence effort? An empirical study of entrepreneurs' affect and venture effort. Journal of Applied Psychology, 94(4), 1086–1094. https://doi.org/10.1037/a0015599
9. Dr. Shachi Yadav (2020) "Employee Engagement Strategy for Employees Working in Virtual Environment in the IT Industry", JNU/ABVSME-WP No. 03/2020.
10. Fredrickson, B. L. (2009). Positivity: Groundbreaking research reveals how to embrace hidden strength of positive emotion, overcome negativity, and thrive. Crown.

11. https://www.virtualvocations.com/blog/remote-employer-resources/employee-engagement-covid-19-surprising-truth/
12. Hussain AbdulrahmanAl-Omar et al. (2019) "The impact of perceived organizational support and resilience on pharmacists' engagement in their stressful and competitive workplaces in Saudi Arabia",
13. Jensen, S. M., & Luthans, F. (2006). Relationship between entrepreneurs' psychological capital and their authentic leadership. Journal of Managerial Issues, 18(2), 254–268.
14. Jensen, S. M., & Luthans, F. F. (2003). Entrepreneurs as leaders: The impact of psychological capital and perception of authenticity on venture performance. University of Nebraska.
15. Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. Academy of Management Journal, 33(4), 692-724. https://doi.org/10.5465/256287
16. Khan, Aamina (2018) Nurses' work engagement practices in a multicultural hospital in Saudi Arabia, University of South Africa, Pretoria,2018-05.
17. LeadenBroeder, Jane South, Auke Rothoff, Anne-Marie Bagnall,FiroezAzarhoosh, Gina van der Linden, MeenaBharadwa, Annemarie Wagemakers (2021), "Community engagement in deprived neighbourhoods during the COVID-19 crisis: perspectives for more resilient and healthier communities", Published online 2021 Jul 23. doi: 10.1093/heapro/daab098
18. M.M. Tugade, B.L. Fredrickson (2004), "Resilient individuals use positive emotions to bounce back from negative emotional experiences", J. Pers. Soc. Psychol., 86 (2004), pp. 320-333.
19. M.T. Amir, & Standen, P. (2019). Growth-focused resilience: development and validation of a new scale. Management Research Review, 42(6), 681–702. https://doi.org/10.1108/ MRR-04-2018-0151
20. Robert V. Krejcie, Daryle W. Morgan(1970), Determining Sample Size for Research Activities, Educational and Psychological Measurement (EPM), 30(1),607-610.
21. Rothbard, N. P. (2001). Enriching or depleting? The dynamics of engagement in work and family roles. Administrative Science Quarterly, 46(4), 655–684. https://doi.org/10.2307/ 3094827
22. Saks, A.M. (2006), "Antecedents and consequences of employee engagement", Journal of Managerial Psychology, Vol. 21 No. 7,. https://doi.org/10.1108/02683940610690169
23. Schaufeli, W., &Salanova, M. (2007). Work engagement: An emerging psychological concept and its implications for organizations. In S. W. Gilliland, D. D. Steiner, & D. P. Skarlicki (Eds.), Research in social issues in management (Volume 5): Managing social and ethical issues in organizations (pp. 135- 177). Greenwich, CT: Information Age Publishers.
24. Sweetman, D. S., Luthans, F., Avey, J. B., & Luthans, B. C. (2010). Relationship between positive psychological capital and creative performance Part of the Business Administration, Management, and Operations Commons, Management Sciences and Quantitative Methods Commons, and the Strategic Management Policy Commons. https://doi.org/10.1002/ cjas.175.

Solid State Technology

EXAMINING MEDIATORY ROLE OFGIS FACTORS ON EMPLOYEE ENGAGEMENT AND ORGANIZATIONAL EFFECTIVENESS

Dr.G.MALLIKA , Dr. POLUMURI LOVA KUMAR , B. NAYEEMA

Issue

Vol. 63 No. 5 (2020)

Section

Articles

Make a Submission

Downloads

Copyright Transfer Form

Paper Template

Important Links

Home

Aims and Scope

Abstract

Present Days Telecom is including to the fundamental necessities of an Individual. In contrast to,
the previous necessities, telecom has such a great amount to do with innovation. Of those advances, GIS is

the one assuming a significant job for the telecom Industry. But Employee Engagement and Organizational Effectiveness are also very important essential elements in today's telecom working environment. So this study initiallyanalyzed a significant relationship between demographical factors and employees' perceptions of GIS Factors in BSNL Hyderabad telecom circles of Telangana State as a quadrant analysis.

Further investigation broadened based on the previous studies, initially the researcher has examined the relationship between the demographic variables with GIS factors using ANNOVA and also continued the study by taking one exogenous variable (Employee Engagement), and two endogenous variables, i.e. GIS Factors, and Organizational Effectiveness, were analyzed using SPSS and AMOS package programs. The participants were 320 employees in a Public Sector Telecom Organization of HYD Telecom district. They were chosen through the Convenience

Paper Topics
Call for Papers
Instructions for Authors
Archive
Download
Ethics & Policies
Publication Ethics and Publication Malpractice Statement
Peer Review Policy
Plagiarism Policy
Copyright, Grants and Ownership Declaration
Refund Policy
Open Access Overview
Open Access License
Permissions

sampling Technique. The results of the study indicate that Employee Engagement has direct as well as indirect effects on organizational Effectiveness. Moreover, it is observed that the GIS Factors have a Partial mediation effect on the relationship between employee engagement and organizational Effectiveness.

PRINCIPAL
Avanthi Institute of Engg. & Tech.
Cheeryal (V), Abdullapurmet (M), R.R. Dist

ISSN 0976-495X (Print)
2321-5763 (Online)
DOI: 10.5958/2321-5763.2021.00004.4

Vol. 12| Issue-01|
January – March | 2021

Available online at
www.anvpublication.org

Asian Journal of Management
Home page *www.ajmjournal.com*

RESEARCH ARTICLE

Mediating Role of Organisational Commitment on Organisational Citizenship Behaviour and its Impact on Job Satisfaction

B. Nayeema[1], Dr. B. Sreedhar Reddy[2], Dr. V. Tulasi Das[3]
[1]Ph.D. Scholar, Dept. of HRM, Acharya Nagarjuna University, Guntur-522 510, A.P.
[2]Guest Faculty, Dept. of MBA (Hospital Administration) Acharya Nagarjuna University, Guntur-522 510, A.P.
[3]Associate Professor, Dept. of HRM, Acharya Nagarjuna University, Guntur-522 510, A.P.
*Corresponding Author E-mail: **chinmaitulasi@gmail.com**

ABSTRACT:
In the current scenario, the emergence of many private universities increases the demand for the engineering faculty members and so it's difficult for the management to retain the talented pool. The teaching and learning process would be more effective in an institution where the faculty members are contented with their job. Job satisfaction is one factor which makes teachers contended with the job. Interaction between faculty and head of the department should be practices which will help in improving rapport, trust and also better retention due to open door policy (Vijit Chaturvedi and MK Sethi, 2010). Researchers identified several factors influencing job satisfaction but those factors are not completely explaining the changes in job satisfaction. Therefore in the current paper researchers created a model which can better explain job satisfaction of the University Engineering College Teachers.

KEYWORDS: Oraganisational Citizenship Behaviour, Organisational Commitment, Job Satisfaction, Talent Pool, Teaching and Learning Process.

INTRODUCTION:

The underlying factors of job satisfaction emerged from Shweta Rajput et al., (2016) study are career growth, motivation, work place environment and self-satisfaction. The teachers must be promoted according to efficiency and experience, motivational principal, good administration and control (Ruchika, 2017). Organizational Politics and Job Satisfaction in isolation is able to explain significant variance in Teaching Effectiveness (Kota Neela Mani Kantaand Srivalli P, 2017).

The dominant variable that influences the behaviour of organizational citizenship is professional satisfaction (RE Suryani, et.al. 2019). There is a direct relationship or a strong positive correlation between organizational citizenship and professional satisfaction (AH. Shalaby, 2015). Professional satisfaction mediated the relationship between organizational culture and organizational citizenship behaviour (Badawy, 2017). The critical roles of job satisfaction components have positive and significant effects on organizational citizenship and Vice Versa (AH. Shalaby, 2015). The employee satisfied with engaging in the OCB (Fassina, et. al., 2008). When employees are more satisfied, it creates a positive character and ultimately leads to socially accepted behaviour (Todo, 2003). Positive organizational behaviour is a predictor of professional satisfaction and organizational citizenship behaviour (Z Pouramini, M Fayyazi, 2015). There were no significant effects on gender, age, years of experience and education levels on OCB and job satisfaction (Badawy, 2017).

Received on 19.09.2020 Modified on 09.11.2020
Accepted on 06.12.2020
Asian Journal of Management. 2021; 12(1):23-27.
DOI: 10.5958/2321-5763.2021.00004.4

Literature reveals that Organisational commitment and Organisational support are important factors that influence OCB (MazinAldeinat, Mahamed Harith, Mahamed Shahar, 2017). Teachers' organizational commitment is found to have a mediating effect on the relationship between the distributed leadership of college presidents and teachers' organizational citizenship behaviour (Chi Pingping and Yi-Jian Huang, 2019). When teachers have a high commitment to their work, OCB behaviour among teachers at the School can increase (Muhammad Idris Tumanggor et.al. 2019). job satisfaction and organizational commitment are the two biggest drivers of citizenship behaviours, when there is a healthy leader member exchange in the organization it is easy to enhance the citizenship behaviour with minimal effort (Savithri, MaharayazhMozhi, 2018). Feather and Rauter (2004) had described that organizational citizenship behaviour is positively influenced with more job security and it leads to organizational commitment.

Organizational commitment will intercede the relationship between saw alternatives job openings and turnover aim and that the relationship is more fragile if job satisfaction is high (Abdulmajeed Saad Albalawi, 2019). Elements like length of administration and salary are moderately progressively significant in the assurance of job satisfaction than in organizational commitment (Tarlika L. Zalawadia, 2019). The hireling initiative has a constructive outcome to the job satisfaction and job satisfaction has a beneficial outcome to the organizational commitment (Ardana I Made DwiWira and Surya Ida BagusKetut, 2019). In the event of employees of government and Private Organizations, for the all elements of full of feeling commitment and regularizing commitment, no noteworthy contrast was found. T-test investigation indicated a noteworthy contrast in the reactions on continuation commitment and job Satisfaction (InassSalamah Ali and Vikram Jeet, 2019).

REVIEW LITERATURE:

Ana Gutiérrez-Banegas (2019), factors of Job Satisfaction in Universities. International Journal of Advanced Engineering, Management and Science reviewed that job satisfaction has critical associations with angles, for example, compensation, exercises to be done, work execution and the workplace. As far as expert satisfaction for instructors in colleges, it is likewise affected by financial issues, for example, compensation, connections in the working environment; open doors for development and culture of support and acknowledgment, viewpoints that additionally show up in organizations of products and enterprises. Rahayu Endang Suryani, Herminda, Darmin (2019), article entitled "Job Satisfaction and Citizenship Behaviour of Employees of Private Universities in the Central Jakarta Region" published in International Review of Management and Marketing identified that there is a significant effect of organizational commitment and work-life balance on Job Satisfaction in accredited University employees in the Central Jakarta region and the dominant variable influential is an organizational commitment (Affective commitment). The dominant variable influencing on the behaviour of organizational citizenship is job satisfaction with the dimensions of working conditions that support.

Inass Salamah Ali and Vikram Jeet (2019), article entitled "A Comparative Study of Organizational Commitment and Job Satisfaction in The Private and Government Professional Educational Institutions" published in International Journal of Human Resource Management and Research revealed that in government, the administrative commitment of the instructive establishment is the prevailing element and the coherence commitment is tolerably high in the employees of private organizations. In the component of expert satisfaction, individuals from the personnel of government and private instructive establishments show a reasonably elevated level of expert satisfaction. The similarity between authoritative commitment and expert satisfaction has been developed with regards to the third target. On account of individuals from government resources and private foundations, no huge contrast was found for all elements of full of feeling and administrative commitment. The examination of the T-test indicated a huge distinction in the reactions on the commitment to progression and job satisfaction.

Shiney Chib and Abhilash Gomkar (2019), article entitled "The Mediating Effect of Organizational Commitment in Leadership, Job satisfaction and Organizational Culture with Organizational Citizenship Behaviour" published in International Journal of Scientific and Engineering Research results that among the entire variable, organizational commitment seems to be the variable with the greatest significant impact in explaining the OCB exhibition among employees. It provided an optimistic result in terms of selecting this as a mediating variable for the organization's culture, leadership style and job satisfaction. Variables such as leadership style, organizational culture and job satisfaction play the role of antecedents of the organization's commitment. More committed academics report greater identification with the organization.

RESEARCH GAP:

From the reviews presented above it is understood that there is a need for a model which can explain the relationship between Organisational Citizenship Behaviour and Job Satisfaction.

OBJECTIVES:

- To understand how Organisational Commitment mediates the impact of Organisational Citizenship

Behaviour on Job Satisfaction among Public and Private Sector University Engineering College Teachers.

- To put forth certain suggestions based on the findings arrived.

HYPOTHESIS:

H_0: Organisational Commitment does not mediate the impact of Organisational Citizenship Behaviour on Job Satisfaction among Public and Private Sector University Engineering College Teachers.

H_1: Organisational Commitment mediates the impact of Organisational Citizenship Behaviour on Job Satisfaction among Public and Private Sector University Engineering College Teachers.

SAMPLING:

Source of Data

To satisfy the aforesaid objectives the information has been gathered from two sources for example primary and secondary sources. The secondary information was gathered from various journals, periodicals, magazines, books and unpublished documents. The primary information was gathered legitimately from the sample respondents with pre-designed questionnaire.

Sample and data collection:

The participants selected for this study consisted of select Public and Private University Engineering College Teachers. Purposive sampling technique was deployed in sample selection.150 questionnaires from Public Sector universities and 300 questionnaires from Private sector Universities are considered for the study.

Data Analysis:

Mediating Affect of OC impact of OCB on Job Satisfaction among Public Sector University Engineering College Teachers

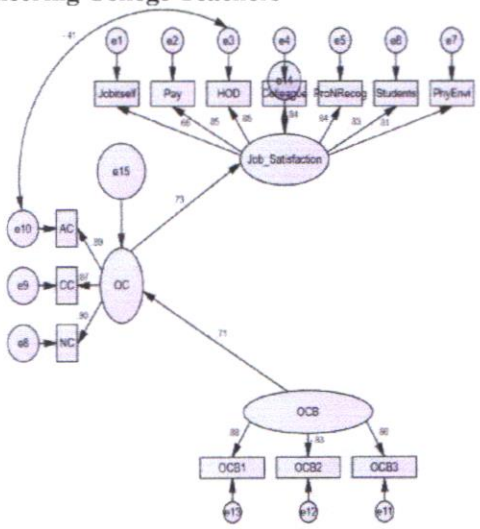


Figure-1: Mediating Affect of OC on impact of OCB on Job Satisfaction among Public Sector University Engineering College Teachers

Values of different fit indices; GFI, IFI, CFI, NFI greater than 0.9considered as good fit and RMSEA values .05 or less indicates close fit, between 0.05 to 0.08 indicates reasonable fit and values between 0.08 to 0.10 show marginal fir (Kline, 2001).

Structural Equation Model (SEM) is conducted with all three variables and data shows that df=1.715; GFI=.909; NFI=.935; IFI= .972; TLI= .964; CFI= .971; RMSEA= .069 the model is improvised after allowing one modification indices.

Mediation analysis is also conducted with bootstrapping method (Hayes, 2013). Bootstrapping is a nonparametric approach to mediation tests that do not make assumptions about the sampling distribution of the mediation tests. Simple mediation can be inferred when only direct effect of predicting variables on the outcome variable is significant.

Mediating Affect of OC on impact of OCB on Job Satisfaction among Private Sector University Engineering College Teachers

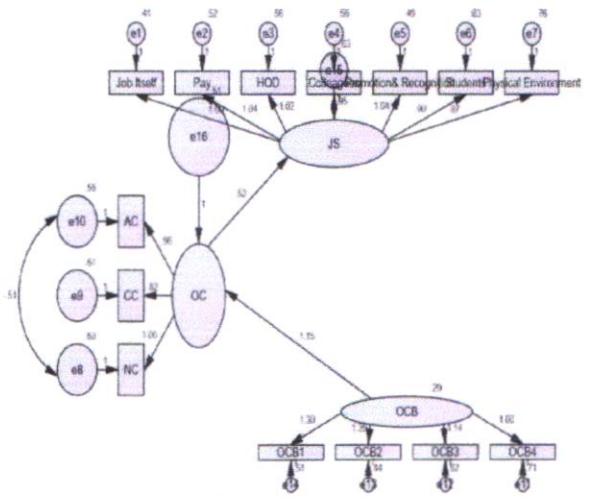


Figure-2: Mediating Affect of OC on impact of OCB on Job Satisfaction among Private Sector University Engineering College Teachers

Values of different fit indices; GFI, IFI, CFI, NFI greater than 0.9considered as good fit and RMSEA values .05 or less indicates close fit, between 0.05 to 0.08 indicates reasonable fit and values between 0.08 to 0.10 show marginal fir (Kline, 2001).

Structural Equation Model (SEM) is conducted with all three variables and data shows that df=2.130; GFI=.930; NFI=.921; IFI= .956; TLI= .946; CFI= .956; RMSEA= .061 the model is improvised after allowing one modification indices.

Mediation analysis is also conducted with bootstrapping method (Hayes, 2013). Bootstrapping is a nonparametric

approach to mediation tests that do not make assumptions about the sampling distribution of the mediation tests. Simple mediation can be inferred when only direct effect of predicting variables on the outcome variable is significant.

FINDINGS:

From the analysis it is found that there is a significant positive impact of Organisational Commitment on impact on Organisational Citizenship Behaviour and Job satisfaction.

SUGGESTIONS:

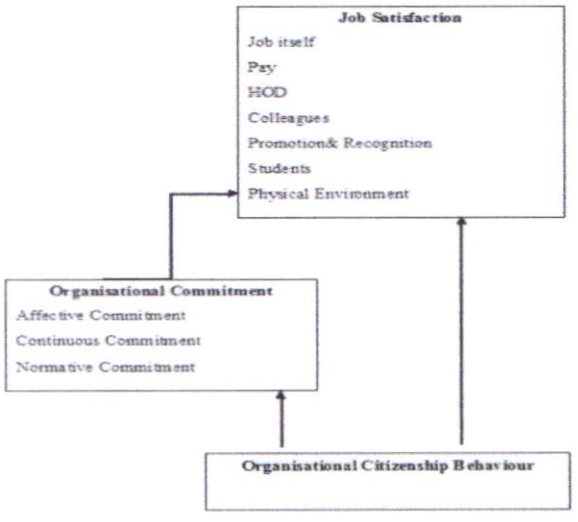
From the analysis it is found that there is significant positive impact of Organisational Commitment on impact of Organisational Citizenship Behaviour and Job Satisfaction.

Therefore, management should administer organisational Citizenship Behaviour survey questionnaire as well as Organisational Commitment questionnaire to understand the changes in job satisfaction of the teachers in engineering colleges.

CONCLUSION:

From the analysis it is found that in Public Sector University Engineering Teachers Job Satisfaction is high while comparing with Private University Engineering Teachers. Among Public Sector University Engineering Teachers Organisational Citizenship Behaviour is high on job satisfaction where as in Private Sector University Engineering teachers OCB impact is moderate on job satisfaction. Among Public and Private Sector University Engineering Teachers Organisational Commitment impact is high on job satisfaction. Among Public and Private Sector University Engineering Teacher's mediation role of Organisational Commitment on impact of Organisational Citizenship Behaviour and job satisfaction is significant.

Suggested Model:



SCOPE FOR FUTURE RESEARCH:

The present research examined the simple mediating role of Organisational Commitment in the future the researcher's may find multiple mediators and moderators which can more positively impact the relation between Organisational Citizenship Behaviour and Job satisfaction.

REFERENCES:

1. Abdulmajeed Saad Albalawi, Shahnaz Naugton, Malek Bakheet Elayan and Mohammad Tahseen Sleimi (2019). Perceived Organizational Support, Alternative Job Opportunity, Organizational Commitment, Job Satisfaction and Turnover Intention: A Moderated-mediated Model. Organizacija, Volume 52, Pp: 310- 324.
2. Ana Gutiérrez-Banegas (2019). Factors of Job Satisfaction in Universities. International Journal of Advanced Engineering, Management and Science, Vol-5, Issue-8, Pp: 481- 492.
3. Ardana I Made Dwi Wiraand Surya Ida Bagus Ketut (2019). The Effect of Servant Leadership towards Job Satisfaction and Lecturer's Organizational Commitment at Dhyana Pura University. RJOAS, 12(96), Pp: 142- 149.
4. Azza H. Shalaby (2015). The Effect of Control Variables of Job Satisfaction and Organizational Citizenship on the Performance of External Auditor (Field Study in Saudi Arabia). International Journal of Finance and Accounting, 4(6), Pp: 311-323.
5. Chi Pingpingand Yi-Jian Huang (2019). A Study of Association Among Distributed Leadership, Organizational Commitment and Organizational Citizenship Behavior of Private Colleges in China. The International Journal of Organizational Innovation, Volume 12 Number 2, Pp: 105- 114.
6. Fassina, NE, Jones DA and Uggerslev KL (2008) Meta-analytic tests of relationships between organizational justice and organizational citizenship behavior: testing agent-system and shared-variance models. Journal of Organizational Behavior. 29: 805-828.
7. Feather, N. T., andRauter, K. A. (2004). Organizational citizenship behaviors in relation to job status, job insecurity, organizational commitment and identification, job satisfaction and work values. Journal of Occupational and Organizational Psychology, 77, Pp: 81-94.
8. Hayes, A. F. (2013). Methodology in the social sciences. Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. Guilford Press.
9. Inass Salamah Ali and Vikram Jeet (2019). A Comparative Study of Organizational Commitment and Job Satisfaction in The Private and Government Professional Educational Institutions. International Journal of Human Resource Management and Research (IJHRMR), Vol. 9, Issue 2, Pp: 35-46.
10. Kota Neela Mani Kantaand Srivalli P (2017). Moderation of Organisational Politics on Job Satisfaction and Teaching effectiveness among Engineering Faculties. Asian J. Management; 8(4), Pp: 1365- 1369
11. MazinAldeinat, Mahamed Harith, Mahamed Shahar (2017). The effects of Organisational Support and Organisational Commitment on Organisational Citizenship Behaviour: The Mediating Role of Job Satisfaction. International Business Management 11(8-10), Pp: 1663- 1668.
12. Muhammad Idris Tumanggor, Nurdasila Darsono, Mahdani Ibrahim (2019). Impact of Job Satisfaction and Commitment to Performance: Organizational Citizenship Behavior (OCB) as a Mediator (Research on Teachers in State Islamic Elementary Schools (MIN) in Banda Aceh). Journal of Education and Practice, Vol.10, No.6, Pp: 47- 53.
13. Rahayu Endang Suryani, Herminda, Darmin (2019). Job Satisfaction and Citizenship Behavior of Employees of Private Universities in the Central Jakarta Region. International Review of Management and Marketing, 9(2), 54-58.

14. Ruchika (2017). A Study of Job Satisfaction amongst Government and Private School Teachers in Delhi. Asian J. Management; 8(1), Pp: 30-36
15. Savithri JJ, Maharayazh Mozhi S (2018). A study on the relationship between Leader Member Exchange and Organizational Citizenship Behaviour mediated by Organizational Commitment. IOSR Journal of Business and Management, Volume 20, Issue 8. Ver. IV, Pp: 10-15.
16. Shiney Chiband Abhilash Gomkar (2019). The Mediating Effect of Organizational Commitment in Leadership, Job satisfaction and Organizational Culture with Organizational Citizenship Behavior. International Journal of Scientific and Engineering Research, Volume 10, Issue 3, Pp: 110- 122.
17. Shweta Rajput, Mayank Singhal, Shiv Kant Tiwari (2016). Job Satisfaction and Employee Loyalty: A study of Academicians. Asian J. Management; 7(2), Pp: 105- 109
18. Tarek A. El Badawy, Juana Cecilia Trujillo-Reyesand Mariam M. Magdy (2017). The Demographics' Effects on Organizational Culture, Organizational Citizenship Behavior and Job Satisfaction: Evidence from Egypt and Mexico. Business and Management Research, Vol. 6, No. 1, Pp: 28- 41.
19. Tarlika L. Zalawadia (2019). A Study of Job Satisfaction, Organizational Commitment and Union Involvement. The International Journal of Indian Psychology, Volume 7, Issue 2, Pp: 976- 982.
20. Todo SY (2003) A causal model depiction the influence of selected task and employee variables on organizational citizenship behavior. Unpublished PhD Thesis, The Florida State University, CA. USA.
21. Vijit Chaturvedi and MK Sethi (2010). Job satisfaction among academicians:-A study with reference to Management Colleges (both Government and Private) in Faridabad. Asian J. Management 1(1), Pp: 4- 7
22. Zahra Pouramini and Marjan Fayyazi (2015). The Relationship between Positive Organizational Behavior with Job Satisfaction, Organizational Citizenship Behavior, and Employee Engagement. International Business Research; Vol. 8, No. 9, Pp: 57- 66.

ANVESAK
ISSN : 0378 – 4568 UGC Care Group 1 Journal

IS EMOTIONAL INTELLIGENCE PREDICTOR OF EMPLOYEE ENGAGEMENT: CENTRIC TO COVID-19 PANDEMIC OF AP GOVT TELECOM EMPLOYEES.

Dr. Polumuri Lova Kumar
Junior Telecom Officer, BSNL, AP., lovakumarhrm@gmail.com

Dr. Dr B.Nyma
Asst.Professor, Avnathi College, Telangana, bajjinaima@gmail.com

Abstract:

Up to now many kinds of research explores the importance of engagement for achieving organizational goals. But this COCID-19 pandemic is a different era for Public and private sector companies. This research focuses on one of the dedicated Government workers after Doctors and policeman is telecom employees, who are working behind us for our day-to-day virtual connectivity via online. In the radius of the current COVID-19 Pandemic, the telecom sector faced diversified problems in a composite and fear to fearless transition environment, and at the same time employees who are working for us may be emotionally unbalanced due to their working culture.

So this reaches emphasis on how emotional intelligence predicting employee engagement in COVID - 19 Pandemic situation. For this survey was conducted for AP telecom employees of strength 346 via Google forms. Initially, the research identifies significant relation among both constructs, and the model was validated, constructed, and evaluated. Based on these findings and suggestions are set forth.

Keywords: Emotional Intelligence, Employee Engagement, COVID19 Pandemic, LV Model analysis.

INTRODUCTION:

COVID-19 Pandemic makes employees makes emotionally unbalanced even if they are residing at home. Even residing at home is just for namesake because most of the time they are attached to Phone and Computer. This means physically they may at home but mentally they are arrested for office works. This may lead to disturbing the emotional attachment to the family and leads to the lagging of engagement.

Some of the expert opinions are

- "The implications of unusual new work - life cycle on the mental well-being of millions of employees can't be ignored. Employees will have many concerns, worries and feeling vulnerable to a great extent in this perilous period for the business sector", said Pakhre (AIIMS).
- "Maintaining a routine is now more important than ever before. The right approach to do this is to create a work window -- define working hours to ensure a work-life balance. At the same time, organizations also need to maximize their empathy quotient and support each other. We also need to give importance to mental health outcomes, to prioritize positivity and well-being at work", added Parikh, Director of Mental Health and Behavioral Sciences at the Fortis Healthcare
- "Organization policies and risk management approach should comprise a strategy for enhancing the psychological health of employees. If we sense protected, it will help to beat the harmful effect of the pandemic, which threatens our health and financial stability", added Mohan Joshi. Bangalore based Telecom sector employee

EMOTIONAL INTELIGENCE:

Emotions can be clear as "internal events that coordinate many psychological subsystems including physiological responses, cognitions, and conscious awareness" **(Mayer, et.al, 1999)**. Perceived as - one of three principal classes of mental activities—the others incorporate inspiration,

cognizance, and awareness emotions seem to have developed to flag and react to changes seeing someone between the individual and the climate (counting one's envisioned spot inside it). The expression "passionate knowledge," at that point, "suggests something having to do with the convergence of feeling and comprehension"

EMPLOYEE ENGAGEMENT

Employee engagement has become a hotly debated issue over the most recent 25 years; various investigations have been accounted for in the writing including those of Kahn Bagyo, (2014). As per him, "employee engagement is expressed in physical, mental and emotional connection with the organization in which they work". Fred Luthaus (2002) employee engagement is "the strong desire for the employee to remain part of his organization and to use all his efforts, faith and potential to achieve its goals". like is the characterization of Macey (2006) who considers "engagement is a personal sense of purpose and focus of energy, personal initiative and efforts to achieve organizational goals". Newstrom and Davis (2007) describe it as "the extent to which an employee identifies himself with the organization and wants to continue to be part of it".

The majority inclusive is the explanation of Wiley (2010): "Employee Engagement is the extent to which employees are motivated to contribute to organizational success, and are willing to apply discretionary effort to accomplishing tasks important to the achievement of organizational goals". The alliance Gallup, presumably the most broadly perceived name related with employee engagement, characterizes drew in employees as "individuals who work with enthusiasm and feel a lot of connected to their work". They are likewise liable for advancements and they are pushing the associations forward (Krueger and Killham, 2006).

LITERATURE REVIEW

Kahn (1990) recommended mental contrasts among people may impact their capacity to participate in their work. Kahn (1990) additionally featured the significance of establishing a climate where relational connections and administrative style make a strong air to set up EE. Relational connections are a critical segment of EI.Abraham(2000) discovered that EI is identified with ideas like commitment, for example, individual fulfillment, As demonstrated by the extend the and-gather theory of good emotions (Fredrickson, 2001) positive sentiments, including rapture, premium, and fulfillment, all offer the capacity to grow people's glimmering thought-movement assortments and create their resources (going from physical and insightful resources for social and mental ones).

Workers need to deal with their emotional state to keep up a significant level of WE (Frederickson, 2001). As indicated by the COR hypothesis of Hobfoll (2001), character characteristics, for example, attribute EI can be utilized as close to home assets to improve work-related results. work mentalities, conduct, and results (Carmeli, 2003), confidence (Schutte, Malouff, Simunek, Hollander and McKenley, 2001), and work fulfillment (Sy et al., 2006).

Exploration led by counseling firm Towers Perrin (2003) recommended that feelings and objectivity are key components of commitment that impact a person's degree of fulfillment, engagement, and motivation to accomplish great work. Gibbons (2006) characterized representative commitment as an increased emotional and scholarly association that a worker has for their work, association, chief, or colleagues, which impacts the workers to apply extra optional exertion to their work. May et al. (2004) contended that emotional encounters are identified with commitment.

Ravichandran, Arasu, and Kumar (2011) found a huge direct connection between by and large EI and generally EE conduct. They did, nonetheless, find that EI alone would not anticipate EE. In his investigation, Herman (2012) corresponded all out EI with the sub-measurements and found no stable steady affiliations. Thor (2012) found a moderate connection between EI and EE, with EI foreseeing

EE. Emotional self-administration had the most grounded relationship with EE. De Clercq, Bouckenooghe, Raja, and Matsyborska (2013) detailed that positive feelings, for example, good faith, joy constantly are related to elevated levels of EE and are all the more oftentimes experienced by emotionally insightful people.

Jackson (2014) revealed that EE altogether predicts characteristic EI, with quality EI going about as an incomplete arbiter of the connection between EE and execution. Amiability specifically is one of the attributes of quality EI. Khuong and Yen (2014) announced that representatives with higher friendliness were likewise more drawn in with their positions. What's more, they secured friendliness anticipated worker position commitment. As EI gives the premise to collaborations with the climate, it is protected to accept that EI will influence how people draw in with their work,

STATEMENT OF THE PROBLEM

The COVID-19 Pandemic creating new challenges for the employees and they are under different work culture. Day-to-day life actives also playing a major role in employee's performance compared to earlier. Now Employee engagement is the major task for every organization in this critical situation whereas employees are under fear and pressure. Hence this research completely focusing on how Emotional Intelligence Predicting Employee engagement and what are the major precautions should be taken care of from employees and organization perspectives.

PROPOSED MODEL FROM LITERATURE

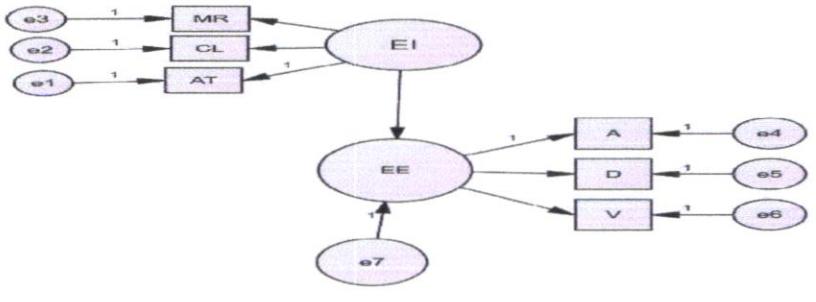


Fig1: Proposed Model

OBJECTIVES OF THE STUDY

The following Objectives are formulated based on the existing literature and the current situation of employees.

1. To discover the relationship between Emotional Intelligence and Employee Engagement in Public sector telecom employees in Andhra Pradesh State during COVID Pandemic
2. To estimate Prediction level of Emotional Intelligence on Employee engagement in Public sector telecom employees in Andhra Pradesh State during COVID Pandemic

HYPOTHESIS

The research was initiated by identifying the significant relationship among the variable under two constructs.

H1a: There exists a significant positive relationship between Emotional Intelligence and Employee Engagement.

H2a: Emotional Intelligence is a predictor of Employee engagement

RESEARCH METHODOLOGY

Source and Sample Justification

The primary source of data collected from the framed questionnaire of adopted scaled items. The same was distributed via Google forms in Andhra Pradesh State. 400 questionnaires are sent via Intranet and 375 people are responding. The completed questionnaire with all answered questions is 350 and for sample justification Robert krejice(1970) table is taken as reference. From the table, for the population of 3500, the required sample size is 346.

VARIABLES OF THE STUDY

For the detailed analysis, standard scales are adopted for both constructs. The emotional Intelligence questionnaire was build from the Meta-Mood Scale (MMS) developed by Salovey, Mayer et al. (1990) scale which is having three variables (Attention, Clarity & Mood Repair) with a total of 48 items, similarly employee engagement construct was build from Schaufeli, Bakker, & Salanova,(2006) with Vigor, Dedication, and Absorption as variables with 17 items. All items are measured on a 5 point Likert scale.

Testing of Hypothesis H1a

From table 2 it was concluded that all the variables of the two constructs are positively correlated with each other. But the relationship is positive but not be considered as strong relationship and those findings are listed bellow

Table2: Correlation among Variables (N=350)

	Mean	SD	1	2	3	4	5	6
Attention	3.95	.829						
Clarity	3.95	.761	.418**					
Mood Repair	4.05	.715	.509**	.484**				
Vigor	3.87	.735	.346**	.384**	.372**			
Dedication	3.76	.767	.246**	.393**	.298**	.433**		
Absorption	3.76	.723	.356**	.447**	.384**	.411**	.523**	

**. Correlation is significant at the 0.01 level (2-tailed).N=350

Findings

- Vigor has a strong positive correlation with,
  - ✓ With attention r(350) = +.346., p <0.01.
  - ✓ With clarity r(350) = +.384., p <0.01
  - ✓ With mood repair r(350) = +.372., p <0.01

- Dedication has a strong positive correlation with,
  - ✓ With attention r(350) = +.246., p <0.01.
  - ✓ With clarity r(350) = +.393., p <0.01
  - ✓ With mood repair r(350) = +.298., p <0.01

- Absorption has a strong positive correlation with,

- ✓ With attention r(350) = +.356., p <0.01.
- ✓ With clarity r(350) = +.447., p <0.01
- ✓ With mood repair r(350) = +.384., p <0.01

Hence it was concluded that Emotional intelligence positively correlated with employee engagement, so the Null hypothesis is rejected.

Testing of Hypothesis H2a

LV Model analysis:

During EFA, Principle Component analysis is used as an extraction technique along with Varimax Rotation Method. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy is found as 0.790, p<0.01. All items are loaded with more than the acceptable value of 0.5 with two factors successfully. For the review of CFA, various goodness and badness indices, and the model fit summary was followed Chau,(1997), the Model Modification Indices of χ^2/df, GFI, TLI, CFI, and RMSEA are found more than Acceptable reported in Table3. So the Measurement model is an absolute fit model and good to go for model validation.

Table 3 Model fit Indices

Model	χ2/df	GFI	TLI	CFI	RMSEA
Model-II	2.457	0.928	0.931	0.938	0.065

Table4 Model Validation

Factor	CR	AVE	MSV	Convergent Validity		Result	Discriminant Validity		Result
EI	0.83	0.63	0.19	CR > .7	YES	Accepted	MSV < AVE	YES	Accepted
EE	0.85	0.66		CR > AVE					
				AVE > .5					

Table 4 Reporting Model Validating Parameters, based on Hair et al., (1998) suggests all factors are greater than 0.7 is good to accept and Construct Validity verified by verifying Convergent validity and Discriminant validity. Convergent validity verified with help of CR(Composite Reliability) and AVE(Average Variance Extracted), same way Discriminant validated with the use of AVE, MSV(Maximum Shared Variance), ASV(Average Shared Variance). So the Model was Construct Validated.

Findings:

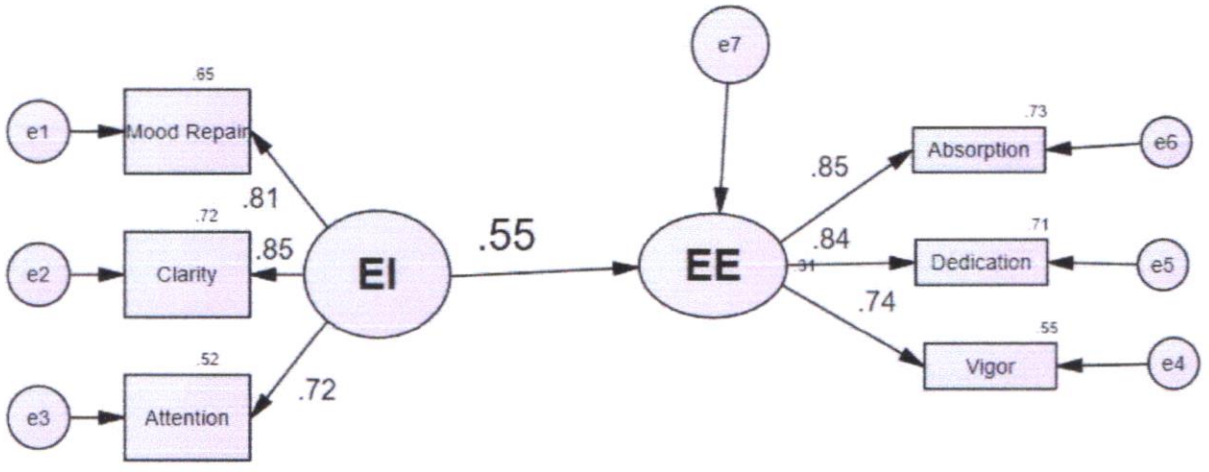


Fig 2 Analysis results Model

EE= 0.55+0.71AT+0.85CL+0.81MR **(1)**

The model itself clearly showing how EE is predicted by EI especially in the COVID-19 Pandemic Scenario. Each variable of EI is completely significant in predicting the dependent variable. Hence the small change in any of the variables of the EI construct is strongly reflecting in the Engagement of the Employees.

SUGGESTIONS:

It's quite obvious that COVID-19 completely disturbed the emotions of each and everyone and no one exempted including employees. This research analyzed how these emotions are affecting the employee engagement of telecom employees. The various observations of this study are

- Most of the employees are highly emotional and thinking that management is not taking care of their feelings. So management may hear their fear/problems that are facing and acknowledge that in a proper manner
- Some of the employees believe that if they are emotional they may enter into depressions it's very dangerous for management so immediately management has to conduct self-motivational programs online and make it mandatory.
- Very few employees are stating that feelings give directions to the life and best way of experience, this type of employee is always an asset for the organization. Encourage reaming employees like this for a fruitful environment.
- Employees are confused about their feelings and few of them are feeling that they are losing their energy. So it's very clear how the state of mind of employees. Hence management must focus on this and by conducting regular counseling sessions management may get some good results.
- Very few of the employees under ambiguous situations where they restricting their feelings even they are not interested to express outside. But it may lead to damage to the organization just like rust over the iron. Hence management may keep eye on this.
- Most of the employees under a pathetic mood that if anything going in a good mood means immediately they may be affected by sad things and also good things in life are illusions. This is completely ridiculous the management must motivate them to experience the reality to come out of this type of typical mood set.

- Very few of the employees are optimistic even in a sad mood also. It's highly appreciable; management must take care of this and continue further like this.
- Some of the employees are in a calm state whenever they are in a sad mood. So management records this while assessing employee performance.

CONCLUSION

- ✓ Emotional Intelligence is a good predictor of Employee Engagement with all variables of EI is participating in the prediction process.
- ✓ Employees Attention levels triggering employee vigor by 0.346, dedication by 0.246, and Absorption by 0.356. All these values are not up to the mark need lot of improvements as suggested above. Moreover, the dedication levels exploring red alert the management.
- ✓ Employees Clarity levels triggering employee's vigor by 0.384, dedication by 0.393, and Absorption by 0.447. All these values are not up to the mark need lot of improvements as suggested above.
- ✓ Employees Mood repairs levels triggering employee's vigor by 0.372, dedication by 0.298, and Absorption by 0.384. All these values are not up to the mark need lot of improvements as suggested above. Moreover, the dedication levels exploring red alert the management.
- ✓ Finally, this researches concluding that the dedication of the employees is under the dangerous stage which must immediately management take care of this.

LIMITATIONS OF THE STUDY

The research completely paying attention to the COVID-19 Pandemic for Telecom Sector limited to Andhra Pradesh State. So the researcher's furthers may be extended to the Indian context for different organizations. Moreover, this completely explained using two constructs but further research can be extended by introducing Moderators or by Mediators for better understanding.

REFERENCES

1. Abraham, R. (2000). The role of job control in emotional dissonance and emotional intelligence outcome relationships. The Journal of Psychology, 134, 169–184
2. Bagyo, Y., 2014, Leadership Style In Improving Performance Through Engagement, [online] Available at http://iosrjournals.org/iosr-jbm/papers/Vol16- issue5/Version-2
3. Bakker, A. B., Hakanen, J. J., Demerouti, E. & Xanthopoulou, D. (2007). Job resources boost work engagement, particularly when job demands are high. Journal of Educational Psychology, 99(2), 274-284. http://dx.doi.org/10.1037/0022-0663.99.2.274
4. Bakker, A. B., Schaufeli, W. B., Leiter, M. P. & Taris, T. W. (2008). Work engagement: An emerging concept in occupational health psychology. Work & Stress, 22, 187-20.
5. Carmeli, A. (2003). The relationship between emotional intelligence and work attitudes, behavior and outcomes. Journal of Managerial Psychology, 18(8): 788 – 813
6. Carson, K. D. & Carson, P. P. (1998). 'Career commitment, competencies, and citizenship'. Journal of Career Assessment, 6: 195–208
7. Chau, P. (1997). Re-examining a model for evaluating information center success using a structural equation modeling approach. Decision Sciences, 28(2), 309–333
8. Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. American psychologist,56(3), 218. Queing

ISSN NO. 1735-188X

Webology

Certificate of Publication

This is to certify that the Research paper entitled

Compensation Reward Management

Authored by

Dr. Y Jayaprada

Research Scholar

Dr. A P J Abdul Kalam University, Indore

Assoc. Prof. at Avanthi Institute of Engineering & Technology

Hyderabad

has been Published in

Webology

Volume 18, Number 6, 2021

Scopus INDEXED

Webology

Not yet assigned quartile

SJR 2021

0

powered by scimagojr.com

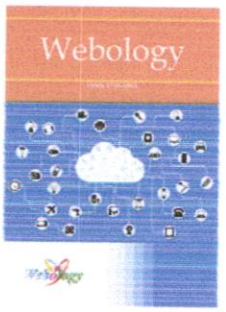
Editor-in-chief

Dr. Stanley Grant

http://www.webology.org/

PRINCIPAL

Avanthi Institute of Engg. & Tech.



ISSN: 1735-188X

Volume 18, No. 6, 2021

Compensation Reward Management

Dr. Y Jayaprada , Dr. Sushil Beliya

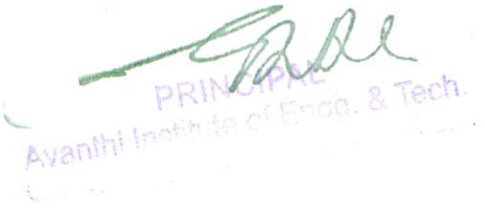
Abstract

Compensation is that the Human Resource Management functions that contend with each kind of reward that people receive reciprocally for activity structure task. It?s primarily associate exchange of relationships. Workers exchange their labor form one ary and business rewards. Monetary compensation is each direct and indirect. In India, dairying has been practiced as a rural cottage industry since the remote past. Semi industrial farming started with the establishment of military dairy farms and co-operative milk unions throughout the country towards the end of the nineteenth century, however, market milk technology is also thought-about to have commenced in 1965, with the functioning of the central dairy farm of Aarey milk colony and milk producttechnologyin1956 with the establishment of ?Anand Milk Union Limited?(AMUL) Dairyin1946 first milk union started in India, at Gujarat. To study the influence of monetary benefits on employees performance. To analyses the influence of non-monetary benefits on employee?s performance. To understand the influence of fringe benefits on employees performance.

Pages: 8478-8490

Keywords: Compensation, monetary and non-monetary benefits.

Full Text



International Journal of Management (IJM)
Volume 11, Issue 3, March 2020, pp. 831–836, Article ID: IJM_11_03_087
Available online at https://iaeme.com/Home/issue/IJM?Volume=11&Issue=3
ISSN Print: 0976-6502 and ISSN Online: 0976-6510
DOI: https://doi.org/10.17605/OSF.IO/2ZUXJ

COMPETENCY ANALYSIS

Dr. Y Jayaprada

Dr. Sushil Beliya

ABSTRACT

In today's competitive and global environment it has become crucial for every organization to retain competent employee for survival. The success of an organization depends not only on how the organization makes the most of human competences, but also how it stimulates commitment to an organization. Employee commitment, together with a competent workforce, seems to be of decisive importance for an organization to be able to compete in quality and to go along with changes. This paper reviews the available literature on competency based management and its uses in the organizational sector. Very little research has been done in this area in the Indian organizations. This paper defines the concept of competency based management, the driving force behind the use of competency based management and its uses in the organization as well as the future prospect of research in this area specifically in the Indian organization context. Organizations are using competency based management as a tool for the success of the organization. Studies have shown that competency approach to human resource management is not new. Competency framework is used by the organizations today in different HR practices like recruitment and selection, training and development, performance management, career development, compensation and pay etc. to improve the performance of the organization as well as of employees. Competency based management approach focuses on increasing the potential of employee to have the competitive edge over other organizations in today's time. Researchers and scholars have reported that competency based management has a positive effect on the performance of organization and on employee's performance also. Keyword: competency based management, organizational performance.

Keywords: Competency Analysis, HR Practices, Environmen, Organizational

Cite this Article: Dr. Y Jayaprada and Dr. Sushil Beliya, Competency Analysis, International Journal of Management (IJM), 11 (3), 2020, pp. 831–836.
https://iaeme.com/Home/issue/IJM?Volume=11&Issue=3

INTRODUCTION

In the present business environment of cut throat competition and globalization, competency based practices have gained much of an attention from the contemporary organizations. Globalization, individualization, digitalization and increasing competition are changing the face of the industry as we know it. They aim at achieving an optimum performance in the long term by developing the skills and competencies of the employees on a continuous basis. Literature and best practices indicate that, to some extent, if employers treat their employees as valued contributors, they tend to remain in the organization. To this end, organizations train, offer competitive compensation plans and increase benefits to secure their employee loyalty.

What Would Competency Analysis Mean?

Competency analysis is used to develop competency profiles and frameworks for HR planning, recruitment, performance management, and training and development. However, it can also give information for competence-related page processes, and the findings of the analysis can be used to define roles or contribute to the design of layers in a work family.

It is required to determine the knowledge, skills, and process abilities needed to accomplish the organization's business activities so that they may be established and used as the foundation for workforce practices

Competency Analysis Characteristics

Competencies have important characteristics:

They provide a clear framework and emphasis for recruitment, evaluation, performance review, and training, and they serve as the foundation for consistent staff selection and growth.

They defined the essential abilities that lead to effective job performance at the individual level.

They give the organization a common language by providing a systematic manner of describing activity.

They are primarily concerned with future behavior.

Competency Analysis' Objectives

Competency analysis is formalized to guarantee that it is carried out in accordance with established organizational processes.

The workforce competencies required to carry out the business activities of the organization are defined and updated.

The company keeps track of how well it does in each of its employee capabilities.
Work processes are established and managed for each worker capability.

METHODOLOGIES AND TOOLS FOR IDENTIFYING COMPETENCIES

(a) Workshops: A workshop with a more structured approach is more likely to deliver better results, especially if the workshop is primarily made up of people who are really doing the job. The skill definitions will thus be stated in the lingua of the jobholders, making them far more satisfactory and practical.

The workshop launch pad's responsibilities include assisting the group in analyzing its findings, prompting, providing examples, and generally assisting in the prediction of a set of competence dimensions that can be demonstrated through behavior-based examples.

(e) Questionnaire Method: The questionnaire approach is the most popular and extensively utilized tool for measuring competencies. This method can be used to assess competency at all three levels: organization, function, and job.

(d) Story Writing Method: Using this strategy, employees and their superiors will be asked to define the jobs they perform, as well as the knowledge, talents, and behavioral attributes necessary to complete them with quality, precision, and outcomes. Writings from all employees and supervisors are gathered and reviewed at the organizational level to determine competency requirements for various positions and responsibilities.

(e) Interview Technique: Interviewing current employees to determine what skills are required to execute a job. Job effectively gives useful information that aids in the identification of a job's most appropriate capabilities. To collect information, resource workers who have been educated in the interview approach use both a standardized and a contingency format.

There is a combination of structured and open-ended questions in the format. Depending on the scope of the study, these interviews will be conducted on all or a representative sample of employees. In the same way, interviewing the head of department or the chief executive may reveal function and organizational level competencies.

(f) Repertory Grid: In some aspects, this technique is similar to the critical incident strategy. The dimensions of excellent and poor performance standards are established using a repeatable grid. These traits were developed through interviews and surveys with job seekers to see what behaviors cause some people to perform extraordinarily well while others do not.

(g) 360- Degree Survey: Collecting feedback and viewpoints from our stakeholders on what competencies are wanted and required to effectively lead an organization, manage departments, and perform various duties generates a lot of data. Questionnaires, essay writing, debates, and conferences can all be used to gather data from a variety of stakeholders with varying degrees of expertise.

(h) Critical Incident Methods: Major incidents can reveal a lot about the skills needed to deal with them, whether they resulted in remarkable outcomes or failures for organizations and individuals. Using this strategy, a few examples from the past or scenarios that are likely to occur in the present or future will be chosen for a given research.

Both observers and job holders will write a descriptive version of the incident's origin, how it was handled, why one strategy was chosen over another, what knowledge, expertise, or soft skills were employed in resolving the incident, and what outcomes were predicted and actually achieved. This method's data is very useful for identifying significant competitors.

(i) Focus Groups: Employees that perform extraordinarily well, are innovative, and have a history of questioning the status quo comprise a focal group in this strategy. To achieve great results, this group focuses on identifying and suggesting the optimum competency model to deploy at the organizational, functional, and job levels.

(j) Case Study Method: Highly successful performances that employees enjoy and perceive as the best of their careers in an organization, as well as underperformance events, are researched in depth to understand the factors that contribute to peak performance and the variables that contribute to below average performance. It is determined which abilities are required to properly manage adverse conditions and which abilities are required to establish conducive situations for superior performance. When a thorough investigation is necessary, the case study method is applied. The study is carried out by resource persons using organized and unstructured information gathering approaches.

Advantages of Competency Analysis

Competency analysis serves as the cornerstone for a number of human resource development efforts. This versatile, flexible, and scalable tool has been used to accomplish the following:

Concentrate on improving your performance.

Encourage employees to improve their performance on a regular basis.

Determine whether or not an individual is ready for a promotion.

Employees' career development should be guided.

Concentrate your training on the skills that need to be improved.

Give credit where credit is due for prior knowledge and expertise.

Assist in the development of human resources in a systematic manner.

Individualize training delivery to meet the needs of the individual or business.

Examine if training programmes are appropriate for promoting job competence.

Employees should be given a precise work description.

Create job postings,

Personnel should be interviewed and chosen.

Perform performance evaluations,

Create a modular training programme that can be grouped as needed.

Create a learning programmer

CONCLUSION

It is visible from the literature review that competency based management is a fast emerging as a new approach for making employees more proficient in their work so that organizations can achieve the competitive edge over their competitors and thrive in today's time. Competency based management have turned out to be an effective tool for HR to improve the organizational performance. Integration of competency model with the HR function has enhanced the performance of individual as well as organization.

FUTURE DIRECTIONS

Competency approach has been in practice from past 30 years for managing the human capital of any organization, it shows that it's not something new. However, this concept has not been explored much in the Indian Context. As the business Competency Based Management In Organizational Context: A Literature Review 355 environment is changing frequently due to various developments in the technical, social and economic environment the role of organizations using competency framework for human resource management should be studied for retaining the employees and to increase the commitment of the employee towards the organization as having a competent pool of employees have turned out to be a crucial part of any organizations. Effect of implementing competency based management in the different organizations need to be further explored as it will help in improving and gaining insight of the concept which in turn will help the organization in enhancing their performance as well as that of employee.

REFERENCES

[1] Ashkezari M J D, Aeen M N. Using Competency Models to Improve HRM. Ideal Type of Management 2012; 1(1): 59-68

[2] Boyatzis, R.E. (The Competent Manager: A Model for Effective Performance. Wiley, 1982; New York, NY.

[3] Byham. Developing Dimension/Competency-Based Human Resource Systems: A Monograph, 2006.

[4] Caupin. ICB – IPMA Competence Baseline, version 3.0. International Project Management Association 2006.

[5] Cook, Kevin, Bernthal, Paul. Job/Role Competencies Survey report.HR benchmark Group. Pittsburgh, PA: development Dimensions International 1998; 4(1).

[6] Cooper, Scott, Lawrence, Eton, Kierstead, James, Lynch, Brian, Luce, Sally. Competencies—A brief overview of development and application to public and private sectors. Ottawa: Public Service Commission of Canada, Research Directorate. Policy, Research and Communications Branch 1998.

[7] Draganidis, Mentzas. Competency Based Management; a review of Systems and approaches. Information Management & Computer Security 2006; 14(1):51- 64.

[8] Donzelli A, Walsh V. Introducing competency management at ESA. ESA Bulletin 2006; (ISSN 0376- 4265), 126:72 – 76.

[9] Ennis. Competency Models: A Review of the Literature and the Role of the Employment and Training Administration (ETA). U. S. Department of Labor 2008.

[10] Gangani McLean, Braden A. Competency-Based Human Resource Development Strategy. Performance Improvement Quarterly 2006; 19 (1): 127- 140.

[11] Greengard, Samuel. Make smarter business decisions: Know what employees can do. Workforce 2001; 80(11):42.

[12] Kumari A, Sita V. Role of Human competencies in Human Resource Management: A study in Indian organizations. OIDA International Journal Of Sustainable Development 2010; 2(3):29-34 Available at SSRN: http://ssrn.com/abstract=171037. 356 Kaushiki Tripathi and Manisha Agrawal

[13] Lepsinger L. The Art and sciences of competency models: pinpointing critical success factors in organization. San Francisco: Jossey- Bass/Pfeiffer 1999.

[14] McClelland. Testing for competence rather than intelligence. American Psychologist1973:1- 14.

[15] McClelland D.A Guide to Job Competency Assessment, McBer & Co., Boston, MA 1976. [16]

[16] McLagan P. Competencies: The Next Generation. Training & Development 1997: 40-47. [17]

[17] Ozcelik, Ferman. Competency Approach to Human Resource Management Outcomes and Contributions in a Turkish Cultural Context. Human Resource Development Review 2006; 5(1) :72-91

[18] Pickett, L. Competencies and managerial effectiveness: Putting competencies to work. Public Personnel Management 1998; 27(1):103–115.

[19] Rowe. Clarifying the use of competence and competency models in recruitment, assessment, and staff development. Industrial and commercial Training 1995; 27 (11):12-17

[20] Sparrow P. Organizational Competencies- a valid approach for the future. International Journal of Selection and Assessment 1995; 3(3):168-77.

[21] Spencer, Lyle M Jr, Spencer, Signe M. Competence at work. New York: Wiley 1993. [22] United Nations Industrial Development Organization. UNIDO Competencies. http://www.unido.org 2002.

JOURNAL OF CRITICAL REVIEWS

ISSN- 2394-5125 VOL 7, ISSUE 01, 2020

Performance Analysis and Practices

Author1: Dr. Y Jayaprada

Author2: Dr. Sushil Beliya

Abstract – According to recent studies, the dairy sector has placed a large emphasis on its human resource for many decades because it is the most valuable and valuable resource. The performance analysis in this study looked at four functions to assess the competitiveness of the dairy sector's Human Resources

Key words: HR Management, Training, employee participation

1. INTRODUCTION

People are always in demand, but unlike finance, they cannot be simply replaced by technology or transferred about. To ensure that a dairy company's manpower capital is made up of the right people, in the right place, at the right time, to produce high-quality value for business capital in conjunction with communities, a systematic approach to applying human resource practice is required.

Many HR writers have regarded and described human resources as an organization's most valuable asset. People differ in every way, despite their complex and dynamic nature, which includes their personality, character, and ability to attain goals.

1. Recruitment and Selection
2. Training and development
3. Performance Management System
4. Compensation and Benefits

While recruiting prospects, firms should carefully map the available HR because they provide a competitive advantage for the company. The organization must look at the candidate's competency area and provide relevant training to them while training them. The primary goal of training is to increase the performance of dairy industry human resources. Compensation and benefits are a crucial factor in a company's recruiting rate, retention rate, and overall employee satisfaction. Due to the entry of global firms, dairy companies are improving modern HR methods.

The purpose of this article is to investigate the Human Resource Practices of Mother Dairy Private Limited, which is currently regarded as the best firm in the Indian dairy industry as a whole. The availability of excellent HR practices in firms makes them competitively advantageous, as well as supporting the organizations' genuine people.

The objective of this research is to conduct a literature evaluation on HR practices used in businesses. Both primary and secondary data were used in the study. The primary data was acquired from 34 Mother Dairy employees using an offline questionnaire, and the findings were calculated using the percentage technique. According to the findings, Mother Dairy Fruits & Vegetables Private Limited follows standard HR Practices and their employees are content with the organizational climate, indicating that their company follows an ethical HR policy.

ISSN- 2394-5125 VOL 7, ISSUE 01, 2020

Recruitment is the most fundamental function of HR: it is the process of finding employees to apply for job openings at Mother Dairy Private Limited. The selection process, on the other hand, is the procedure for selecting the best candidate from a pool of applicants gathered by recruiting. After the recruitment procedure, the selection procedure takes place.

Once an employee joins the company, he or she is trained and developed in accordance with the company's needs and project areas. Once an employee has been trained, he or she performs, and based on their performance and appraisal analysis, a decision is made about remuneration and payment.

For large firms, the HR practices procedure will be lengthy, while for dairy firms, the procedure will be more extensive, and it will differ from one industry to the next. Many variables must be considered when following HR practices, for example, when selecting a candidate, the best HR activities must be chosen from aptitude testing, group discussions, work history, and referral history.

Performance appraisal methods and procedures in some Asian nations are comparable to those in India. However, other systems, such as those in Japan, have grown over time to become essential components of the Japanese management philosophy and style. As in India, performance rating systems in Singapore, Malaysia, the Philippines, Pakistan, Indonesia, and Sri Lanka are a mixed bag. The purpose of this chapter is to illustrate some of the significant developments in some of these countries. The fundamental argument of this chapter is that, in comparison to other Asian countries, Indian businesses are probably slightly better off in terms of the appraisal systems they have or are experimenting with (if we do not consider the multinational present in these countries whose appraisal systems are decided largely by their western Counterparts.).Because most of these countries lack well-established institutions for doing management research, the available literature is sparse. For example, in the previous several years, there have been only one or two publications on this issue published in Singapore's major publications (for example, Singapore Institute of Management).However, countless papers, articles, and workshop summaries have appeared in local journals as a result of the spike in public interest in assessment systems in Singapore over the previous two years. These sources were used to make the observations in this chapter. Additional material was obtained from the author's trips to several of the institutes in the Philippines, Malaysia, and Singapore, as well as meetings with professional colleagues from these and other countries. Finding research and case studies on Asian countries' performance assessment methods remained difficult even in places like the Philippines, where the Asian Institute of Management existed. This, in and of itself, reflects the current state of evaluations as well as managers' and the management profession's past disregard of this subject. Western management literature, on the other hand, has paid some attention to this topic. For example, their Journal of Applied Psychology has had at least one article dealing with appraisal-related themes in each of the last three years.

Research objective:

The main purpose of the study was to identity the impact of HR practices on competitiveness of the dairy sector's

ISSN- 2394-5125 VOL 7, ISSUE 01, 2020

Training and Employee development:

Training is done to create change by initiating a new employee into the culture of the organization. It involves new employees acquiring new skills or improving their skills in order to implement change that is needed by an organization. Training is not sufficient enough to motivate work force. But, it is an important tool that an organization can use to achieve its long term goals (Laird, Holton III, & Naquin, 2003). ISSN: 2289-4519 Page 32 Training given to employees is done as an agreement to maintain culture of the organization and also to be productive which in turn will result in earning reward and awards. Training also plays an important role in employee performance as the skills acquired during the training will be the major part of the employee life-cycle in an organization. Training as a tool will help an employee to upgrade his knowledge and technicality and improves his performance in the organization. Training plays an important role in motivating employees to take part in organized projects, to willingly support programs that will improve the organization and to do their best in order to see that organizational goals are achieved (Bolman & Deal, 2011).

Performance Appraisal:

Performance appraisal is used by organizations to evaluate employees' efforts so as to reward them for the efforts. Performance appraisal was found to have both direct and indirect effect on administrative performance of employee and the feedback obtained from performance appraisal activities, usually conducted at least once annually can help to improve administrative processes.

Limitations and future study:

There are also many limitations of this study which includes; First, the study is only limited to a single telecom major in Malaysia, So the results of this study can only be used for further research in telecom industry at different levels. Secondly the HR practices discussed in this study are very short in numbers. These HR practices are taken from the research work already done by different researchers and according to the predominant HR practice at Telekom Malaysia, hence there are several other practices which could be focused in future studies.

References:

Ahmad, S., & Schroeder, R. G. (2003). The impact of human resource management practices on operational performance: recognizing country and industry differences. Journal of Operations Management, 21(1), 19-43.

Bae, J., & Lawler, J. J. (2000). Organizational and HRM strategies in Korea: Impact on firm performance in an emerging economy. Academy of Management Journal, 43(3), 502-517.

BARNEY, J., & Hesterly, W. (2006). 1.3 Organizational Economics: Understanding the Relationship between Organizations and Economic Analysis. The SAGE handbook of organization studies, 111.

Becker, B. E., & Huselid, M. A. (2006). Strategic human resources management: where do we go from here? Journal of management, 32(6), 898-925.

Bharadwaj, A. S. (2000). A resource-based perspective on information technology capability and firm performance: an empirical investigation. MIS quarterly, 169- 196.

ISSN- 2394-5125 VOL 7, ISSUE 01, 2020

Bolman, L. G., & Deal, T. E. (2011). Reframing organizations: Artistry, choice and leadership: Jossey-Bass.

Bowen, D. E., & Ostroff, C. (2004). Understanding HRM–firm performance linkages: The role of the "strength" of the HRM system. Academy of management review, 29(2), 203-221.

Cardon, M. S., & Stevens, C. E. (2004). Managing human resources in small organizations: What do we know? Human resource management review, 14(3), 295-323.

Carlson, D. S., Upton, N., & Seaman, S. (2006). The Impact of Human Resource Practices and Compensation Design on Performance: An Analysis of Family-Owned SMEs. Journal of Small Business Management, 44(4), 531-543.

Castilla, E. J. (2005). Social Networks and Employee Performance in a Call Center1. American Journal of Sociology, 110(5), 1243-1283.

Collins, C. J., & Clark, K. D. (2003). Strategic human resource practices, top management team social networks, and firm performance: The role of human resource practices in creating organizational competitive advantage. Academy of Management Journal, 46(6), 740-751.

Collins, C. J., & Smith, K. G. (2006). Knowledge exchange and combination: The role of human resource practices in the performance of high-technology firms. Academy of Management Journal, 49(3), 544-560.

Combs, J., Liu, Y., Hall, A., & Ketchen, D. (2006). How much do high-performance work practices matter? A meta-analysis of their effects on organizational performance. Personnel Psychology, 59(3), 501-528.

International Journal of Management (IJM)
Volume 11, Issue 11, November 2020, pp. 4376-4382, Article ID: IJM_11_11_440
Available online at https://iaeme.com/Home/issue/IJM?Volume=11&Issue=11
ISSN Print: 0976-6502 and ISSN Online: 0976-6510
DOI: https://doi.org/10.17605/OSF.IO/P9HZJ

RSDQ MODEL OF 360 DEGREE FEEDBACK

Dr. Y Jayaprada
Research Scholar, Dr. A P J Abdul Kalam University, Indore, India;
Associate. Professor, Avanthi Institute of Engineering & Technology, Hyderabad, India

Dr. Sushil Beliya
Prof. Dr. A P J Abdul Kalam University, Indore, India

ABSTRACT

A large number of organizations have been using 360 degree feedback in India as leadership development intervention. This paper is based on the feedback of 43 participants from four companies where the 360 Degree Feedback program was initiated. The study was done using a questionnaire method. The results indicated that there has been an overall positive impact reported of 360 Degree intervention on ones professional life after 360DF. More than 60% of the participants report that they visited 360DF data every quarter. 24 participants reported that about 50% of their action plans prepared at the end of the 360 intervention were implemented. At least 30% of the action plans were achieved by 6 of the participants and 2 participants reported achievement of all their action plans. The participants also reported that the RSDQ model based 360DF tool provided detailed insight covering various parameters of one?s role. The participants also recommend that with more periodic follow up and review sessions (every quarter) anchored by internal HR and more focus and seriousness among the participants to work on the action plans will result in using 360 DF for change and growth.

Keywords: RSDQ, 360 Degree, Leadership, Management, HR, Feedback

Cite this Article: Dr. Y Jayaprada and Dr. Sushil Beliya, RSDQ Model of 360 Degree Feedback, International Journal of Management (IJM), 11(11), 2020, pp. 4376-4382. https://iaeme.com/Home/issue/IJM?Volume=11&Issue=11

INTRODUCTION

One of the most popular management and leadership development tools of recent times is 360 Degree Feedback. It is said that almost every fortune 500 organization uses 360 Degree. That 360 Degree Feedback is a cliche, is a cliché, and probably quite deserving of it, owing to the multiple purposes for which the instrument has been used in companies, Institutes, NGOs and even Schools! Vast has been its reach and coverage. Many organizations and most Not for Profit organizations have been found using 360DF as a leadership development tool.

While on one hand, India can boast about using the instrument across a range of companies and institutions; on the other, empirical research into the subject has been, if anything, very scanty, barely noticed or read about. Not very surprising, since India has primarily never been much into research implementing or publishing, both of which are done on a massive scale in the U.S as well as in Europe. While 360DF s reach across India is no small matter, we are still only a decade old though slowly but surely, maturing. Comforting news, that The RSDQ model (roles, styles, delegation, and qualities) was established by the TVRLS (T.V Rao Learning Systems) for top and senior management in terms of managerial and leadership competences required. Effective management and leadership are viewed as a mix of four sets of variables in this model of leadership and managerial effectiveness.

Roles: How much a person participates in various leadership and management jobs and activities. To be effective as a manager, every manager must take on a variety of responsibilities. These roles encompass both transformative (leadership) and transactional (management) tasks, such as:

- Customer management on the inside.
- Customer management from the outside.
- Organizing and managing unions and groups.
- Managing and introducing new technology and systems.
- Juniors must be inspired, developed, and motivated.
- Taking charge of juniors, coworkers, and seniors.
- Articulating and sharing one's values and vision.
- Developing policies and plans for the long term.
- Culture building.

Styles: While effective managers recognize and execute leadership duties, it is not just the positions or activities that define effectiveness, but also how they are executed. The model assumes that managers can perform well in most positions, spend time and effort, but are unconcerned about the manner in which they carry out these tasks. The author has categorized the leadership styles into the following categories based on previous study at the Indian Institute of Management:

A paternalistic or benevolent leadership style in which the top management believes that all of his employees should be continually supervised and treated with affection, as if they were his children. It prioritizes relationships, assigns jobs based on his own preferences, continually leads and protects them, recognizes their requirements, aggressively intervenes in crisis situations to save them, rewards loyal and obedient employees, and shares information with people closest to him.

A critical leadership style is similar to the Theory X belief pattern, in which the manager believes that employees should be closely supervised, directed, and reminded of their duties and responsibilities on a regular basis, in short-term goal-oriented, cannot tolerate mistakes or conflicts among employees, personal power dominated, keeps all information to himself, and works strictly according to norms and rules.

A developmental leadership style is defined as an empowering style in which the top manager believes in developing his employees' competencies, treats them as mature adults, leaves them on their own the majority of the time, is long-term goal oriented, shares information with all to build their competencies, and facilitates conflict and mistake resolution by the employees themselves.

The developmental form of organization construction has been discovered to be the most popular. However, some people and situations necessitate benevolent and critical methods at different times. According to research, some managers are unaware of their dominating management style or the impact it has on their workforce.

Delegation: The RSDQ model regards a senior executive's ability to delegate as a significant factor in their effectiveness. This component was introduced since most senior managers, especially the competent managers who advance quickly in their careers, appeared to have difficulty delegating. As a result of these experiences, delegation has been identified as a critical leadership variable. Those who delegate free up time to focus on higher-level activities, while those who don't continue to handle lower-level activities, stifling their leadership and managerial effectiveness.

Qualities: Managers should have attributes of leaders and world-class managers, according to the model (for example, pro activity, listening, communication, positive approach, participative character, and quality orientation). Such attributes have a significant impact on the efficacy with which top-level managers perform diverse jobs, as well as on leadership style, and are thus quite important.

The RSDQ model is used to create the TVRLS 360-degree feedback instrument for managerial and leadership development. There are around 75 actions recognized under each of the jobs stated above in terms of managerial skills. An instrument was designed to assess the extent to which the manager is seen to be executing these duties (two versions: one with 55 items for senior managers and the other with 75 items for top level managers).A 51-item instrument evaluates the extent to which the aforementioned styles are displayed in 12 different situations or activities, as well as the impact the person has on his subordinates in terms of five variables: feelings (dependence, incompetence, independence, interdependence, and resentment), job satisfaction, work commitment, morale, and extent of learning. The participant learns about his benevolent, critical, or developmental (dominant and backup) styles, as well as their influence, using this instrument. The delegation questionnaire determines how much time the participant is delegating and releasing for higher-level jobs and responsibilities. A ten-item questionnaire assesses the various symptoms of delegation and non-delegation. In the instance of behavioral traits, the semantic differential approach is now used to incorporate 25 attributes. Three open-ended questions in the end attempt to elicit the respondent's most prominent qualities and faults, as well as suggestions for development.

With changes in their business environment, the instruments established on the basis of the RSDQ model are updated on a regular basis based on characteristics crucial to top management responsibilities and positions.

INDIAN ORGANIZATIONS AND 360 DEGREE FEEDBACK

Although a well-established concept in the West, 360-degree feedback is gradually gaining acceptance in Indian organizations.

Objective of 360- degree feedback

- In most cases, 360-degree feedback is being used as a developmental tool. Only 1 out of 9 organizations use it for promotions and rewards.

Coverage

- 7 out of 9 organizations use it for their top management. 1 of the 9 organizations provided the feedback on a voluntary basis

Parameters on which feedback is sought

The most common dimensions on which feedback is sought are:

- Ownership
- Commitment to excellence
- Communication
- Initiative
- Team skills
- Commitment
- Customer orientation
- Learning

Role of HR Department

The HR department was found to perform one or many of the roles enlisted below:

- Promoting the concept through orientation workshops
- Acting as the coordinating body, finalizing list of assessors, sending the questionnaires, etc.
- Compiling the feedback and preparing the profile
- Liaising with the external agency in preparing the feedback profiles
- Conducting counseling sessions and reviewing development post- 360 -degree feedback

Objectives:

1.To put RSDQ model of 360DF under the scanner (so to speak), and thereon

2. To find if the 360Degree Feedback can correctly identify star performers, differentiating them from other average and low performers, and

3. To authenticate 360DF s results opposed to some other method of identifying performers or stars, i.e. through the common Performance Appraisal system; and finally,

4. To document a conceptual framework, outlining integration of research findings with practical application and providing possible direction for future value adding utility. Target Population who will find the study and outcomes useful are all Managers, Executives, Consultants, Institutes and any type of organization members. There is the hope that such type of study will influence researchers and managers to delve more deeply into the area of 360 Degree Feedback. Charting an unexplored ocean, if you will!!

Focus of this study has been on organizations, but as a tool, 360DF has been implemented in institutions, be they commercial or otherwise, and even schools. As a consultant, the most comforting and redeeming part of the exercise has been the experience of working with schools i.e. school teachers, Principals, their trustees and other such staff who have gone through the feedback process. We have also successfully managed to apply the same to PG students doing their MBA. It is quite fascinating to see one common instrument, the 360DF, being sculpted to suit various audiences needs. The process essentially remains the same. What changes is the Questionnaire, its dimensions and variables on which feedback is sought.

Any study always has certain assumptions kept in mind while creating the tool/instrument. This study is no different, the assumption here being that Performance Appraisal method is correct and valid, providing correct results (Performance based Pay, Rewarding those deserving)

NEED FOR THE STUDY

The theme has the element of 360Degrfee Feedback, a concept which is, relatively speaking, new in our country. Similarly, the very idea of identifying individuals and putting them on a fast track (system and process catering to identifying future leaders and grooming them for future roles) is itself less than a decade old (India). Both these concepts and tools are recently being used by a multitude of organizations. While the nuances of 360DF and Fast Track Performers will vary from company to company, the fundamental concepts, purpose for using them and the result will essentially be the common thread providing the linkage of one with another.

The latest need on the block is Retention, or rather, prevention of high employee attrition which most companies today face. Given the rate of Globalization and change, companies are extending efforts to give performers better incentives by inflating their egos and hooking them into a very well laid out scheduled career path that is full of royal treatment along the way to becoming king! Needless to say, such schemes or plans, if left in between, will mean the individual having to start from scratch establishing his credentials and performance potency. Which in turn implies lost time that the HR manager hope will not be worth the change for the intending candidate and that s how current retention programs are in the limelight.

ABRIEF REVIEWOF 360 DEGREE FEED BACK

"The (360 degree) feedback process...involves collecting perceptions about a person s behavior and the impact of that behavior from the person s boss or bosses, direct reports, colleagues, fellow members of project teams, internal and external customers, and suppliers. Other names for 360 degree feedback are multi-rater feedback, multi-source feedback, full-circle appraisal, and grouper formance review". describes 360 Degree feedback as the systematic collection and feedback of performance data on an individual or group, derived from a number of the stakeholders in their performance. Assessment through 360 Degree feedback is normally via a questionnaire completed by a stakeholder in the individual s performance: those who work closely enough with the manager to respond to questions about their behavior and its impact. The data is then fed back to the participant, in a way that is intended to result in acceptance of the information and the formulation of a development plan The 360 Degree feedback seems to be so powerful that even the cabinet secretariat of the U.K. has introduced 360 degree Feedback to increase self awareness of Civil servants. The underpinning assumption for this development was that a key criterion for good leadership is self-awareness (Cabinet Office) and that if done well, it is a very powerful tool of management and a very good way of helping people improve their own performance Perhaps the most notable work on perceptions of managers to 360 Degree feedback in a UK context was a study by *Mabey.* He examined managers reactions at the Open University during 360 Degree feedback process implementation. This study established that many managers perceived that they had not developed a particularly different understanding of themselves, but the process had reinforced the direction of their development. Interestingly, as Mabey (2001) notes, in contrast to assumptions made by other commentators, some participants suggested the process would gain more if results were not private as their accountability to act might be increased. Yet the availability of individual results might increase what McCauley and *Moxley)* call the approach avoidance reaction to feedback, meaning that managers may wish to understand the perceptions of those around them, yet may be concerned about hearing their weaknesses and try to control the possibility of negative feedback. Despite numerous positive descriptions of the potential benefits of 360 Degree feedback, some studies give reason to question whether any real development actually occurs, or whether the process is as positive an experience as suggested However, in terms of growing commitment to the system *Waldman and Bowen (1998)* indicate this is more likely to improve with time.

This is because managers become more assured of senior management commitment and their intentions surrounding the process become clearer

CONCLUSION

360-degree appraisal and feedback mechanisms are being used in various organizations. A common belief is that an organization needs special instruments designed for such an appraisal before any such appraisal can be implemented. On the contrary, a large number of instruments available to measure individual behavior can be modified very quickly for 360-degree appraisal.

- It is not always necessary to get instruments specially designed for 360-degree appraisal. You can easily adapt any existing instrument that you may be familiar and comfortable with. That gives you a wider range of instruments to be used for such a purpose.
- The instrument does not have to be of an appraisal type. The above experience shows that an instrument for self-development could be used just as effectively to get more insight into one's behavior.
- The organization need not take initiative for 360-degree appraisal. The individual may take his or her own initiative. The organization would go in for such a feedback once they see the success of such a mechanism.
- The dependency on foreign instruments for 360-degree feedback can be reduced since there are hundreds of Indian instruments available, which may be used for such a purpose.

REFERENCES

[1] Neharika Vohra, and Manjari Singh, Mental traps to avoid while interpreting feedback: Insights from administering feedback to school Principals, Human Resources Development Quarterly, 2005, 16(1), 139-147.

[2] Rai, Himanshu and Singh, Manjari, Mediating Effects in the Relationship between 360- Degree Feedback and Employee Performance, Ahmadabad: Indian Institute of management, Working Papers, 2005 (W.P. No. 2005-04-06)

[3] Rao, T. V, and Annapurna, J. An exploratory study of changes in the roles and competencies of top-level managers due to 360-degree feedback, Ahmadabad: Unpublished research Paper

[4] Rao, T. V. and Chawla, Nandini 360 Degree feedback and Assessment and Development Centres, New Delhi: Excel Publications, 2005

[5] Rao, T. V. and Rao, Raju, 2003 The Power of 360 Degree Feedback, New Delhi: Sage Response Books.

[6] Rao, T. V. Mahapatra, G, Rao, Raju and Chawla, Nandini. 360 Degree feedback and Performance management Systems, New Delhi: Excel Publications, 2002

[7] Rao, T. V. Vijayalakshmi, M and Rao, Raju: 360 Degree feedback and performance Management Systems, New Delhi: Excel Publications, 2000

[8] Antonioni, D. (1996). Designing an effective 360-degree appraisal feedback process. Organizational Dynamics.

[9] Atwater, L., & Waldman, D. (1998). 360 degree feedback and leadership development. Leadership Quarterly, 423-426.

[10] Bracken, D. W., & Rose, D. S. (2011). When does 360-degree feedback create behavior change? Journal of Business and Psychology, 183-192.

[11] Carson, M. (2006). Saying it like it isnt: The pros and cons of 360-degree feedback. Business Horizons, 395-402.

[12] Edwards, M. R., & Ewen, A. J. (1996). Review of 360 degree feedback: The powerful new model for employee assessment & performance improvement. American Management Association.

[18] Tornow, W.W, M.London & CCI Associates (1998). Maximising the value of 360

[19] Degree Feedback, Jowwey-Bass Ibc.

[20] Tversky, A, & D. Kahneman (1974). Judgement under Uncertainty: Henristics and Biases, Science,185,1124-31.

[21] Warmke, D.L.&R.S.Billings (1979). Comparison of Training Methods for improving the Psycho-Metric Quality of Experimental and Administrative performance Rating, Journal of Applied Psychology,124-31.

[22] Yakavac, M. (996). Paying for Satisfaction, HR Focus, June, pp.10-11.

ISSN: 2278-4632
Vol-10 Issue-6 No. 1 June 2020

A Study on Awareness about Women Welfare Programme and Policies: Special Reference to Dharwad District, Karnataka

Mr. Raviraj H Nagaral[1]

Abstract

India's social security system is composed of a number of schemes and programs spread throughout a variety of laws and regulations. However, that the government-controlled social security system in India applies to protect and welfare of the people. Social security is basic fundamental human right, felt need and demand of the people for their wellbeing in the society, its fulfilment will contribute in achieving various developmental goals of the nation. Article 15(3), the Constitution of India allows for positive discrimination in favor of women. The article, under right to equality, states that: "Nothing in this article shall prevent the State from making any special provision for women and children." In addition, the Directive Principles of State Policy 39(A) states that: "The State shall, in particular, direct its policy towards securing that the citizens, men and women equally, have the right to an adequate means of livelihood." The Rashtriya Mahila Kosh (National Credit Fund for Women)was set up in 1993 to make credit available for lower income women in India. More recent programs initiated by the Government of India include the Mother and Child Tracking System (MCTS), the Indira Gandhi Matritva Sahyog Yojana, Conditional Maternity Benefit plan (CMB), as well as the Rajiv Gandhi Scheme for Empowerment of Adolescent Girls – Sabla, "Stree Shakthi", "Santhwana" and etc., Hence, paper bring forth about Awareness of Women Welfare Programme and Policies: Special Reference to Dharwad District. *The main objectives are, a)To identify the socio-economic profile of the study areas. b)To find out the awareness and utilization of women welfare schemes.c) To give suitable recommendation for their welfare*

The study will be data collect from both primary and secondary sources. The study will use probability sampling method. Total sample to be selected for this study are 50 respondents. In this study from different age groups, geographical areas will be selected as respondents. The data analysis will be use qualitative and quantitative manner. The researcher will be used for social science methods to this entire study. This paper is an attempt to list and map the various women welfare schemes of the State of Karnataka.

Key words: Women empowerment, development, Government schemes,

[1] Full time Research Scholar, Dept of Sociology, Karnatak University, Dharwad -03.

ISSN: 2278-4632
Vol-10 Issue-6 No. 1 June 2020

Introduction

The Govt. of India as well as Karnataka State Government has initiated a number of projects and programmes for socio – economic empowerment of women. The Women Development Government took initiated so many Programmes for Women Empowerment. The strategy adopted for the programmes in the areas of women development involves empowerment of women through awareness and utilization. The emphasis is on helping women to become self sufficient and economically independent with the help of training and income generating activities so as to enhance their earning capacity and to bring up their status in life. The department aims at the economic development and integration of women into the main stream of society and also as individuals with a right to human dignity. Like, on-going programmes, the department has evolved some innovative schemes such as "Stree Shakthi", "Santhwana" etc., According to Moser (1989) Women Empowerment is the capacity of women to increase their self – reliance and internal strength. The World Bank has suggested that empowerment of women should be the key aspect of Social Development Programmes (World Bank, 2001). India has also ratified various international convention committed to securing equal rights to women. The policy also speaks of "a wide gap between the goals enunciated in the constitution, legislative policies, plans, programmes, and the related mechanisms on the one hand and the situational reality of the status of women in India, on the other gender equality manifests itself in various forms, the most obvious being the trend of continuously declining female reaction in the population in the last few decades. Socio strangling and violence at the democratic and societal levels are some of the other manifestations".

Review of Literature

Satyanarayana and Dr.R.Jayaprakash (2012) in their article entitled, " Labor welfare measures in cement ventures in India" featured on to know the fulfillment levels of representatives about work welfare measures in KCP constrained (Cement Division). Subsequent to dissecting the entire information it can be expressed that the general fulfillment levels of representatives about welfare measures in the association cover under investigation is attractive.

Murthy (2012) in their article entitled, "Wellbeing and welfare measures for workmen" featured on HBL Power Systems Ltd, Hyderabad Welfare measures assume an essential part

ISSN: 2278-4632
Vol-10 Issue-6 No. 1 June 2020

in the worker's commitment towards work. The fulfilled laborer in regards to security and welfare can play his consideration on his activity. Work welfare infers that the setting up of least attractive models and the arrangements like wellbeing, nourishment, dress, therapeutic help, training, protection, employer stability and so forth., and such offices empower the specialists to give the efficiency. Work welfare measures additionally work life, life and social life. Work welfare is essential certainty of mechanical Relations, the additional dimension, offering fulfillment to the specialist in a way which levels a decent wage can't. It is an exhaustive term including different administrations, benefits and offices offered to representatives by the business.

Richard and Chasin (1992) investigations government intercession in Kerala In various regions of arrangement (1985-90) vlz , nourishment, wellbeing and instruction The Important finding is that the achievement of female education program has prompted the acknowledgment of the objectives in medicinal services and family welfare

Saxena (1992) assesses the Total Literacy Program in Narasingpur Madhya Pradesh amid 1990-91 He watches that the commonness of calculated rank framework possesses the advance of Total Literacy Program In the examination region and proposes that there ought to be research assessment of the financial state of a dismember before implementing any welfare program

Atkinson (1970) expelled this lack. He presented not added substance utility but rather the idea of similarly dispersed comparable income. Fundamentally here we focus on that level of income that gives same measure of utility. The accentuation is clear. Income isn't helpful with respect to itself as the neo-established accepts yet for the utility and fulfillment it can deliver.

Statement of the Problem

Both Central and State Governments have introduced various novel schemes for the development of women community. The success of a scheme could be measured by ascertaining the level of utilization by the beneficiaries and aware of the selected schemes for promoted to women by the Government. The reason behind low level of utilization of Government schemes may be the ignorance of women poverty and poor. Thus, an attempt has been made in this study to identify the level of awareness of schemes introduced by the Government for the development of women community in Karnataka state.

ISSN: 2278-4632
Vol-10 Issue-6 No. 1 June 2020

Significance of the Study

The present research work will be useful to women welfare and government. The study may help the government to understand how far women developments are aware of the schemes promoted by it. Thereby, Government may frame suitable strategies for creating awareness among women particularly in rural areas. Furthermore, the research work assists to women for understand the schemes offered by the Government and to utilize the same to a maximum extent.

Objectives of the Study

1. *To identify the socio-economic profile of the study area of Amblikoppa and Murakatti Village in Dharwad District.*
2. *To find out the awareness and utilization of women welfare schemes*
3. *To give suitable recommendation for their welfare*

Research Methodology

The data was collected from both primary and secondary sources. the Primary data have been collected using questionnaire. Research methodology of the study was used probability sampling method. The total sample size of this study is 50 women respondents from different age groups; geographical areas have been selected as respondents. The respondents were selected from the area of *Amblikoppa and Murakatti Village in Dharwad District.* The data analysis was use qualitative and quantitative manner. The researcher was used the social science research methodology to this entire study. The secondary data has collected from various books, journals, internet source and etc.,

Scope of the Study

The present research work has been taken up to explore the awareness of Government schemes among women in Dharwad district.

ISSN: 2278-4632
Vol-10 Issue-6 No. 1 June 2020

Data analyse and interpretation

Table: 1

Distribution of the Respondents on the Socio-economic of Background

P. S.N	Variables	No. of women respondent	Percentage
Pattern 1	**Age (Years)**		
	Below 30	12	24
	31-50	30	60
	Above 51	08	16
Pattern 2	**Gender**		
	Male	0	0
	Female	50	100
Pattern 3	**Education**		
	Not literate	09	18
	Primary	11	22
	Middle	10	20
	High school	11	22
	Degree / Diploma	02	04
	Can read and write	07	14
Pattern 4	**Religion**		
	Hindu	50	100
	Christian	0	0
Pattern 5	**Community groups**		
	Scheduled caste / Scheduled Tribes	27	54
	OBC	12	24
	Others	11	22
Pattern 6	**Marital Status**		
	Unmarried	02	04
	Married	41	82
	Widow/ Separated	07	14
Pattern 7	**Occupational Background of Family**		
	Government	02	04
	Private	05	10
	Coolie	43	86
Pattern 8	**Monthly income**		
	less than 2000	09	18
	2001 - 4000	25	50
	4001 - 6000	16	32
	Above 6001	06	12

Sources:- from primary date

The socio economic status of respondents is said to have a greater bearing on the performance in the activity selected. The indicators are age, sex, marital status, education level, and community groups, religion and occupation of family are presented in above table.

- More than fifty percent of the respondents from the age group of 31 to 50 years.
- More than 18 percent of the respondent's not literate, which means they are illiterate.
- 100 percent of the respondents followed Hindu religions.
- More than fifty percent of the respondents from Social category of SC/ST community.
- Nearly 85 percent of the respondents are married.

ISSN: 2278-4632
Vol-10 Issue-6 No. 1 June 2020

- More than 86 percent of working coolie.
- Nearly 50 percent respondent's income per monthly 2001 to 4000.

Table: 2

Awareness about Women Welfare Programme and Policies in Dharwad District

S.No	Programmes for Women Development	Yes	Percentage	No	Percentage
1.	Stree Shakti	16	**32**	34	68
2.	Santhwana	13	**26**	37	74
3.	Karnataka Mahila Abhvrudhi Yojane (KMAY)	19	**38**	31	62
4.	Scheme for construction of working women's hostel	08	**16**	42	84
5.	Swadhar	13	**26**	37	74
6.	Udyogini	21	**42**	29	58
7.	Marketing Assistance Scheme	16	**32**	34	68
8.	State Resource Centre	02	**04**	38	76
9.	Devadasi Rehabilitation Programme	26	**52**	24	48
10.	Asare Scheme	03	**06**	47	94
11.	Family Counseling Centre	11	**22**	39	78
12.	Janani Suraksha Yojana	22	**44**	28	56
13.	Kishori Shakti Yojana (KSY)	17	**35**	33	66
14.	Mahila Kisan Sashatikaran Priyojana (MKSP)	06	**12**	44	88
15.	Mahila Samridhi Yojana (MSY)	07	**14**	43	86
16.	National Maternity Benefits Scheme (NMBS)	46	**92**	04	08
17.	Rashtriya Mahila Kosh	21	**42**	29	58
18.	Scheme for Adolescent Girls (SAG) - SABLA Yojana	03	**06**	47	94
19.	Scheme for Working Women Hostels	22	**44**	28	56
20.	Support to Training and Employment Programme for Women (STEP)	24	**48**	26	52
21.	Ujjawala Scheme	15	**30**	35	70
22.	Vocational Rehabilitation of Women with Disabilities	28	**56**	22	44
23.	Widows And Marriage Of Devadasis Karnataka Mahila Abhivrudhi Yojane (KMAY)	42	**84**	08	16
24.	Kittur Rani channamma Award	02	**04**	48	96
25.	Financial Assistance to Women Law Graduates	04	**08**	46	92
26.	Any other schemes	09	**18**	41	82

Sources:- from primary source

- Most of respondents are did not get awareness about the above mention schemes and programmes due to lack of the socio-economic causes and education levels. for example above table disclose about their awareness about Kittur Rani channamma Award only 04 parentage respondents are only knows. Only 08 percentage respondents are aware about financial Assistance to Women Law Graduates.

ISSN: 2278-4632
Vol-10 Issue-6 No. 1 June 2020

Analysis and Discussion

Women Empowerment is multidimensional Process. Women empowerment is a one of the important prospectus of empowering of women. The government aims at economic development and integration of women into the mainstream of economy, equity, equality and social justice. The strategy adopted for the programmes in the areas of women`s development involves empowerment of women through awareness generation, education and greater emphasis on skill development and income generating activities, so as to enable women to enhance their earning capacity and status in life. To ensure that children get protection against neglect, abuse and exploitation, the department has taken up programmes and schemes to guarantee their basic rights including survival, protection, development and full participation in social, cultural, educational and other endeavour for their individual growth and well-being. The emphasis has been on improving the delivery of services to the children and also to achieve convergence of services available for women. Some of important promoting Govt. programmes for promoting women empowering by building up social work capacity through all their procedures and methods implementing of women empowerment by social work and social aspects. Thus most of the studies on women related policies and development programmes have confined to the general nature of the programmes and future that made it success or failure. Here Natural policy for empowerment of women (2001) is successful policy in India's the study attempted awareness and utilization of programmes on rural women through one of the aims of the programmes is to uplift rural women through the implantation of the programme. Main findings have finalised in this paper a) the personal background of Women and other variables have something to do with the aspect of empowerment. b) Women in rural area are so innocents and they are leading simple life. c) Most of the rural area women are unaware about thus schemes. They don't know the government programmes and policies for women empowerment in particular. d) The women of rural area are facing so many basic problems. In such a way policies and programmes are major role in bringing desirable changes with reference to social and economic life of women. e) Government Policies, programmes and rural women empowerment have a variation as the methodology and approach varies in functioning of them.

Suggestions

- Government should take responsibility to reach out to the women entrepreneurs through social media, public campaigns, the local chambers of commerce etc.
- Educational institutions in Dharwad district should join hands with the Government to create awareness about government schemes and entrepreneurship schemes.
- Similarly, should Non Government Organization (NGO) also much more extend necessary assistance to Government for promoting awareness of entrepreneurship schemes among women.

Conclusion

Women empowerment is a very important aspect. Women Empowerment Programmes have taken significant role in society. Women empowerment is a one of the important prospectus of empowering of women in Women groups. So government should be take necessary action for prepare evolution and monitoring

References :-

Cheston S and Kuhn L. (2002)"Empowering Women through Microfinance", Draft, Opportunity International.
Hashemi SM. Schuler SR and Riley AP (1996), "Rural Credit Programs and Women's Empowerment in Bangladesh. World Development". Vol. 24, No. 4. pp. 635-653
Kabeer, Naila. (1999) "Resources, Agency, Achievements: Reflections on the Measurement of Women's Empowerment", Development and Change, Vol. 30, pp. 435-464.
Krishna raj, Maithreyi and Thelma Kay (2002). Report of review of IFAD gender mainstreaming projects in Asia Unpublished paper prepared of IFAD
Madheswaran S, Rajasekhar D, Gayathridevi KG. Production relations, employment and wages: a study of beedi industry in Karnataka. Ind J Lab Econ. 2006;49(4):643-60.
Mayoux, L. (2000). "Microfinance and the empowerment of women: A review of the key issues". Social Finance Unit Working Paper, 23, ILO, Geneva.
Ministry of Labour and Employment. Welfare of beedi workers. Seventeenth Report 2010-11.
Moser C (1989). "Gender planning in the third work: Medicating practical and strategic gender needs": worlds development 17 (11); 1999-1825.
Pillai J.K (1995). "Women and empowerment" Gyan Publishers House, New Delhi.
Purakait SK, Sardar BK. Occupational health hazards of women beedi workers in rural India. Inter J Sci, Eng Techno Res. 2015;4(5):1496-501.
Sabale RV, Kowli SS, Chowdhary PH. Working conditions and health hazards in beedi rollers residing in urban slums of Mumbai. Indian J Occup Environ Med. 2012;16(2):72-4.
Sathiyabama P □and *P.Sathiyabama (*2019) International Journal Of Scientific & Technology Research, Volume 8, Issue 12.
Snow, John (1990) "Empowerment of women program", John Snow, Inc, Arlington. VA.
United Nations (2001) "Empowerment of Women throughout the life cycle as a transformative strategy for poverty eradication" EGM / Pov 2001/Report.
Vijayalaxmi Mangasuli and Mayur S. Sherkhane (2016)Utilization pattern of social welfare schemes among women beedi workers in comparison with non-beedi workers: International Journal of Community Medicine and Public Health | | Vol 3 | Issue 11,Page 3270
World Bank (2001)."Engendering development: through Gender Equality in Rights", Resource and Voice. New York. P. 152-157.
www.ijstr.org
https://www.indiastat.com/social-and-welfare-schemes-data/27/women-schemes/297/stats.aspx
http://www.ijcmph.com
https://www.yumpu.com /en/ document/ view/37759905/standing-committee-on-labour-2010-11-fifteenth-lok-