Proceedings of
Student National Seminar
2018

20th September 2018

Organised by

Internal Quality Assurance Cell (IQAC),

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The Departments

SFS COLLEGE PUBLICATIONS

Bangalore-100

About St. Francis de Sales College

St. Francis de Sales College is managed by the Missionaries of St. Francis de Sales (MSFS) of the South West India Province, who firmly believe that 'the education of the heart is the heart of education' as propounded by its founder, Fr. Peter Marie Mermier. The College is named after St. Francis de Sales, the patron of the MSFS. At present, the College offers BSc (PCM: Phy-Chem-Maths, MEC: Maths-Elec-Comp, CJP: Comp-Journ-Psy), BA (JPE: Journ-Psy-Opt Eng, SEP: Soc-Eco-Psy, HEP: His-Eco-Pol Sc, HES: His-Eco-Soc), BCom (FA, Voc-Travel), BBA, BCA, MCOM (Reg, FA), MSc (Psy, Maths), MA (Eng, Eco) and PG Diploma (HR, Counselling).

The College also runs an Evening College to cater to the working youth and to educate them. The College has obtained the 2(f) and 12(b) recognition under the UGC Act of 1956. Now with all these new programmes introduced, the College stands ready to become an autonomous college in the near future.

FOREWORD

From the Desk of Principal,

Good and warm greetings to everyone. I am extremely pleased that on 19 September 2018 our College is organizing a National Students' Seminar. Various departments have chosen relevant topics such as "Contemporary Issues of Global Trade", "Manoeuvre for Future Business Excellence", "Modern Approaches in Science and Mathematics", "Technology as Core Strength of the Nation", "Cyber Security" and is going to present a collection of various research papers in the proceedings.

St Francis de Sales College continues to march steadily on the road to success under the able guidance of our management. Our management's sharp, clear-sighted vision and reliable decision-making powers have benefited our college to say successful. The devoted HODs and staff members, and motivated students of SFS College are the added features of our college.

The role of students in nation-building cannot be ignored and students at SFS are trained to become productive individuals and good citizens in all aspects. I wish every student participants from our colleges and other colleges all the best on this occasion.

I would also like to congratulate our Vice-Principal, the HODs, faculty members, staff and students of our college for their efforts in organizing this National Seminar and wish them every success.

Fr. Dr. Roy P K

Principal, St. Francis de Sales College, Bangalore-100

SAMVADA 2018

TECHNOLOGY
AS
CORE STRENGTH OF THE NATION

DEPARTMENT OF HUMANITIES

About 'SAMVADA 2018'

The Department of humanities is organizing a on day national seminar for the UG and PG students, on 20th September 2018.

The core objectives of the seminar are:

To understand the impact of technology in social change.

¤ To know the economical innovation caused due to technology.

¤ To understand the use of technology in assessment and treatment of mental health.

¤ To study the challenges of technology in new media.

¤ To know the impact of technology in contemporary literature studies.

The seminar has few sub-themes like: 1. Sociology (Impact of technology in social change, Role of technology in rural and urban development) 2. Economics (Technology and economic innovation, Technology and economic performance in India) 3. Psychology (Emerging technologies in Psychology, Technological based disorders) 4. English Literature (Impact of globalization on contemporary literary studies, Refines, Reforms and Reforming Metropolis in 21st century literature) 5. Journalism (Mass media and digitalization, Trends and challenges in new media)

About the Department of Humanities

The Department of Humanities is one of the oldest department in St.Francis De Sales College. The Department's essentially interdisciplinary nature is its distinguishing factor. This allows students to develop an appreciation for a very diverse set of fields including Psychology, Journalism, Economics, Sociology, History, Political Sciences and other languages. Coupled with its multidisciplinary back ground the Department has a diverse and experienced faculty. The Humanities department has a keen interest at improving the humanistic values of the students and to develop the interpersonal skills for the societal wellbeing. The Department of Humanities is functioning as a full fledged department for the past 15 years. It has an excellent student- teacher ratio providing opportunities for academically intense learning. The department of humanities has a single minded focus on exposing the students to current relevant critical issues in the national and international level. BA offers different combinations which include various subjects like JPE, SEP, HES, HEP and CJP

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CONTENTS

SIGNIFICANCE OF NEUROFEEDBACK IN UNDERSTANDING AND EVALUATING PSYCHOLOGICAL DISORDERS

Aishwaria Mukherjee

Abstract:

In the contemporary world the incidence and precedence of psychological disorders is consistently on the rise. While existence conventional interventions such as counselling, psychotherapy, pharmacotherapy, and so on have played a significant role in helping patients recover to a certain extent as we emerge into a technological era. There is a synchrony between technology and medicine giving rise to proven treatment regimens such as neurofeedback for psychological and neurological conditions; and biofeedback for physiological conditions respectively. Although the evolution of neurofeedback began in the early 1970's , the application in treating patients with disorders such as anxiety, depression , ADHD , ADD , insomnia , PTSD , OCD and so on has been very successful. The basic principle involved in neurofeedback is associated with the physiological aspects such as neuroplasticity and associated regulation of its functionality.

Neurofeedback treatment protocols mainly focus on the alpha, beta, delta, theta, and gamma treatment or a combination of them such as alpha/theta ratio, beta/theta ratio. However, the most commonly used protocols are alpha, beta, theta, and alpha/theta ratio. There are 7 types of Neurofeedback for the treatment of various disorders: SCP-NF, LENS, HEG, Live Z-score, LORE-TA, and fMRI to name a few. This research aims at explaining the importance of neurofeedback is treating psychological disorders like the aforementioned.

Keywords: Psychological disorders,neurofeedback,biofeedback,neurology,treatment.

1 INTRODUCTION

Neuro-feedback - The Future Treatment of Psychological Disorders

Brain training is becoming increasingly feasible using a technique called neurofeedback, which allows individuals to change the way their brains function by responding to personalized feedback about how their own brains work naturally. This is one approach being used to treat those struggling with neurological or psychiatric disorders. The trick to getting our brains to act in desirable ways is to leverage the behavior-changing power Operant conditioning. During an operant conditioning procedure, an individual modifies its behavior based on learned consequences. There are two widely used, non-invasive techniques that detect different aspects of brain functioning: electroencephalography (EEG) and functional magnetic resonance imaging (fMRI).

Interestingly, studies have shown that neurofeedback training as a therapy for ADHD may be even more effective than the standard medication (Methylphenidate/Ritalin) used to treat this disorder. This was shown in 2002 by Vincent Monastraand colleagues at the FPI Attention Disorders Clinic in New York, who studied 100 children diagnosed with ADHD ; similarly they also helped in treating disorders such as anxiety, depression , ADHD , ADD , insomnia , PTSD , OCD and so on that have been very successful . Antisocial behavior of individuals, have an undesirable impact on the society. In recent years, with advances in brain science, the cause of abnormal brain function and mental illness has been attributed to the low activity of the anterior brain lobe that presents itself in different types of psychological damages (Gil,Li& Lee , 2009). The neuro-feedback training has been widely used in the treatment of many diseases and disorders. This research aims at explaining the importance of neurofeedback is treating psychological disorders like the aforementioned.

2. REVIEW OF LITERATURE

2.1 Arns, M., Drinkenburg, W. H. I. M., &Kenemans, J. L. (2012) to study Applied Psychophysiology and Biofeedback.

Sample - 1/3th of the sample consisted of children and 2/3th consisted of adults with ADHD/ADD, and approximately half of the sample was diagnosed with ADD (N = 11) and the other half with ADHD (N = 10). Six patients were medicated with methylphenidate, one with dextro-amphetamine, one with citalopram and one with risperidon.

Results - General response rate was 76 % (16/21), with three patients classified as a NR (14 %) and 2 as a DO (10 %).

2.2 Arns, M., de Ridder, S., Strehl, U., Breteler (2009) to study through neurofeedback the effects of innatention , impulsivity and hyperactivity: a meta analysis .

Findings - In line with the AAPB and ISNR guidelines for rating clinical efficacy, the study concludes that neurofeedback treatment for ADHD can be considered "Efficacious and Specific" (Level 5) with a large ES for inattention and impulsivity and a medium ES for hyperactivity.

2.3 Barry, R. J., Johnstone, S. J., & Clarke, A. R. (2003).

Conclusions-

The research to date has identified a substantial number of ERP correlates

differences apparent in the EEG literature, these data offer potential to improve our understanding of the specific brain dysfunction(s) which

result in the disorder. Increased focus on the temporal locus of the information processing deficit(s) underlying the observed range of ERP differences is recommended. Further work in this field may benefit from a broader conceptual approach, integrating EEG and ERP measures of brain function.

2.4 Clark, C. R., Paul, R. H., Williams, L. M., Arns, M., Fallahpour, K., Handmer, C., et al. (2006)

Findings - Overall, the test battery provided sensitive indicators on a range of cognitive functions suitable for the assessment of abnormal cognition, the evaluation of treatment effects and for longitudinal case management.

2.5 Gratton, G., Coles, M. G., &Donchin, E. (1983). A new method for off-line removal of ocular artifact.

Method – The procedure is commonly used to eliminate occulatartifacts requires investigator to detect and discard data recorded on trials in which excessive eye movements , or blinks , occur . To this end , ocular activity is monitored usung the electro-oculogram (EOG) procedure co

2.6 Heinrich, H., Gevensleben, H., Freisleder, F. J., Moll, G. H., &Rothenberger, A. (2004)

Results: ADHD symptomatology was reduced by approximately 25% after SCP training. Moreover, a decrease of impulsivity errors and an increase of the contingent negative variation were observed in the CPT task.

Conclusions: This study provides first evidence for both positive behavioral and specific neurophysiological effects of SCP training in children with ADHD.

2.7 Sander, C., Arns, M., Olbrich, S., &Hegerl, U. (2010)

Results - ADHD patients spend less time in higher A1-stages (ADHD = 66%, controls = 81%) and showed more switching between vigilance stages (ADHD = 26.02%, control= 19.09%), indicating a more unstable vigilance regulation. Patients with less stable vigilance showed a worse pre treatment CPT performance but achieved a better post-treatment result compared to patients with more stable vigilance regulation. These differences did not reach statistical significance.

Conclusions- Signs of vigilance instability where found in ADHD patients compared to controls. Those patients with a higher degree of vigilance instability seemed to benefit more from stimulant medication.

3. DISCUSSION

How Can Neurofeedback Help My Issues or Symptoms?

This leads to how does neurofeedback help neurological issues, such as a stroke/aneurysm, brain surgery, concussion, anxiety, sleep problems, PTSD, Parkinson Disease, and movement disorders, such as myoclonic. Neurofeedback is able to assess, as mentioned above, the functioning of the brain and where it is not functioning properly. It can locate a specific location, if there is one, which is often the situation with a stroke, or it can locate neural dysregulation of the various neural hubs, as seen in a concussion and PTSD. It is important to remember that anxiety is the symptom, not the cause. Neurofeedback looks for the cause, such as what specific pathways are dysregulated or over or under activated. Once this type of assessment locates the cause of the symptom, then a wide variety of methods and equipment can be chosen based on what is the best one specifically for your needs and neurological issues.

Clinicians need the training in the use of the various methods and equipment to best help your specific unique needs, not just the symptoms, while it is extremely important to understand the various methods and equipment to be an educated consumer. Traditionally, two types of unipolar and bipolar montage are used in the neurofeedback treatment. In unipolar mode, the active electrode is placed on the skull and the recorded signal by the active electrode is compared to the second electrode entitled as the reference electrode. The activity of the active electrode minus the activity of the reference electrode represents the brain activity at the active electrode.

On the other hand, in the bipolar mode, two active electrodes are used that are separately placed on the skull. The difference between the recorded signals by these 2 electrodes, is the basis neurofeedback . One of the advantages of the bipolar recording is the common mode rejection that occurs during the recording procedure. It means that any external artifact occurring at both channels and at the same time, its amplitude and phase are subtracted and the spatial selectivity is improved. For example, eye roll and blink artifacts could be reduced in this way. Neurologists have mentioned that the motor cortex helps the cerebral cortex to encode both physical and cognitive tasks. Therefore, subjects who have trouble seeing the logical sequence of cognitive tasks may benefit from neurofeedback training along the left hemisphere sensorimotor cortex (C_3). Training along the right hemisphere sensorimotor cortex (C_4) may invoke feelings, emotions, or calmness. Training at the median or may facilitate a mixed response. The subjects who suffer from epilepsy are usually trained along the sensorimotor cortex (C_3) to increase SMR. Also, training along the sensorimotor cortex could be applied for the treatment of stroke, epilepsy, paralysis, ADHD, and disorders of sensory/motor integration.

3.1 Types of Neuro feedback

There are **7 types** of Neurofeedback for the treatment of various disorders:

1. The most frequently used neurofeedback is frequency/power neurofeedback. This technique typically includes the use of 2 to 4 surface electrodes, sometimes called "surface neurofeedback". It is used to change the amplitude or speed of specific brain waves in particular brain locations to treat ADHD, anxiety, and insomnia.
2. Slow cortical potential neurofeedback (SCP-NF) improves the direction of slow cortical potentials to treat ADHD, epilepsy, and migraines (Christiansen, Reh, Schmidt, &Rief , 2014)
3. Low-energy neurofeedback system (LENS) delivers a weak electromagnetic signal to change the patient's brain waves while they are motionless with their eyes closed (Zandi-Mehran, Firoozabadi ,&Rostmi, 2014). This type of neurofeedback has been used to treat traumatic brain injury, ADHD, insomnia, fibromyalgia, restless legs syndrome, anxiety, depression, and anger.
4. Hemoencephalographic (HEG) neurofeedback provides feedback on cerebral blood flow to treat migraine (Dias, Van Deusen, Oda, &Bonfim, 2012)
5. Live Z-score neurofeedback is used to treat insomnia. It introduces the continuous comparison of variables of brain electrical activity to a systematic database to provide continuous feedback (Collura, Guan,Tarrant, Bailey , & Starr, 2010)
6. Low-resolution electromagnetic tomography (LORE-TA) involves the use of 19 electrodes to monitor phase, power, and coherence (Pascual-Marqui,Michel , & Lehmann, 1994) This neurofeedback technique is used to treat addictions, depression, and obsessive-compulsive disorder.

7. Functional magnetic resonance imaging (fMRI) is the most recent type of neurofeedback to regulate brain activity based on the activity feedback from deep subcortical areas of the brain (Hurt, Arnold, &Lofthouse, 2014, Levesque, Beauregard, &Mensour , 2006a)

3.2 Case Studies proving Neuro feedback is Beneficial

- Lee with mild ADHD.

  She had been diagnosed with ADHD. Lee completed forty neurofeedback sessions. Lee showed huge and very consistent improvements in attention, hyperactivity, and other common symptoms of ADHD. Her IQ increased dramatically as well. **She went from the borderline mentally impaired range to the normal range.**
- **Jeffs Med School Blues**

  The medications for attentional deficit disorder made him more anxious, not more effective.

  Within 5 sessions, however, he began noticing subtle differences in the way I approached test questions. Dr. Hirshberg made adjustments in the treatment protocol based on his personal reports and continually honed the training to maximize his ability to learn. Thanks to the neurodevelopment center he is now free to move ahead in his professional, and personal, development.
- **Evans Case**

  The problem: Evan was diagnosed with ADD, and since then has been on either Ritalin or Adderal.

  The solution: They saw Evan's improvement first-hand in day to day situations After 20 sessions of neurofeedback, he score at the 58th %ile for auditory attention and the 63rd %ile for visual attention. His scores were normal.

4. SCOPE

Neurofeedback is a kind of biofeedback, which teaches self-control of brain functions to subjects by measuring brain waves and providing a feedback signal. Positive or negative feedback is produced for desirable or undesirable brain activities, respectively. In this review, we provided clinical and technical information about the following issues: (1) Various neurofeedback treatment protocols i.e. alpha, beta, alpha/theta, delta, gamma, and theta; (2) Different EEG electrode placements i.e. standard recording channels in the frontal, temporal, central, and occipital lobes; (3) Electrode montages (unipolar, bipolar); (4) Types of neurofeedback i.e. frequency, power, slow cortical potential, functional magnetic resonance imaging, and so on; (5) Clinical applications of neurofeedback i.e. treatment of attention deficit hyperactivity disorder, anxiety, depression, epilepsy, insomnia, drug addiction, schizophrenia, learning disabilities, dyslexia and dyscalculia, autistic spectrum disorders and so on as well as other applications such as pain management, and the improvement of musical and athletic performance; and (6) Neurofeedback softwares. To date, many studies have been conducted on the neurofeedback therapy and its effectiveness on the treatment of many diseases. Neurofeedback, like other treatments, has its own pros and cons. Although it is a non-invasive procedure, its validity has been questioned in terms of conclusive scientific evidence. For example, it is expensive, time-consuming and its benefits are not long-lasting. Also, it might take months to show the desired improvements. Nevertheless, neurofeedback is known as a complementary and alternative treatment of many brain dysfunctions. However, current research does not support conclusive results about its efficacy.

5. CONCLUSIONS

In this paper, we reviewed the clinical applications of neurofeedback, various protocols of treatment and some of the systems designs by BCI and VR technology.

In neurofeedback, EEG is usually recorded, and various brain-activity components are extracted and feed backed to subjects. During this procedure, subjects become aware of the changes that occur during training and are able to assess their progress in order to achieve optimal performance. Electrode placement is performed according to specific brain functions and specific symptoms. Considering information about these skull regions, the entire treatment process is simplified. There are several protocols in neurofeedback training, but alpha, beta, theta, and alpha/theta protocol are the most commonly used ones.

BCI is an EEG-based communication device. VE is a human-computer interface system with which users can virtually move their viewpoint freely in real time. The purpose of using VE is to construct a virtual environment with natural interactivity and to create a real sensation from multimodality. Three-dimensional VR is much more attractive and interesting than most of two-dimensional environments.

To date, many studies have been conducted on the neuro-feedback therapy and its effectiveness on the treatment of many diseases. However, there are some methodological limitations and clinical ambiguities. For example, considering the alpha treatment protocols, there are some issues to deal with such as how many sessions are needed before participants can learn to exert an alert control over their own alpha waves, or how many sessions are needed before such training procedures produce the expected effect on the optimal performance, and how long the desired effects last without feedback (long-term effects). Thus, it is necessary to provide standard protocols to perform neurofeedback.

Similar to other treatments, neurofeedback has its own pros and cons. Although it is a safe and non-invasive procedure that showed improvement in the treatment of many problems and disorders such as ADHD, anxiety, depression, epilepsy, ASD, insomnia, drug addiction, schizophrenia, learning disabilities, dyslexia and dyscalculia, its validity has been questioned in terms of conclusive scientific evidence of its effectiveness. Moreover, it is an expensive procedure which is not covered by many insurance companies. It is also time-consuming and its benefits are not long-lasting. Finally, it might take several months to see the desired improvements (Mauro &Cermak, 2006).

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TECHNOLOGICAL BASED DISORDERS PHANTOM VIBRATION AND RINGING SYNDROME

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Abstract

The paper discusses about the phantom vibration and ringing syndrome among the early adulthood individuals. Today smartphone has become the common means of communication and it is considered amongst the basic need. But the advancement of technology is causing many health problems as well as psychological problems. This paper focuses on why the young adults are having such frequent feelings regarding vibration as well as the ringing of the phone without it even happening. This is a disorder that is caused by the false hallucination that one's phone is vibrating or ringing when it is not ringing. The aim of the secondary study is to find the occurrence of phantom ringing syndrome in early adulthood individuals and another objective is to assess the factors that is associated. The study shows that there is a need to add the syndrome in DSM so that proper treatment can be provided. This problem does not have a proper criteria or treatment method. The paper discusses that this syndrome is leads to anxiety by causing the higher releasing of dopamine, compulsive behavior. Another focus of this paper is about how signal detection theory is related to this syndrome.

Keywords: disorder, phantom, vibration, hallucination, DSM (diagnostic statistical manual).

1. INTRODUCTION

Communication is one of the important element in human life. We communicate through different means of communication such as phone calls, messages, texts, verbal as well as non-verbal and many other methods to share information. In the modern generation the technology is getting advanced day by day, we are now living in a world where we use any electronic medium to communicate even when people are together. The advancement in communication technology reduced the distance between people at the same time there are many problems which are emerging related to the technologies, physical as well as psychological.

Today it is one among the challenging issues that the world is facing. When we look deep in communication it is easy to find out that most of the people are using phone as the most common communication medium, again most of the people are using phones with advanced features, mini computers. One of the most common problem is now that the people are facing psychological problems due to the excess use of phone, mostly known as phone addiction. The phantom ringing and vibration syndrome is one of the emerging problem mostly diagnosed among the youth and the young adults. It is a state of mind when a person is feeling the vibration or the ringtone of their phone when it is actually not giving any indications or when it is switched off.

It causes a false indication in the mind of the user. The misinterpretation of the brain about the false signals, due to the continuous influence on one situation or the presence of the external stimulus. It has two issues that is phantom ringing syndrome (PRS) and phantom vibration syndrome (PVS), which have same symptoms only the stimulus is different in these syndromes. It is scientifically proven that the continuous use of phone will make the people always feel the ringtone or the vibration or both the feelings makes individual's mind disturbed and it will always process the thought of these feelings, there will be presence of a false stimulus that is causing this feeling.

Vibration and ringtone are becoming the unwanted signals that alert the mind at the non-present time. It is the omnipresence of one's electronic gadget. It leads to attention deficiency towards the important things that causes more anxiety and tension. The major concern is the increasing number of the youth and young adults with these issues are uncountable. Even this syndrome is diagnosed among the people who are working in online and the call centers. It can be counted among one reason of the increased stress and anxiety. The feeling of vibration and the ringtone during the sleep or the resting time makes the mind more tired as well as it decreases the productivity of individuals.

2. Review of Literature

Rothberg MB, Arora A, Hermann J, Kleppel R, St Marie P, et al. (2010) Phantom vibration syndrome among medical staff: A cross sectional survey. Br Med J 341: c6914. Phantom ringing, an auditory hallucination, warrants further study because it is more like the psychopathology of a major mental illness than is phantom vibration. Hallucinations are aberrant perceptions in the absence of a stimulus; thus, phantom vibration and phantom ringing could be defined as tactile and auditory hallucinations.

Baillie DW (2011) Phantom vibration syndrome. Sixty-eight per cent of us hallucinate. Br Med J 342: Jan 19 342: d299. Compared with tactile and other hallucinations, auditory hallucinations are common in psychotic disorders such as schizophrenia.

Rosenberger, (2015); Lin et al., (2013)b;Drouin et al., (2012); Hemmert, (2008); an intermittently perceived hallucination is defined as phantom vibration syndrome (PVS) or vibranxiety' and Phantom Ringing Syndrome (PRS) or ringxiety, respectively in mobile phone users who feel that their mobile phones are vibrating or ringing when indeed it is not the case.

Lin et al., (2013)a, (2013)b; Drouin et al., (2012); Rothberg et al., (2010). Conducted on Phantom vibration syndrome (PVS) and Phantom ringing syndrome (PRS), it has been found that using vibration mode in mobile phones and the state of being medical students are two important factors for PVS and PRS.

Mohammad beigi et al., (2016); Hong et al., (2012);Ghamari et al., (2010);. The overuse of social networks in smartphones for chatting, friend finding, online**);** e games and other diversions affect sleep quality and the psychological behavior of medical students and is related to lower efficacy of medical training

Mohammad beigi et al., (2016); Lin et al., (2013)b; Carbonell et al., (2012); Lenhart et al.,(2010). The complexity of psychological disorders due to the over-use of smartphone, internet, and social networks are predictors of social dysfunction. The chat applications and Messenger followed by social networking applications and games are the most important causes of problematic internet use in Spanish teenagers and young students.

3. History of phantom ringing and vibration syndrome

In the prior mentioning of this syndrome we can see that in the 20th century, in a comic strip named Dilbert published by cartoonist Scott Adams in 1996. In this comic it is mentioned as phantom-pager syndrome. The first study done about this syndrome was done in 2003. The study was done by new Pittsburgh courtier. It is called as the phantom vibration syndrome by the columnist Robert D jones.The first study of the phenomenon was conducted in 2007 by a researcher who coined the term ringxiety to describe it. (*Deb A (2014). "Phantom vibration and phantom ringing among mobile phone users: A systematic review of literature". Asia Pac Psychiatry).* In 2012, the term phantom vibration syndrome was chosen as the Australian Macquarie Dictionary's word of the year.*(Meacham, Merle. "Macquarie Dictionary word of the year archives". Retrieved March 18, 2015).* Due to lack of scientific reasons for this syndrome and lack of proper diagnostic criteria to identify the problem is the reason that it is still not mentioned in the DSM or ICD criteria. There are many researches and studies which are conducted to identify the real reason behind it so that it can be cured by proper treatment.

4. The psychological and neurological aspects that accompany the phantom ringing and vibration syndrome

The phantom ringing syndrome and the phantom vibration syndrome are the same pattern of disorders having almost all the same kind of diagnosing criteria. It is not due to some neurological defects rather it is a gradually developed syndrome by the false adaptations of the brain. The real reason behind this syndrome is unknown. Some studies claim that it is the occurrence due to the over involvement with the phone. This feeling can be occurred without any reason or at any time or at any occasion. For example, it can be experienced while doing any other work. The auditory sensitivity of the individuals are between 1,000-6,000 hertz and most of the ringtones fall within this range.Researcher Michelle Drouin found that almost 9 of 10 undergraduates from her college experienced phantom vibrations *(Rosen, Larry (May 7, 2013). "Phantom Pocket Vibration Syndrome". Psychology Today).*Thetheory of neuroplasticity assumes that Phantom vibrations and ringing may be due to the brain's ability to form new connections in response to adapt changes in the environment that can be one of the reason the brain is giving false alerts.

The phantom experience can be due to the tactile hallucination because it is the false perception of the brain for the signals. This syndrome is reported by the people who are carrying a phone between one month to one year. The anticipation of a phone call can cause the misinterpretation of the sensory inputs in the cerebral cortex which can lead to the hallucination of the ringtone or vibration. There is also another assumption that the experiences may be a type of pareidolia*(it is a psychological phenomenon in which the mind responds to a stimulus, usually an image or a sound, by perceiving a familiar pattern where none exists.)* a psychological phenomenon influenced by individual adjustments in personality, condition, and context. The challenging fact about this PVS AND PRS, weather it is the result of the physical damage or any health issues, it is still unknown.

5. Phantom ringing and vibration syndrome associated with signal detection theory

Mechanism of phantom ringing syndrome and phantom vibration syndrome can be linked with Signal detection theory. According to Signal detection theory, there are two possible combinations developed by the brain. The prior one is when the phone placed somewhere near, either it will be ringing or not. Vibration means "it's ringing" and no vibration means "it's not ringing". Signal detection theory senses it as a "hit" and a "correct rejection" respectively. Another possible combination is when the brain is not able to detect the true signal, that is when it is not ringing "a miss" or when it is not able to identify the correct signal "false alarm". This second combination leads to Phantom ringing and vibration syndrome.This may be understood as a human signal detection issue, with potentially significant influences from psychological attributes. Factors such as experiences, expectations, and psychological states influence the threshold for signal detection (*Kruger, D. J., &Djerf, J. M. (2016). High Ringxiety: Attachment Anxiety Predicts Experiences of Phantom Cell Phone Ringing. Cyberpsychology, Behavior& Social Networking, 19(1), 56-59).*

6. Factor associated with Phantom Vibration and Ringing Syndrome

However, there is no proper criteria for identifying this syndrome there are many factors which is considered as the cause behind this hallucination. One among this is related with the position of the phone whether you keep it in your front pocket, back pocket or in the handbags and so on because the more your phone is attached with you, the greater will be chance of the feeling of hallucination. There is an enormous difference in case of hallucination between the one who is keeping it near to the body and the one who keeps it away from the body. Another factor that affect this syndrome is the amount of the private information that is stored in the phone, because the one who is has a greater chance to experience hallucination of vibration and feel like the phone is ringing than the one who do not have much private information. Another factor that is associated is the time that one spends with their phone, the greater the chances of hallucination and tension. The emotional behavior is another aspect of this syndrome many studies found that higher the person is emotional the chances of occurrence of this syndrome is also higher. The higher involvement in the social media is also can be a reason behind this syndrome. Another factor that matters is the higher anxiety level that can lead to the increase chances of this syndrome.

7. Anxiety and obsessive-compulsive connection with Phantom vibration and ringing syndrome

Excessive smart phone users, when they are not able to get access to their phone or when their phone is not with them, they feel greater anxiety. This anxiety is the symptom of this phantom vibration and ringing syndrome. Every calls, messages and notifications positively reinforces which leads to high release of dopamine. A dys-regulated dopamine system plays a major role in psychotic symptom which leads to hallucinations. This allusion is supported by current work because individuals who spend more time using on mobile have high emotional behavior which causes anxiety leads to high release of dopamine. A study done by Nokia found that the average cell phone user checks their phone every 6.5

minutes. That is 150 times during our waking hours. That kind of behavior is compulsive, bordering on obsessive.

8. CONCLUSION

As a conclusion of this paper the developing technology is causing a lot of psychological disorders. Phantom ringing and vibration syndrome is one among this issue it is the syndrome caused by the excessive use of phone. The false alerts that the brain provides as a response of the non-present vibration or the ringtone. Even though it is not that harmful like another disorder it leads individuals to anxiety and obsessive-compulsive disorders. The study is indicating the need to identify this phantom vibration and ringing syndrome by the DSM and ICD to provide proper treatment to the individuals who are suffering.Phantom vibration syndrome is common among those who use electronic devices. What matter is that, avoid such situations if we are not addicted to the phone and if we lessened these use of it there will be a visible decrease in this syndrome.

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TECHNOLOGICAL BASED DISORDERS INFLUENCE OF TECHNOLOGY ON ADHD CHILDREN (INDIA)

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ABSTRACT

Growing technology influences children of this generation to a great level. Children spend several hours in front of digital devices like mobiles, iPad, laptop, etc. These technological advancement has an impact on the development of children. The benefits of technology on children is evident but the overuse of technology can lead to sedentary lifestyle, and causes behavioral and developmental issues. ADHD, attention deficient hyperactive disorder, is a brain disorder which is mostly innate. It is a brain disorder in which a child or individual shows patterns of inattention and/or hyperactivity. A child suffering from ADHD had difficulty sustaining focus, wanders off, lacks persistence, is disorganized, excessively fidgets, talks and are extremely restless. There is no cure for ADHD. The treatment for ADHD includes medications, psychotherapy, education and training or a combination of different treatment. With the advancement of technology ADHD children are given activities or games on digital platform to engage them. The aim of this paper is to compare the level of technological addiction and influence on the development of ADHD children. This is a comparative study i.e., there are two groups of children, i) children with ADHD and ii) children without ADHD. The samples are given the same questionnaire and different statistical tools are used to compare the extent to which technology influences these children. The population consisted of 15 children with ADHD and 15 without ADHD. All the samples belonged to different gender, caste, economic background and social background.

Keyword*:* ADHD, brain disorder, psychotherapy, hyperactivity, addiction.

1. INTRODUCTION

1.1 Background to the study:

Children typically spend several hours on digital devices. Even though technology have many positive effects, it effects the development and growth of the child. Over use of technology can cause behavioral issues, learning issues and developmental issues. When it is use limitedly if can help in increase of cognitive and social skills of the child but at the same time the parents and tutors must keep in mind that technology cannot beat hands on activities. With the advancement of technology, we are witnessing a change in the way children interact and play with each other. One of the major issues is that children refuse to go outside and play, which has caused a drastic increase in the rates of obesity. Due to the development of technology many children do not experience the world outside as they gain entertainment for their digital devices. They often do not go in the sun and hence have many skin infections and lack of vitamin D. Technology has also impacted their sleep and caused other diseases and disorders like, the blue light emitted from the screens of phones and tablets has said to have cause eye problems and headaches. It also regulates melatonin which is the sleep-wake hormone and hence the sleep cycle is also disturbed. Other than the impact on the body, technology also has an adverse effect on the mind. Children who often play video games or spend most of their time online have problem being attentive for a long period of time. They can't stay focused on one thing as on the internet they are used to being attentive to several things. Since kids now a days are exposed to high levels of technology they lose the ability to think creatively when a new concept is thought. These children also fail to develop meaningful emotional bonds and relationship with others, and since they spend most of their time on social media they are often diagnosed with low self-esteem and negative thoughts.

1.2 Attention deficit hyperactivity disorder:

ADHD or attention deficit hyperactivity disorder is a brain disorder which is characterized by inability to pay attention and/or hyperactivity and impulsivity. Children with ADHD are get easily distracted, are unfocused and fail to follow instructions. These children due to their distractibility and behavioral problems are usually low on intelligence. They also talk relentlessly and are socially immature and indiscreet. They generally show social problems because of their hyperactivity and impulsivity. They have a hard time getting along with their parents as they fail to obey rules. Due to this hyperactive behavior they are often viewed negatively by their peers as well. Many people feel that children with hyperactive disorder are anxious but they are not. An associated disorder is specific learning disability. They show weakness in reading or learning basic subjects in school. This disorder is most common in boys when compared to girls and the symptoms are noticeable at the age of 8 and then it progresses. Another comorbid disorder is oppositional defiant disorder. The cause and factors of this disorder is still not known. It could be biological factors such as genetic inheritance.

Sign and symptoms:

- Not listening when spoken to
- Making careless mistakes in school work, work or other activities
- Having problems withstanding attention while doing a task
- Not following instructions
- Losing things which are necessary for a task. Eg: stationery, books, etc

- Fidgeting or inability to sit in one place
- Running or being impulsive
- Being unable to engage in tasks quietly
- Nonstop talking

Treatment:

- Behavioral therapy
- Cognitive behavioral therapy
- Medication
- Support groups
- Stress management
- Education and training

1.3 Internet addiction disorder:

One of the most recent forms of addiction listed in the ICD (international classification of disorders). It is also termed as Compulsive Internet Use (CIU), Problematic Internet Use (PIU) and iDisorder. Just because a person watches a lot of YouTube, does online shopping or like social media doesn't mean they have this disorder. It is termed as a disorder when these habits starts interfering with daily life activities. This disorder is further divide into several other disorders, like; gaming, social networking, blogging, inappropriate pornography use, etc. Like any other addiction this addiction is cause because it affects the pleasure center of the brain. The behavior triggers the release of dopamine which cause the pleasurable experience. Few symptoms are:

- Isolation
- Depression
- Feeling happy when using the computer, laptop or mobile
- Avoidance of work
- No sense of time
- Dishonest
- Agitated
- Boredom

1.4 ADHD and technology:

Children with ADHD tend to struggle with daily living activities like organizing, completing tasks, time management and failure to pay attention. Apps and computer programs can assist people with ADHD in these activities, by helping them to stay organized, reaching their goals, and avoid distraction. Technology can be aided in classrooms for better results. One study found that when ADHD children were taught math using a computer assisted instruction in math, student performed better and had increased on-task behavior. These children are more prone to getting addicted to video games. There is also a significant association between ADHD and internet addiction.

2. REVIEW OF LITERATURE

2.1 Bing-qian Wang, Nan-qi Yao, Xiang Zhou, Jian Liu and Zheng-taoLv (2017) Thr association between attention deficit/hyperactivity disorder and internet addiction: a systematic review and meta-analysis

The aim of this study was to analyse the link between ADHD and Internet addiction (IA). A moderate association was found between ADHD and IA. Individuals with IA are more associated with severe symptoms of ADHD. Males are more associated with IA and there was no significant relationship between age and IA. The study also gave suggestions to the parents of those suffering from ADHD to keep close monitoring of their internet use.

2.2 Daniel L. King and Paul H. Delfabbro (2012) Clinical Interventions for Technology-Based Problems: Excessive Internet and Video Game Use

This paper explores the possible interventions for internet over use and video game addiction. There is no direct link between over use of internet and psychological disorders but still a number of addicts have used clinical treatment for over addition of internet and video games. The paper reviews critically the clinical treatment for technology-based disorders. They also throw light on the prevalence of these disorders in Western and Eastern countries.

2.3 Huang Xiugin, Zhang Huimin, Li Mengchen, Wang Jinan, Zhang Ying and Tao Ran (2010) Mental health, personality, and parental rearing styles of adolescents with internet addiction disorder

This paper focused on a comparison of personality profiles of adolescent males with and without internet addiction and to check if IA is associated with specific parental rearing behaviour. There were 304 subjects who completed three instruments. The results of this study showed that IA often occurs with mental symptoms and personality traits like introversion and psychoticism. Influence of parenting style and family functioning are important factors in developing internet dependency.

2.4 Ju-Yu Yen, Cheng-Fang Yen, Cheng-Sheng Chen, Tze-Chun Tang and Chih-Hung Ko (2009) The Association between Adult ADHD Symptoms and Internet Addiction among College Students: The Gender Difference

The aim of this study was to find the association between ADHD and internet addiction and which one of inattention, hyperactivity or impulsivity is most associated with internet addiction and whether gender makes a difference in the association between ADHD and addiction among college students. A total of 2793 were administered the test from over 8 colleges in Taiwan. The results showed that ADHD and internet addiction were associated. It was also found that attention deficit was the most associated with internet addiction followed by impulsivity. Furthermore, it was found that the association was stronger in females than in males.

2.5 Kimberly Young (2009) Understanding online gaming addiction and treatment issues for adolescents

This study points out that massive multi-user online role playing games are the fastest growing forms of internet addiction among children and teenagers. They show classic signs of addiction just like drug or alcohol addicts. They often become preoccupied by gaming, lie about their gaming habits, lost interest in other activities and withdraw from friends and family. This paper explores these addiction habits and its impact on the individual and his/her family. It also discovers the nature and cause for addiction.

2.6 Soo Kyung Park, Jae Yop Kim and Choon Bum Cho (2008) Prevalence of internet addiction and correlations with family factors among South Korean adolescents

This study focused on the prevalence of internet addiction among the teenagers in South Korean and explored the family factors associated with it. There were 903 middle and high school students who took part in this study. The results showed that these adolescents were at a high risk of addiction and need further assessment and interventions. Parenting attitude, family communication, family cohesion and family violence exposure were associated with internet addiction. the findings indicated that family plays an important role in preventing internet addiction.

2.7 Ju-Yu Yen, Chih Hung Ko, Cheng Fang Yen, HsiuYeuh Wu, and Ming Jen Yang (2007) The Comorbid Psychiatric Symptoms of Internet Addiction: Attention Deficient and Hyperactivity Disorder (ADHD), Depression, Social Phobia and Hostility

This study was conducted to find out the association between internet addiction and depression, ADHD, hostility and social phobia in adolescents. This study was also conducted to find the gender differences in internet addiction and the above mentioned psychiatric disorders. The study was conducted on 2114 subject, using a questionnaire. It was found that there was a high relationship between internet addiction and the above stated disorders. It was further found that male population there was a higher relationship between internet addiction and ADHD, depression and hostility whereas in women population it was just ADHD and depression.

2.8 HeeJeongYoo, Soo Churl Cho, Jihyun Ha, Sook Kyung Yune, SeogJu Kim, Jaeuk Hwang, Ain Chung, Young Hoon Sung, and In KyoonLyoo (2004) Attention Deficit and Hyperactivity symptoms and Internet addiction

The objective of the study was to find the relationship between attention deficit- hyperactivity/impulsivity disorder and internet addiction. The population size was 535 elementary school children. The intensity of the internet addiction was found by administering the Young's internet addiction test and the ADHD by the DuPaul's attention deficit hyperactivity disorder rating scale. The ADHD group had a higher intensity of internet addiction compared to the non ADHD group. Hence there is a significant association between the two.

2.9 Leo Sang-Min Whang, Sujin Lee and Geunyoung Chang (2004) Internet Over Users' Psychological Profiles: A Behavior sampling analysis on internet addiction

This study investigated Korean internet users in terms of over use of internet and psychological problems due to over use. They used a modified version of the Young's Internet addiction scale. There were 13588 participants in this test. The internet addiction score showed a strong connection with dysfunctional social behaviors. More internet addicts tried to escape reality when compared to non addicts or possible addicts. The internet addicts were more prone to access the internet when depressed or stressed out. It was also found that these addicts were showing symptoms of loneliness, depression, and compulsivity. They also showed more interpersonal danger as they tend to form close bonds with strangers when compared to the rest.

2.10 Ricardo A. TejeiroSalguero and Rosa M. (2002) Measuring problem video game playing in Adolescents

The aim of this study was to design and validate a scale to measure the problems associated with the use of video games since there is no instrument at the present time for this purpose. The test was administered to 233 Spanish adolescents. The resulted showed that excessive use of video games shows symptoms and problems which resembled substance dependency.

3. METHODOLOGY

3.1 Aim:

To compare the influence of technology on ADHD children and normal children.

3.2 Operational definition:

ADHD: Attention deficit hyperactivity disorder. It is a brain disorder which is characterized by ongoing patterns of inattention and hyperactivity/impulsivity which interferes in daily functioning or development.

Addiction: it is the act of being dependent or addicted to an object or substance.

3.3 Plan:

To administer a questionnaire to children of the age group 6-15years. The population consists of both children with and without ADHD and to compare the results.

3.4 Data collection:

Primary data: This study mainly delves on the primary data collected by the survey method for addressing and analyzing the issue. Information has been collected from the population through close ended questionnaire. A structured questionnaire has been made use. The questionnaire has 15 questions.

Secondary date: Secondary data is collected from various publications; websites, journals, etc.

3.5 Variables:

Independent variable: the nature of the questions given.

Dependent variables: the response of the samples.

3.6 Sample:

The questionnaire was given to 30 children out of which 15 had ADHD and 15 did not have ADHD. All the children belonged to different ethnicities, cultural backgrounds, schools, etc.

3.7 Sampling technique:

The sampling technique used was snowball sampling or chain sampling or referral sampling. The population was restricted to Bangalore only. Generalizations can be at the macro level but enough care regarding the change in culture, attitude etc. of the groups where results have to be administered need to be taken care.

3.8 Materials used:

A close ended questionnaire was given to the subjects.

3.9 Limitations:

i. Time was one of the main constrain.
ii. The study was limited to Bangalore only.
iii. Sample size (30 children)
iv. Age group of the samples (6-15years)

3.10 Scoring:

i. The responses of both the groups are noted down.
ii. The responses are compared.

3.11 Statistical tools:

The constructed questionnaires were used for the survey purpose. The questionnaire comprised of close ended questions. The recorded observations of the questionnaire have been used while data interpretation. Statistical techniques: Statistical techniques like drawing percentages for generalizations, use of table for tabulating the primary data and use of graphs and pie charts for better pictorial representation of the analysis had been made use of.

3.12 Procedure:

The subjects were handed the questionnaire and asked to answer it. They were instructed to answer the questions individually and without over thinking. They were asked to mark the most apt option according to them.

4. ANALYSIS AND DISCUSSION

The aim of this study was to compare the influence of technology on children with ADHD and without ADHD.

Table 1: responses of ADHD children on their learning preference.

Reading	Watching videos	Writing	Audio learning	Doing online test
2	9	1	2	1

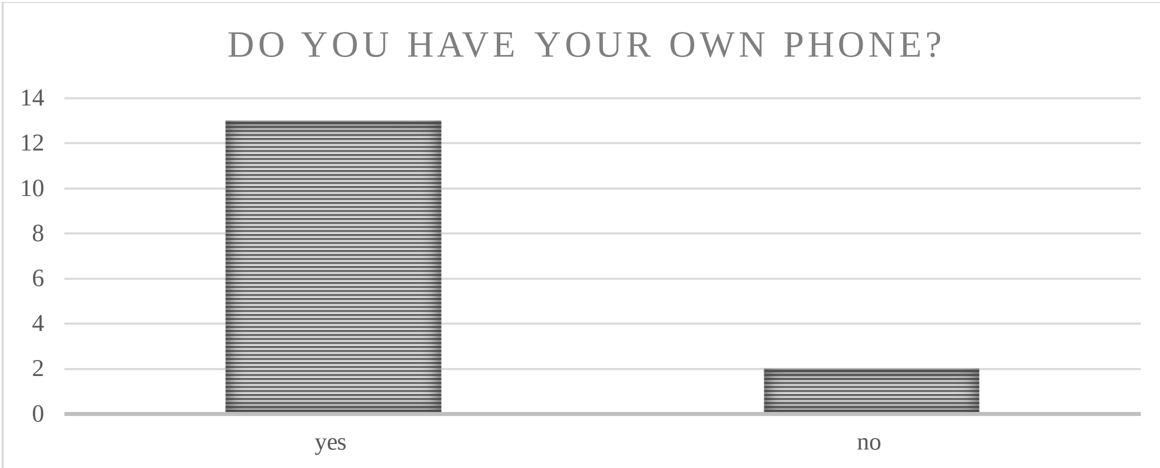
Table 2: responses of non-ADHD children on their learning preference.

Reading	Watching videos	Writing	Audio learning	Doing online test
4	**9**	**1**	**1**	**0**

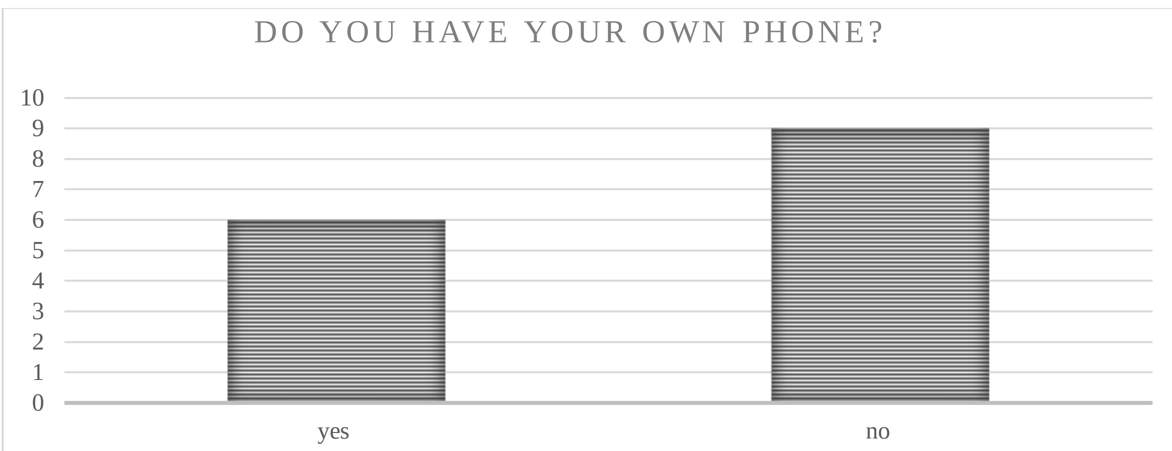
Table 1 shows the responses of the children with ADHD on the best way they learn. The responses were found to be 2, 9, 1, 2 and 1 for reading, watching videos, writing, audio learning and online tests respectively. From the table it is evident that majority of them like learning by watching videos and the least is by writing or doing online tests. This could be because of the effect of the visuals present in the video. Videos have both visuals and audio hence it enhances the learning experience of the child. Since these children are easily distractible this method of learning helps them focus on their learning.

Table 2 shows the responses of the children without ADHD on their learning style. The responses were found to be 4, 9, 1, 1 and 0 for reading, watching videos, writing, audio learning and online tests respectively. From the table it is evident that majority of them like learning by watching videos and the least is by doing online tests.

Comparing table 1 and 2 it is found that the learning pattern of both ADHD and non-ADHD children are similar.



Graph 1: responses of ADHD children

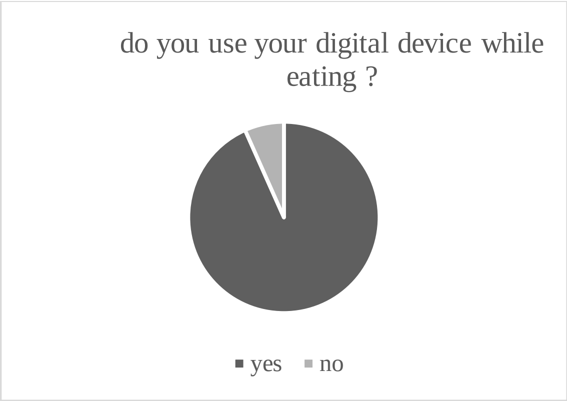


Graph 2: responses of ADHD children

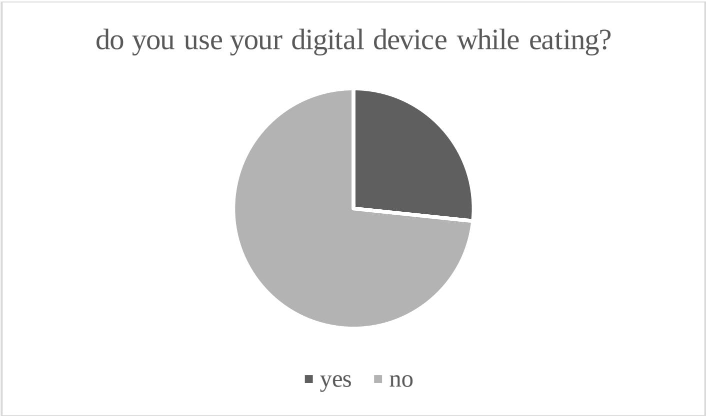
Graph 1 shows the responses of the ADHD children when asked if they have their own phone. From the graph it is evident that majority of the children have their own phones. 13 children have their own phone and only 2 do not have their own phone.

Graph 2 shows the responses of the non-ADHD children when asked if they have their own phone. From the graph it is evident that majority of the children do not have their own phone. 6 children have their own phone and only 9 do not have their own phone.

Comparing the two graphs it can be seen that more ADHD children have their own phone compared to non-ADHD children. This indicates that the parents themselves buy the children phones so that their hyperactive behaviour is reduces as they will be indulged with something.



Pie chart 1: responses of ADHD children



Pie chart 2: responses of non-ADHD children

Pie chart 1 shows the responses of the ADHD children when they were asked if they use their phones, tablets, iPad, etc., while eating. It is evident from the chart that majority of the ADHD children use their digital devices even while eating. 14 of the children use their phones and one 1 doesn't use it while eating. This shows the parents allows these children to use it so that they do not throw tantrums and sit in one place and eat.

On the other hand, pie chart 2 shows the responses of the non-ADHD children when they were asked if they use their phones, tablets, iPads, etc., while eating. From the pie chart it is seen that majority of the non ADHD children do not use their phone while eating. Only 4 out of the 15 use it.

While comparing the two it is evident that ADHD children are more influenced by technology as they use it even while eating. The parents encourage it as it helps them avoid the hyperactive behavior of the children.

From the analysis of the other questions it is evident that ADHD children are more involved and addicted to digital devices when compared to non-ADHD children.

5. CONCLUSION

5.1 Summary

The aim of the study was to find the influence of technology on ADHD and non-ADHD children. The questionnaire was administered on 30 children: 15 with ADHD and 15 without ADHD. These children were of the age group 6-15years. They were all studying in different schools and educational institution. The results of the study shows that ADHD children are more influenced by technology when compared to non-ADHD children.

5.2 Conclusion

i. On an average it was found that majority of the ADHD children have their own phone. When compared to non-ADHD children, a greater number of ADHD children had their own phone.

ii. When comparing the two groups ADHD children would use their phones even while eating when compared to non-ADHD children.

iii. Hence on an average and generalization, it was found that ADHD children are more influenced by technology when compared to non-ADHD children.

iv. From the secondary study it is evident that ADHD children are more prone to addiction of any form, and hence internet addiction is majorly found in ADHD children.

5.3 Need for the study:

There are three important ways in which this study is important. Firstly, it provides insights into the life of the children of ADHD. ADHD children cannot sit in one place for a long period of time due to their hyperactive behavior and lack of attention. Hence, we will know the major reason as to why the parents allow the children to use phones.

Secondly, this group of children are vibrant and are at age to go outside and play. The common trait of both ADHD and non-ADHD children is that they lead a sedentary lifestyle. They refuse to go out and play and instead play video games, watch tv, YouTube, etc.

Thirdly, this study will help teachers and parents understand the lifestyle of their children. Hence, they can take necessary actions in helping their children improve their lifestyle.

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AN EVOLUTIONARY JOURNEY OF MEDIA WITH TIME

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ABSTRACT

New media is a means of communication where technologies facilitate user to user and user to information interactivity. It typically comprises at least one of the following characteristics: Many to many communications, Digitization, Convergence, and Connectivity. Media is one of those fields where things are changing on a daily basis, there's an emergence of numerous trends every day. Media is prone to a diverse domain of changes, it is transforming as each day goes by. The subject is new and fluid; therefore, it poses numerous difficulties for anybody, both from a theoretical perspective and from a perspective of practice. Growth is possible when faced with new challenges. We are moving towards an increasingly digital, mobile, and social media environment with more intense competition for attention. More and more people get news via digital media, they increasingly access news via mobile devices (especially smartphones), and rely on social media and other intermediaries in terms of how they access and find news.Traditional media i.e., print and television will continue to grow. Cinema has a good future as it is recognized globally, animation and VFX are becoming an integral part. Localised reach of radio is catapulting the growth of radio industry. Future of OTT is very bright and original content along with regional content will be a key driver of OTT growth.New media has shortened the distance among people all over the world through electronic communication making global village concept much vivid. It will continue to evolve in the information technology age. For instance, content could transform from a passive object that is acted upon by the audience to an intelligent, responsive and reactive item.

The proposed paper will examine how the trends in media have changed over a period of time and the challenges that they have envisaged. Media activism has been the bottom line and it deserves an objective debate underlining the pros and cons.

Keywords: Social media, digitization, OTT, Technology, Mass media.

1. INTRODUCTION

Media has been a crucial part of our lives for ages. Initially when radio, TV and vinyl records were invented, they were all new media too. So, what makes New Media new? The truth is that New Media is a relative term. The disparity between New media and Old media is that Old media is mostly Mass media, whereas New media unlike Mass media is highly interactive. Users of New media are the sources of content creation and information irrespective of the type of media being used. New media is a means of communication where technologies facilitate user to user and user to information interactivity. Traditional media comprises of cable television, radio, newspapers, magazines and a majority of print publications. The advent of social networking sites such as Orkut, Facebook and Twitter provided people with a new kind of freedom where it was made easier for them to express their ideas or opinions individually, control who it reaches out to and also choose the things they want to view. The commencement of social media was definitely a challenge as it was a stack of fresh paper with no ink on it. Metaphorically, the various choices of different coloured inks, fonts and spacing was a great amount to deal with for those who had never come across an idea of keeping all those you know in such close proximity, being able to communicate with them in spite of time differences, busy schedules etc. Throughout recent years the internet has secured its place in society, strengthening its position and revealing its advantages over traditional processes of production and distribution. In the current climate of economic pressures, Internet offers an alternative that is considered to be inexpensive when compared to the traditional distribution content where physical resources are a fundamental part of the production process, affecting the manual force behind traditional processes on the side-lines came in as a big challenge. The start of media platforms such as quint, information is quite easily accessible now than before. The idea of mobile theatres has come into action and is being used to create awareness by reaching out to a larger crowd with documentaries and sensitive films. Technology and digitization have their grey areas too, with practice these challenges will be left behind way in the past real soon. New media has shortened the distance among people all over the world through electronic communication making global village concept much vivid. It will continue to evolve in the information technology age.

1.1 Evolution of media:

The history of media can be traced back to the days when dramas were performed all over the world under different cultures that were ancient. This was the starting point of when media was "broadcasted" to a wider audience. China received the first printed mass-medium in 1400 due to very high population and relatively high cost of paper. The term mass-media was formulated with the invention of print media. This form of media started in Europe in the mid-ages.

- Print media/ Newspaper:

Johannes Gutenberg invented the first printing press in 1453 allowing production of books in a mass quantity and circulating it to the entire world. The invention of the printing press gave rise to some of the first forms of mass communication, by enabling the publication of books and newspapers on a scale much larger than was previously possible. Newspapers developed from about 1612, with the first example in English in 1620, but they took until the 19th century to reach a mass-audience directly. James Augustus Hicky, the Father of Indian journalism, produced the first Indian newspaper (Hicky's Bengal Gazette) in 1780s paving way for advertising, marketing and business messages. Newspaper eventually converted itself as a political propaganda tool. Any person who had a printing press was considered a journalist. Over the years, the "one man show" concept faded due to difficulty in management as there was a rapid increase in the number of events. By the 19^{th} century more and more people were recruited and proper organisations were formed. Newspapers became far more common in the late 19th century. In the mid-19th century newspaper reporters began to use the telegraph as a means to get news to their newspapers quickly. Today's scenario captures how new media, i.e. the internet has been playing a major role in Print media industry by making it easier to communicate the gathered information with those above each one of them. The information can almost instantly be shared to respective people.

- Broadcasting:

Television:

Today, televisions can be found in every nuke and corner of the world. Where were televisions 100 years ago? Nobody even knew what a television was. As late as 1947, only a few Americans owned televisions.

Prior to electric televisions, we had mechanical televisions. They involved mechanically scanning images then transmitting those images onto a screen. Ultimately, the early efforts of various inventors led to the world's first electrical television a few years later.

Television first had cable connections broadcasting TV programs to subscribers via RF signals through cable wires. Traditionally, the television signal is transmitted over the air by radio waves and received by a television antenna attached to the television. Today, Satellite television system is used with supply of television programming using broadcast signals relayed from communication satellites. Also new media plays an important role bringing up the concept of "television on the go" since TV programs can be accessed from anywhere with internet facilities. Applications like hotstar have digitized the television industry.

Radio:

In modern society, radios are common technology in the car and in the home. In fact, in today's world one would be hard pressed to find anyone who has not heard of, seen, or used a radio within his or her life. This was not always the case, however. Before the 19th century, wireless radio communication was a thing of fantasy. Even after the development of the radio in the late 1800s, it took many years before radios went mainstream and became a household fixture. The history of the radio is a fascinating one that changed how the world connected and communicated from distances both far and near.

Broadcasting in India is speedily shifting its profile from government monopoly to highly commercialized broadcasting.

The notion of "mass media" was generally restricted to print media up until post-Second World War, when radio, television and video were introduced. The audio-visual facilities became very popular, because they provided both information and entertainment, because the colour and sound engaged the viewers/listeners and because it was easier for the general public to passively watch TV or listen to the radio than to actively read. In recent times, the Internet has become the latest and most popular mass medium. Information has become readily available through websites, and easily accessible through search engines. One can do many activities at the same time, such as playing games, listening to music, and social networking, irrespective of their location. Whilst other forms of mass media are restricted in the type of information they can offer, the internet comprises a large percentage of the sum of human knowledge through such things as Google Books, Quint, and Mobile Applications. Modern day mass media includes the internet, mobile phones, blogs, and podcasts.

- OTT:

Over-the-top services is also referred to as "value added". Most of us have been using OTT services without actually realizing it. In simple words, OTT refers to the services you use over the service provider of internet. Applications like Skype and WhatsApp that we use on the existing internet connected smartphones that provides provisions of voice/video calls can be termed as OTT. Over the top services are typically accessed via websites on personal computers, as well as via apps on mobile devices (such as smartphones and tablets), digital media players (including video game consoles), or televisions with integrated smart TV platforms.

- Social media:

Today, social media is a very common term and is a platform that even laymen can understand and use to socialize by expressing themselves. Even the most remote areas around the world are familiar with the whole idea of social media and use it in everyday life. Although Orkut and Facebook were platforms that caught everyone's eye, they weren't the platforms that birthed the execution of social media. Social media, in its present form, has been around a relatively short term and even though you probably can't imagine living without it now, except for the last few decades, everyone did. The first social media site that everyone can agree actually was social media was a website called Six Degrees, that lasted from 1997-2001. From Six Degrees, the internet moved into the era of blogging and instant messaging.

By the year 2000, around 100 million people had access to the internet, and it became quite common for people to be engaged socially online. Although the younger generation of today might not know about it, back in the early 2000's the website MySpace was the popular place to set up a profile and make friends. MySpace was the original social media profile website, leading into and inspiring websites like Facebook. Another website that was one of the beginning social media websites was LinkedIn, still a social media website today, geared specifically towards professionals who want to network with each other. In 2004, Mark Zuckerberg launched what would soon become the social media giant that would set the bar for all other social media services. Facebook is the number one social media website today and it currently boasts over a billion users. Before long, there were dozens of other websites providing social media services of some kind. Flickr was one of the earliest and still is one of the most popular photo sharing sites, but others include Photobucket and Instagram, with Instagram gaining popularity today as one of the top social media sites to include on business cards and other media. Social media today consists of thousands of social media platforms, all serving the same – but slightly different purpose. Of course, some social media platforms are more popular than others, but even the smaller ones get used by a portion of the population because each one caters to a very different type of person. Although it is impossible to know what the future of social media holds, it is clear that it will continue. Humans are social animals and the more ability to communicate with each other on the level that each person likes best, the more prevalent social media will become. With new and exciting technologies just around the corner, social media will be interesting to see in the coming decades.

1.2 Trends and challenges in new media:

- **Newspaper/Magazine**:

Today's scenario captures how new media, i.e. the internet has been playing a major role in Print media industry by making it easier to communicate the gathered information with those above each one of them. The information can almost instantly be shared with the respective people. Although people do prefer the traditional newspaper to read along with a cup of coffee in the morning, new media has definitely been playing a major role in the process of digitalizing the world. There's a lot of official websites of renowned newspapers and magazines that avail the same information as in the newspapers and magazines. For instance, The Quint is an Indian news website founded by RaghavBahl and RituKapur. It is a web based news site with the main news consumers being social media users. Major newspapers like The Hindu, Times of India etc have launched their own websites too. One of the greater advantages of new media is the faster and easier accessibility of news every day.

For people who do not have much time in the morning to carry a newspaper, new media comes into play. Every human being has a smartphone today, hence washing off the additional work of carrying material. Considering the rural areas where internet is not a big thing yet, traditional medium of newspaper is still appreciated. This comes in as a challenge if digitalization needs to be done on an entirely large scale.

- **TV industry:**

As per research, television industry will have an increase of 13% in the CAGR (compound annual growth rate). Rapid advancement in technology will play a major role in the growth of this industry in turn producing high-end content for transmission. In today's world, television series have been digitalized. People can view any TV program using mobile applications like Hotstar, anytime anywhere.

Even though the growth of the traditional media is increasing, changes in preferences due to urbanization may be a factor that would hamper the growth in the long run. These include consuming 'television on the go.'

- **Film Industry**:

The cinema industry has been a successful field in bringing people together under one roof with relatable expression of stories. Traditional ways of screening movies on the big screen is a habitual thing even today. The advent of new media in the form of online streaming of movies has come in as big challenge to the industry. The shift from television, cable and DVDs to the internet is changing cinema both inside and outside the theatres. **Netflix** has led the way, dominating the internet streaming business by investing heavily in the making of series and features. Series have developed a new form of cinema that rivals theatrical films.

Online piracy of film and television content in India is rampant and investments in preventive technology need to be significant if this needs to be checked. The latest home televisions are technically superior to theatre screens. While theatres offer unique scale and community, they will need new image technology to keep their audience.

- **Radio**:

  Success of radio is attributed to its localized reach. Radio has witnessed increase in numbers in metros, as listeners prefer mobile and on-the-go (car radio) devices. Consolidation in the industry is a key trend. Expansion in Tier 2 and 3 cities, though slow will happen over the next few years.

  Radio listeners will continue to have more choices to consume content – music, news, entertainment etc. by tuning into web radios, podcasts, audio-on-demand, etc. It is also important to note that high-end smartphones have done away with FM tuners altogether.

- **OTT:**

  Original content will be a key driver of OTT growth and regional content library is expected to increase its share on OTT platform. OTT is witnessing 35% growth year after year. Currently there are about 30 OTT players in India. Many media companies have begun offering OTT video on demand (VoD). It is expected that here will be an increase in the amount of time spent on digital platforms through mobile devices. Changing tech trends in digital advertising will be the key to success for revenue models in the platform.

  OTT faces challenges around fragmentation. The majority of Indian audiences are still stuck to the free or ad-supported model as of now. OTT heavily relies on broadband connectivity which is yet at a development stage in the country.

- **Social media:**

A lot had been changing with social media over many years and it has been continuing to do so. Several new features, brand opportunities and consumer preferences are included in the changes that have been taking place. It's definitely an impossible task to predict the changes that might take place in the future. To throw some light on the trends of today's social media we can consider AI lenses on Snapchat and Instagram. The beginning of Instagram shopping has also made a loud thud making it possible for people to make instant purchases. Live streaming is a feature that took the social media by a storm especially popular amongst celebrities. Ephermal content is any visual content that is only visible for a fixed duration of time has grabbed the limelight. Augmented reality is revolutionizing the way people socialize online. Marketers have been experimenting AR for a while. L'Oreal created AR apps that let users test out makeup and hairstyles before they purchase anything, and it turns out that it actually boosts sales. With an aim to draw closer to customers, marketers use social media platforms to create real-time engagements like chatbots and AI for their customers. As the number of mobile phone users grows every year, it is very important for marketers to optimize their content to better suit those mobile users. The top 3 social media platforms loved by mobile users are Facebook, Twitter, and YouTube.

Hacking, harassments faced by females or even celebrities, fishing over social media by impersonating other people and various other cyber-crimes can be considered as biggest challenges when it comes to social media. As social media changes with new trends, so does the complication in using it especially for people who are not technically advanced. The wide spread of **rumours** and misinformation has never been easier in the history of mankind.

Challenges need not just be the negative things, the Internet and in particular social media has positively contributed to the redistribution of power in today's world, and we can see signs of that disruption in politics, media, and business among many other industries. But with great power comes great responsibility. This is why I believe it's crucial to tackle such challenges.

1.3 Pros and Cons of media activism:

Online media activism is nothing but bringing changes or awareness about a cause through the use of social media, by posting or sharing ones thought about a particular event or issue.

Pros of Social Media:

- Spreading awareness about a cause or event
- Allowing students to engage and participate in school activities,
- Networking
- Fundraising

Cons of Social Media

- Lack of privacy
- Unreliable information is often shared
- Likes or Hashtags do not result in change
- Systemic issues also arise from hashtags
    - Proposed hypothetical theory on what the government can do to control the aforementioned cons:

By raising public awareness, and through the collective work of social scientists and responsible technologists, we can help liberate the Internet to fulfil its potential as the most powerful platform for connecting humanity. The more grounded you are in your authentic value as a human being, the less likely you are to be a heavy user of social media and also to be negatively affected by it.

CONCLUSION

Technology and digitization have its grey areas too, but the main goal is to make sure there's genuine and efficient use of the available features. It goes without saying that with great power comes great responsibility. As the number of trends are growing, the number of challenges be it upgrading or degrading gradually increase too, eventually acting towards the development of the country jointly along with proper tackling of the negative challenges and coming up with enough methods/solutions in order to transform them into the positive end of the scale.

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SOCIAL MEDIA AND TROLL PAGES: A CONTENT ANALYSIS WITH SPECIAL REFERENCE TO INSTAGRAM

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ABSTRACT

Instagram is one of the biggest social media services in the world. The photo-sharing app has now reached a new milestone. There are now 2 billion people connecting and building communities on Instagram every month. There were days when there were outages across the globe as the servers went crashing. People from various walks of life and age groups access Instagram and a majority of them happen to be youngsters mainly teenagers. With the user base increasing and tons of content shared, it will be illegitimate to look away from the way humour is portrayed in Instagram in the form of Troll pages.

Troll pages are generally aimed at certain individuals, film celebrities and politicians. Instagram serves as a platform for people to express their humour in the form of memes created and shared in Troll pages. Previously people could be tried under the Information Technology Act, 2000 for offensive posts as well as those which criticize individuals, political groups or any organization in social media. The recent Supreme Court presiding now makes it impossible to book people under the Act, the SC ruled that people also need to be given space for criticism. Of course, troll pages could be booked under various sections of IPC and defamation.

This research paper will focus on how Instagram has been used by individuals especially in the way they engage in Troll pages. The study will be done by comparing a specific troll page like AIB that have a high following among the youngsters by employing a quantitative research approach and elicit responses from them. The analysis will be done and the best possible conclusion and scope for further research shall be added.

Key words: Trolls, Instagram, social media, internet, youth.

1. INTRODUCTION

1.1 Social Media

According to *Daniel Trottier and Christian Fuchs*, in their study *"Theorizing Social Media, Politics and the State"*, they have stated that, it is possible to trace the emergence of social media to when Tim O'Reilly (2005) introduced the term 'Web 2.0' in 2005. While O'Reilly claims that 'Web 2.0' denotes actual changes whereby users' collective intelligence co-create the value of platforms like Google, Amazon, Wikipedia or Craigslist in a "community of connected users," (O'Reilly and Battelle 2009, 1) he admits that the term was mainly created for identifying the need of new economic strategies of Internet companies after the 'dot-com' crisis, in which the bursting of financial bubbles caused the collapse of many Internet companies. So he states in a paper published five years after the creation of the invention of the term 'Web 2.0' that this category was "a statement about the second coming of the Web after the dotcom bust" at a conference that was "designed to restore confidence in an industry that had lost its way after the dotcom bust" (ibid.).

1.2 Social Networking Site ; Purpose

"New media and society: A Study on the impact of social networking sites on Indian youth" a study conducted Researchers. M. Neelamalar& Ms. P. Chitra, in which the researchers said Through social networking, people can use networks of online friends and group memberships to keep in touch with current friends, reconnect with old friends or create real life friendships through similar interests or groups. Besides establishing important social relationships, social networking members can share their interests with other likeminded members by joining groups and forums. Some networking can also help members find a job or establish business contacts. Most social networking websites also offer additional features.

In addition to blogs and forums, members can express themselves by designing their profile page to reflect their personality. The most popular extra features include music and video sections. The video section can include everything from member generated videos from hundreds of subjects to TV clip sand movie trailers (YouTube).Social networking sites have facilitated communication. Members of such sites can easily form groups (called the communities) and share their opinions among themselves through discussion threads, forums and polls. Though these sites serves good in many ways, it has its negative effects too such as cybercrimes which has become a privacy threat to the people worldwide. Although advantageous in many ways by building new relationship and reconnecting with lost or old contacts, it also brought up some behavioral changes among the youth, not only the behavioral changes but also their social behavior and approaches. It has also ended up as a nightmare for a few people.*(M. Neelamalar& P. Chitra, 2009)*

2. REVIEW OF LITERATURE

2.1 Social Media Definition;

Definition:

Antony Mayfield from iCrossing, on his eBook "What is Social Media? " defines that, Social media is best understood as a group of new kinds of online media, which share most or all of the following characteristics:

Participation social media encourages contributions and feedback from everyone who is interested. It blurs the line between media and audience.

Openness*:* Most social media services are open to feedback and participation. They encourage voting, comments and the sharing of information. There are rarely any barriers to accessing and making use of content – password-protected content is frowned on.

Conversation*:* Whereas traditional media is about "broadcast" (content transmitted or distributed to an audience) social media is better seen as a two-way conversation.

Community: Social media allows communities to form quickly and communicate effectively. Communities share common interests, such as a love of photography, a political issue or a favourite TV show.

Connectedness*:* Most kinds of social media thrive on their connectedness, making use of links to other sites, resources and people.

The words "social media" first started to be used in 2005 and reflected an interest in the growth of relatively more recent interrelation parts of the internet, sometimes called Web2.0 (Ito et al., 2010). Yet prior to these more recent applications, social and communicative elements of the internet predating Web 2.0 had been used by youth – for example, instant messaging (IM), email, and chat rooms. In addition, youth had developed the forerunners of some current social and communicative practices via other, older media, including texting, as well as the more general uses of mobile phones. Given the emphasis in current social media discussions on the creation and sharing of content, it is worth noting that before Web 2.0, mobile phones were being used by young people to exchange audio visual content (e.g., with Bluetooth) as well as to take and post pictures online. Young people learned about creatively fashioning and sharing textual messages – as well as the symbolic meanings of those messages–through their use of texting and IM.

Many of the research issues, concepts, and frameworks (such as understanding the place of information and communications technologies [ICTs] within wider parent–child relations) that we now associate with the social media websites noted above were discussed initially in relation to these older social media precursors. Exploring a variety of historical antecedents also has the effect of underlining the fact that social media are not such a new development and are not even such a radical break with Web 1.0, for example. This entry will proceed with the broader understanding of the term social media, encompassing all of the above.

2.2 Youth and Internet:

There was a pioneering study of the internet in the United States in the mid-1990s that included young people's experiences online (Turkle 1995), and observations about interactions in families with children were made in some general studies of internet use from 1996 to 1998.The first dedicated empirical studies of young people's internet practices, however, were conducted from about 1998 to 2000. This included studies in North America (in the United States and Canada), Europe (in the United Kingdom, Belgium, and Norway), and in Asia (in Singapore and Taiwan), and there was one Israeli study. Apart from descriptions of children's early adoption of online activities, these studies covered themes such as the extent of, and motivations for, identity play (later discussed in relation to young people's self-presentation on social media websites), the consequences of children's use of the internet for sociability, how the offline world influenced behaviour online, and whether internet use displaced time for other activities which were, in turn, responses to some claims and concerns at the time. The first report on youth and online victimization was published in 2000 and lists of parental concerns and strategies for influencing their children's experiencesdatefrom2001.Asregardsthe particular aspects of the internet that we might conceptualize as social media, the first research on home pages in the United States (predating social networking service [SNS] profiles) was published in 2000, IM (and email) following in 2001, and chat rooms in 2003 – again, the latter two reflected the aspects of the internet that were popular among youth at the time. The first published work on SNSs appeared by 2006, and, of all social media, these sites, especially the more high-profile ones like Myspace and Facebook, are the ones where the social networking practices of youth have been most researched. As a result, there are gaps in the research base as regards practices on other platforms such as virtual worlds (e.g., Habbo Hotel), gaming sites, and audio visual platforms such as YouTube, even though these often have communications options and the equivalent of profiles.

Approximately 91% of youth who use SNS report that they utilize the sites to communicate with already known friends (Lenhart& Madden, 2007). Qualitative studies also converge with this finding that U.S.

youth mostly use SNS to interact with friends and not to meet strangers (Agosto & Abbas, 2010; boyd, 2008).

2.3 Social Media and youth

In examining social media and youth, it is also important to distinguish what is meant by youth. This term can cover different ages in different countries; in some societies youth extends into the late twenties, whereas in others such an age would be considered young adulthood. Meanwhile, the legal definitions of adulthood, the age at which young people are legally allowed to do different things (e.g., have sex, drive, buy alcohol), vary culturally. But the choice of words is an issue not just because of definition sand cut-off points, but also because of their connotations. Not only do writings about youth and "young people," or teenagers, refer to older children, but, arguably, they often take a perspective stressing how their social world and practices are closer to, and moving toward, adulthood. To refer to some of those same people as (still) "children" can sometimes stress the link to the world of young children, as well as their vulnerabilities, dependencies, and need for adult guidance. The new sociology of childhood understands childhood and youth as social constructions that vary culturally and can change over time *(James &Prout, 1997).Most Commonly Used Social Media by Teens*

In practice, only a relatively few internet and mobile phone studies have focused on young children, and most of the discourse about young people and social media websites has been about their use by older children, normally in their teens. This entry will refer to youth or young people, and will cover research whose object of study is youth, teenagers, adolescents, and (older) children. The word "children" is used here to denote the children of particular parents – that is, a family relationship.

One Research study in topic Impact of social media by adolescent behavioural health in California, Refers

Source: (Lenhart, 2010) except for Online video sites (Nielsen, 2009) & Online gaming (McAfee, 2010)

3. OBJECTIVES

1. To analyze how youngsters engage in troll pages.

2. To analyze the types of content shared and expressed by youngsters in Bangalore through troll pages.

4. METHODOLOGY

1. Quantitative content analysis

2. Questionnaire

The methodology adopted for this study is Quantitative content analysis. The Analysis is done over social networking site Instagram and the text and media contents shared by a random sample of 54 youngsters belonging to Bangalore city and the analysis as follows

Table 1: Age of Instagram users

Age	Total
16-20	32
21-25	22
Total	54

Table 2: Respondents view on picture contents shared in Troll Pages

Categories	Strongly Agree	Agree	Disagree	Strongly Disagree
Cinema/ Music	23	21	8	2
Sports	19	15	17	3
Wishes (General/ Festival)	3	3	30	18
Memes	24	22	5	3

Table 3: Pictures with text, contents shared in Troll Pages

Categories	Strongly Agree	Agree	Disagree	Strongly Disagree
Cinema/ Music	25	17	8	4
Sports	24	15	13	2
Wishes (General/ Festival)	8	7	19	20
Memes	26	18	6	4

5. ANALYSIS AND INTERPRETATION

TABLE 2

- Cinema/ Music has the second highest demand with 23 people strongly agreeing and 21 people agreeing out of 54.

- 10 people have disagreed for cinema/music based content on troll pages.
- Post related to sports are more agreed by 49 people out of 54
- 5 people have disagreed for sports related posts.
- Wishes/Greeting are wished for by 3 people who strongly agree and by 3 who agree.
- 30 People have disagreed and 18 people have strongly disagreed in case of wish/Greeting
- 24 people have more strongly agreed while 22 have agreed for memes to be seen in larger number in troll pages
- 8 people have disagreed for their wish to see more memes on troll pages

TABLE 3

- 25 people have strongly agreed and 17 have agreed that they see more cinema/music related post in troll pages
- 8 people have disagreed and 4 have strongly disagreed about the amount of cinema/music based is seen on troll pages
- 24 people have strongly agreed and 15 people have agreed that sports related posts are seen.
- 13 people have disagreed and 2 have strongly disagreed about the amount of posts related to sports are seen.
- 8 people have strongly agreed and 7 have agreed to seeing more wishes/greetings on troll page
- 19 have disagreed and 20 have strongly disagreed to seeing larger number of wish/greeting posts
- 26 have strongly agreed and 18 have agreed to seeing more memes posted on troll pages
- 6 have disagreed and 4 have strongly disagreed to seeing more memes on troll pages.

6. FINDINGS

Based on the data in table 2 people have wished to see more posts related to memes. People have strongly agreed to want to see more meme based content. Cinema/music is the next category of posts that they would like to see with sports closely behind. People would like to see posts related to sports and players. Wishes/greetings is the category that people would like see the least.

According to the data in table 3 people have noticed to seeing more meme related posts that other categories and the next category of topic is the cinema/music. Sports related troll posts are the next. One thing to note here is that the hike in these posts is dependent on various other factor. Wishes and greeting which is the category that people have wished for the least is also the category that is seen the least in these troll pages. People have more strongly wished for memes and cinema/music.

7. CONCLUSION

1) Social media has now become a breathing space for people, especially youngsters. They have now made social media to stand tall above all forms of conventional mass media. Social media has provided the youngsters a new user-friendly medium of access as well as a new platform to voice their opinions over various issues.
2) The youngsters now have the freedom and access to provide their feedback, ideas and opinions by using social media as a medium of communication Also the youth nowadays are very eager to share their personal content like picture, text, videos, etc.
3) The self-marketing parameter among youngsters in Bangalore seems increasing day by day over the internet.
4) The media that attracts and reaches youth much easily and effectively is social media, youth in Bangalore possess interest in sharing more personal content & few social Awareness content frequently which reveals an ineffectiveness of social media usage among youth
5) As far as the youngsters are concerned in their engagement and content sharing in Troll Pages in Instagram, youngsters are engaging more in troll pages.

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TYCOON 2018

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The Student National Seminar is conducted annually for the Undergraduate and Postgraduate students with an intent to give the students an acquaintance to research, publication and deep learning. Through these interactions, students will be able to deepen their understanding, recognise the relevance of ideas introduced in the lecture and make connections between ideas and evidence presented in different lectures. It also aims to culminate the outcome for efficient resource management in terms an interactive learning environment and building confidence in the young minds.

About the Department of Business Administration

The Department of Business Administration was established with an aim of creating discipline specific but also nurturing generic skills that enable the students for professional and personal growth outside of a formal educational setting. Upon completion of the course, the students will possess the knowledge, skills and attributes required to effectively manage oneself and relationships with others within organization. This is an undergraduate program where students learn to appreciate the diversity of behaviour in professional practice situations gaining knowledge of appropriate codes of ethics, standards, practices and procedures.

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CONTENTS

BUSINESS COMMUNICATION IN DIGITAL MEDIA(SOCIAL MEDIA)

Amal Joseph, Joseph KJ, Sreevalsan

St. Francis De Sales College

Abstract

Social media are gaining popularity and are increasingly used in regular operations of many companies, including start-ups, small, medium-sized, and large organizations. The purpose of this research is to explore the impact of social media and to analyze to what extent social media have impact on organizational capabilities and business performance. Over the past few years social media has gained an enviable position in the life of many people and it has become a topic for discussion across different sections of our society and has gained wide spread acceptance in today's busy life. The freedom and the level of interaction one can have in the various social media platforms have also influenced the way business is carried out these days. One can safely assume that in many organizations different platforms of social media has been playing a very important role in business development and better performance

Keywords: Social media, Organisational performance, Better performance etc.

I. Background of Study

There has been a fundamental shift in the strategy of conducting business amongst the ever-evolving business community all over the world and the people who have not yet got in to the band wagon are forced to come on board due to the rapid spread and acceptance of social media among the general public and the consumers in particular. As social media has become a part of consumers' everyday life a lot of organizations have started exploring the positive qualities of internet and have now shifted their attention to e-commerce and online trading. One of the many advantages of social media is that it allows an organization to communicate closer to their target audience while it enhances the organization to increase its brand visibility.

"Many organizations active on the social networking scene have direct links from their corporate websites to their social networking sites like Facebook, LinkedIn, Instagram, Youtube and Twitter, and use these social media sites to promote brands and support the creation of brand communities" (Kaplan &Haenlein, 2010) A lot of studies and researches (Kaplan, 2012), (Mathew Mount, 2014), (Michaelidou et al., 2011) have been conducted on why and how social media has attained such an importance in consumers mind and the rapid explosion of social media in the global market. These studies have considered various aspects of why consumers consider social media to be so important in their day to day life and what are the factors that drive them to actively engage in online activities. Additionally, other studies (Berthon et al., 2012), (Geehan, 2010), (Jussila et al., 2014), (Kusera, 2012) have explored the tangible and intangible benefits of social media in effective marketing like the influence it has on the consumers decision making process.

II.Research Aim

The purpose of this research is to ascertain the impact social media has on business development and its effects on organizational performance and how social media can enhance relationships. The researcher aims to accomplish this task through a mixed method approach using

qualitative means.

III.Research Questions

- How social media can be effectively used for business development and communication?

- What are the different ways social media can influence the organizational performance?

- How social media can be positively used for influencing business to business relationships?

The impact of social media on business capabilities

Andriole (2010) identifies latent factors (business capabilities) that are influenced by using Web tools, and ultimately affect business performance:

IV.Collaboration and communication

Web tools have the capacity to enhance communication and collaboration within and among organizations, thus fostering the rapid internationalization of companies and the globalization of their business operations (Bell &Loane 2010). The four indicators associated to "collaboration and communication" are

(i) the capability to coordinate discussions,
(ii) the capability to reach more people faster,
(iii) the capability to synchronize projects and tasks, and
(iv) the capability to audit communication streams.

V.Customer relationship management (CRM)

Web tools reshaped the traditional CRM processes, transforming them into CRM 2.0, by identifying and solving customer service issues, using forums, wikis and others. The four indicators are (i) the capability to mine customer data effectively, (ii) the capability to reach more customers, (iii) the capability to ask for customer feedback, and (iv) the capability to communicate effectively with customers.

Innovation

Innovation is the direct result of the exchange of ideas between experts, fuelled by user-generated content and mass co-creation (Bell &loane 2010). Web tools allow faster innovations to appear on the market by enabling around the clock, across boundaries communication between the persons having expertise in the field (Schenckenberg 2009). Innovation is measured as (i) the capability to syndicate innovation, (ii) the capability to improve success rates, (iii) the capability to increase innovation activities, and (iv) the capability to produce efficiently.

Knowledge management

Web tools may improve knowledge management processes, knowledge exchange, and knowledge creation (Schenckenberg 2009). Web tools with an internal focus may enhance the transfer of knowledge between employees, while tools with external focus on two-way communications with customers and suppliers. Knowledge management is measured as the capabilities to (i) share, (ii) retrieve, (iii) organize, and (iv) leverage knowledge.

Cost efficient

When a business in running on a fixed marketing budget, social media is the most cost-efficient way to market and promote the business. Websites like facebook, twitter, pintrest, etc, allow any business to share their content for no cost at all. Hence Social media is an affordable advertising platform.

Sales

Through the increased exposure on social media, it drives traffic into the company. This in turn converts the potential customers to actual customers. Therefore, increasing sales. According to Brian Solis some prominent examples of Social Media are

• Facebook is a popular free social networking website that allows registered users to create profiles, upload photos and video, send messages and keep in touch with friends, family and colleagues.

According to statistics from the Nielsen Group, Internet users within the United States spend more time on Facebook than any other website.

• Twitter is a free microblogging service that allows registered members to broadcast short posts called tweets. Twitter members can broadcast tweets and follow other users' tweets by using multiple platforms and devices.

• Google+ (pronounced Google plus) is Google's social networking project, designed to replicate the way people interact offline more closely than is the case in other social networking services. The project's slogan is "Real-life sharing rethought for the web."

Connectivity

The business will always be connecting to the customers in terms of changing preferences, lifestyles and resources and adapt to the changing interest of the consumers. Companies will also be able to cater to the dynamic interests and innovate on their marketing campaign accordingly.

Social media influencers on the business

More than 80 per cent of that population is made up of "potential influencers". It is worth making the effort to identify who these people are in your network and connect with them to attract shares and likes which ultimately help to spread your brand name. One website which is excellent for identifying these people is Klout. Klout gives social networkers a score out of 100 which indicates how influential an individual is over their network while also identifying who the broadcasters and influencers are within that network.

Social Media as an Essential Marketing Tool

Traditional forms of marketing included print media, social media and broadcast media. This had its own drawbacks. Television advertisements, leaflets, direct mail and email no longer seem to have the same impact as they used to. One of the major drawbacks was that they had the same advertisement strategy or the same advertisement repeated over many years. Businesses using social media as a means to market their product allow innovation and creativity. Social media allows the company to have a strong online presence by always reaching out to their customers and also providing great service. Companies can adopt fresh new approach to all their product innovation and increase awareness among their target audience. Social tools can also help to strengthen brand perception by communicating core values to a wider audience. This, in turn, opens up the opportunity to start conversations, grow business partnerships and expand the online community to win new followers and potential customers. Social media demands innovation and creativity in every press release the company has to make. Companies also need to keep up with other companies to fight competition and cater to the demanding customers' needs and wants. In order to stand out from competition, companies must listen and learn from their customers to map their needs against what else is going on in the social media domain. Efforts must be put to go beyond what is already existing and convert their corporate objectives in to existing and original social media activities. Dynamically using social media is one of the easiest ways to reach a large customer base and get the company or brand name in the heads of existing or potential customers. Not only does an already established network help to create new contacts, it will also help to deepen connections that have been formed.

VI.Suggestions

Based on the study and the observations made on social media the researcher recommends the following.

Opportunities - Social media as a great platform for mass engagements can offer unparalleled opportunities to an organization. It is essential for organizations to make their presence on it but it is equally important that the number of postings is done at the right intervals. Too much of posts or too little posts will not have the desired results.

Content matters – In order to portray the right image organizations need to have a clear control over the content of the materials posted on social media. Content matters a lot and can have diverse results depending on the kind of impression organization wants to create in the public space.

Focus – It is very crucial for the organization to determine which social media sites are most popular with its customers. This can be ascertained based on the number of followers, likes, comments, feedback etc. Identifying this will enable the organization to focus all its marketing efforts on just a few of these social networks and this will facilitate the organization to reach the maximum number of potential customers.

Control & Sustain – Organizations must assign key staff to implement social media strategy and also control postings, maintain various social sites and also sustain the tempo so that there is regular activities on the networks which will eventually increase the visibility and brand value of the organization.

VI.Conclusion

Many companies are using Social media as well as traditional form of media to market their products and to have a better connect with their customers. Via Social Media, one is able to reach out to more customers and cater to their specific needs better. Companies can also build their brand image via social media. Social media is an effective tool in doing business today and brings out innovative strategies out of companies that used to be very monotonous. The above study also determines that social media has a positive impact on business and it growth and performance. Companies that are at maturity stage in the product lifecycle can adopt social media to extend their business survival, if they fail to do so, they are undoubtedly going downhill in the coming years.

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TO CREATE AN AWARENESS AMONG YOUTH THE EFFECTIVENESS OF CORPORATE SOCIAL RESPONSIBILITY

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ABSTRACT

In this paper, there is a striking history associated with the evolution of the concept and definition of corporate social responsibility (CSR). Corporate social responsibility (CSR) refers to policies corporations or firms conduct their business in a way that is ethical, society friendly and beneficial to community in terms of development. This article examines the meaning of CSR based on some theories available in literature. The article then discusses the role of CSR in community development.

Corporate social responsibility, also called as corporate sustainability is the obligation of organisation management to make decision and take actions that will enhance the welfare and interest of society as well as the organisation. It may be proactive or reactive. Some organisations show their responsibility towards the society willingly while the others are forced by external factors like government policy, competition etc., The basis of what we consider to be the modern definition of CSR is rooted in Archie Carroll's "Pyramid of Corporate Social Responsibility." CSR deals with women empowerment, helping the environment, eradicating poverty, eradicating child labour etc. Companies now are incorporating social responsibility into their business strategy. There are various theories related to CSR, some of them include the Stakeholder Theory, Business ethics theory of CSR and the shareholder value theory of CSR. Companies engage themselves in social responsibility to retain talent, improve the company's brand, stand out among the competitors, etc. Being a part of the society, companies must be responsible towards it.

Keywords: proactive, reactive, evolution of CSR, trends, Company's Act, Indian, foreign, pyramid, legal, ethical, sustainability, policy

I.Introduction

Corporate social responsibility, also called as corporate sustainability is the obligation of organisation management to make decision and take actions that will enhance the welfare and interest of society as well as the organisation. There are several areas of social responsibility, they include the society as well as the stake holders like consumers, employees, investors, communities, government and others.

Corporate social responsibility benefits the society as well as the organisation. It benefits the organisation by maximising the positive impact on the stakeholders and minimising the negative impact of its obligations.

The concept of corporate social responsibility is similar to the "Give and Take" concept. The organisation takes inputs from the society for its growth and development so it gives back something to the society.

Corporate social responsibility can be proactive or reactive. Some organisations show their responsibility towards the society willingly while the others are forced by external factors like government policy, competition etc.,

The four faces of corporate social responsibility show the basic differences between proactive and reactive. They are:

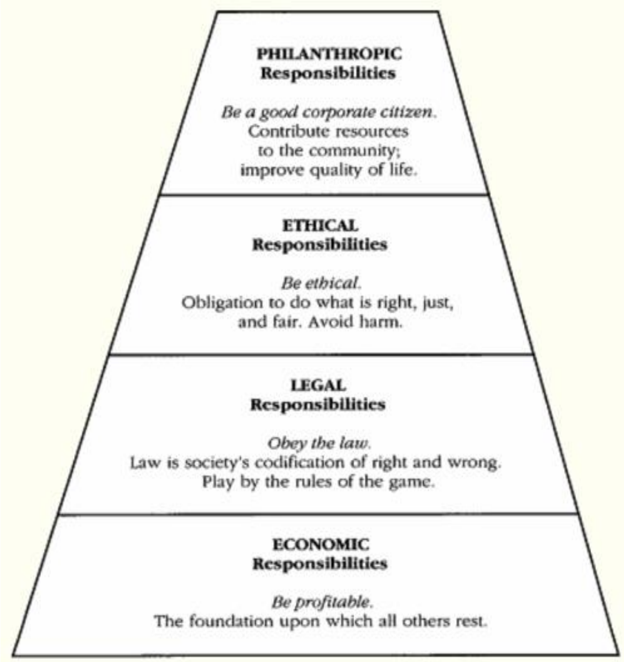
FACE 1 Illegal and socially irresponsible	**FACE 2** Illegal and socially responsible
FACE 3 Legal and socially irresponsible	**FACE 4** Legal and socially responsible

Fig. 1: The pyramid of corporate social responsibility.

II. CSR -Theories

While Corporate Social Responsibility (CSR) has been emerged since 1950s, its importance and practice came into picture much later. The basis of what we consider to be the modern definition of CSR is rooted in Archie Carroll’s “Pyramid of Corporate Social Responsibility.” In this Pyramid a organisation has four types of responsibilities. The first one is the economic responsibility to be profitable. The second is the legal responsibility to follow the laws set forth by society. The third, which is closely connected to the second, is the ethical responsibility. That is to do what is right even when business is not bound to do so by law. The last one is the philanthropic responsibility which is also called the discretionary responsibility.

Nearly 20 years later the Pyramid remains highly related. It is regularly debated, modified and criticized by academia, corporate leaders, politicians. Carroll's CSR Pyramid is a simple outline that helps argue how and why organisations should meet their social responsibilities.



CSR in Equation Form Is the Sum of:

•Economic Responsibilities (Profit making)

•Legal Responsibilities (lawful)

•Ethical Responsibilities (Be ethical)

•Philanthropic Responsibilities (Good corporate citizen)

Theories related with CSR

- Stakeholder Theory
- Business ethics theory of CSR
- The shareholder value theory of CSR

The stakeholder theory of CSR

It argues that the number of stakeholder pressure groups has developed broadly since the 1960s' and the stakeholder forces impact on business must not be underestimated. The stakeholder theory highlights special social rather than any others unrelated to the corporation. Stakeholders are very much necessary for the survival of the firm. Stakeholder theory involves protecting the interest of all the stakeholders in the organisation.

Business ethics theory of CSR

The business ethics theory is based on social obligation and the moral duty that business has towards society. Ethical theories focus on the ethical requirements that strengthen the relationship between business and the society.

Corporation as a better citizen in a society to contribute to social cause and social well-being.

The shareholder value theory of CSR

The shareholders theory argues that only social responsibility of business will develop its profits. The due idea is to maximize the shareholders interest.

Although maximizing the profit of shareholder is justified as the most important or only corporate responsibility, corporate social obligations are regarded often as strategic tool for corporate competitive benefit and more profit gain.

Why companies involve themselves in CSR (corporate social responsibility)?

Corporate social responsibility (CSR) is not going to solve the world's problems. That said, CSR is a way for companies to benefit

Social responsibility has become very important to companies over the last few years. The social issues can be local, national, or global. CSR deals with women empowerment, helping the environment, eradicating poverty, eradicating child labour etc. Companies now are incorporating social responsibility into their business strategy. Here are some of the reasons why companies engage themselves in social responsibility.

Improvising the Company's Brand

Being a socially responsible a company can build and attain a good brand image. For a company public's perception towards the company is very important in terms of both customer and the shareholders. By projecting a positive image, a company can attain a good name for itself which helps the company to make profit. Also, by being active in the public, a company's personnel are engaging with potential customers and in doing so, indirectly marketing the company in the process.

Engaging Customers

Building relationships with customers is the foundation of a successful company and having a social responsibility policy can impact the purchasing decisions of customers. Some customers are always ready to pay more for a product if they know a portion of the profit is going to worthy cause.

Retaining Top Talent

Employees always want to feel they are the part of big and reputed organisation. Social responsibility empowers employees to influence the corporate resources at their disposal to do good. Being part of a strategy that helps the greater good can boost employee morale and lead to greater productivity in the workforce.

Helping Companies Stand out from the Competition

When the companies are involved in the public, they stand out from the competition. Building relationships with the customers and their neighbourhoods helps improve the brand's image. For instance, Elon Musk, CEO of Tesla Inc. (TSLA) has connected the gap between the corporate world and his socially responsible vision by offering electric-powered cars and environmentally friendly automotive products.

Public Relations Benefits

Public relations are a potent tool for shaping consumer perception and building a company's image. Corporations that actively promote their social responsibility activities often take steps to publicize these efforts through the media. Getting the word out about corporate donations, employee volunteer programs, or other CSR initiatives is a powerful branding tool that can help build publicity for you in both online and print media.

Building a Positive Workplace Environment

one of the greatest benefits of promoting social responsibility in the workplace is the positive environment that they build to the employees. When employees and management feel they are working for a company that has a true ethics, they will likely be more enthusiastic and engaged in their jobs. This can build a sense of community and cooperation which brings everyone together and leads to better-off, more productive personnel.

III. EVOLUTION OF CSR

Fig 2: Evolution of CSR in Global Scenario

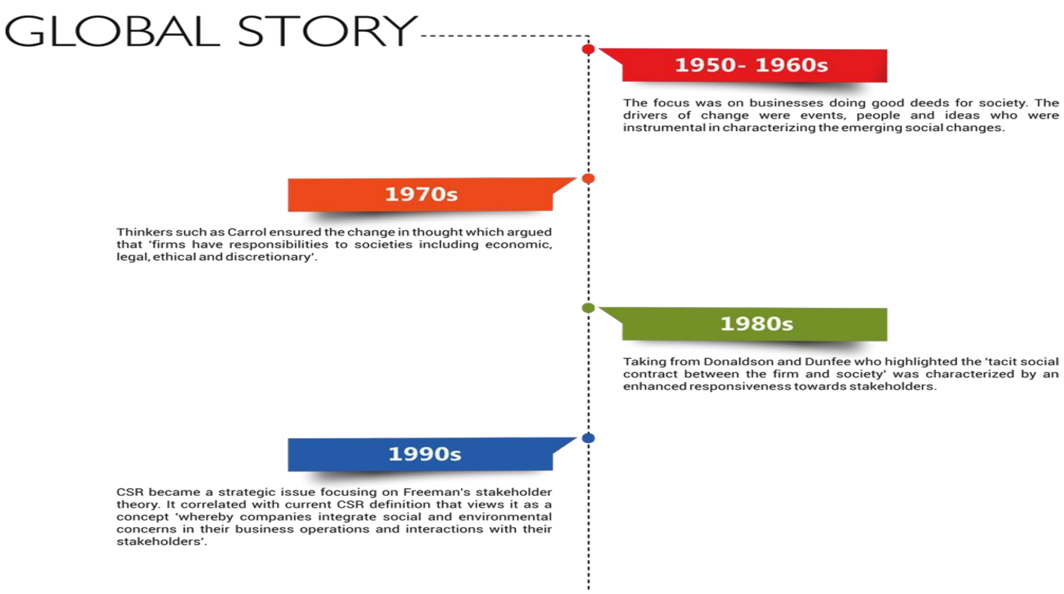
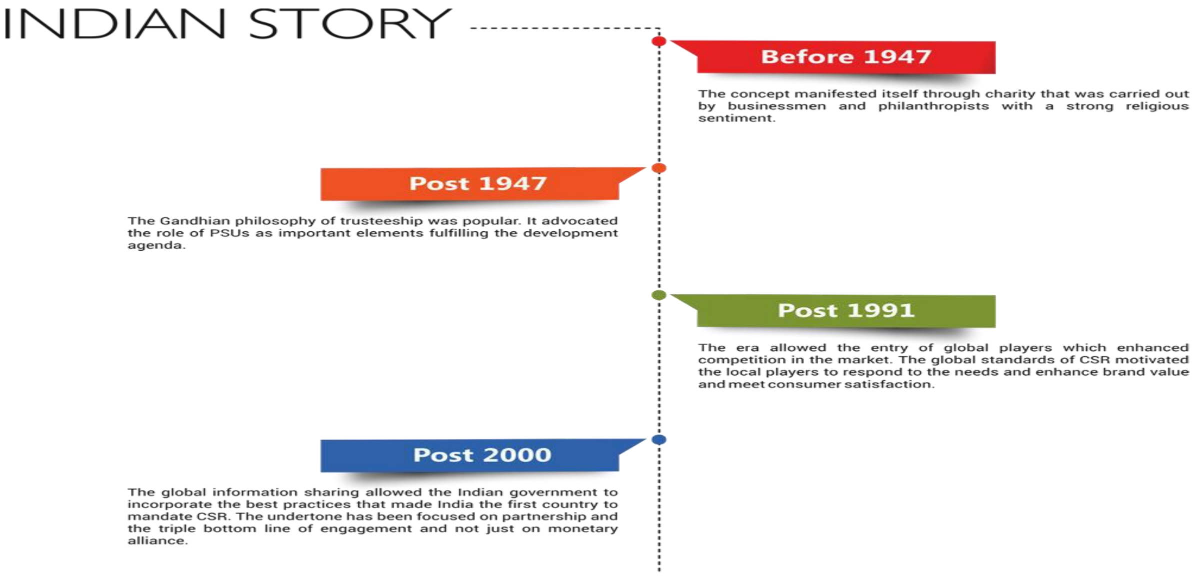


Fig 3: Evolution of CSR in India



The Companies Act, 2013

As per Corporate Social Responsibility is concerned, the Companies Act, 2013 is a law that made India the first country to mandate and quantify CSR expenditure. The details of corporate social responsibility are mentioned in the Section 135 of the Companies Act, 2013. The Act came into force from April 1, 2014, every company, private limited or public limited, which either has a net worth of Rs 500 crore or a turnover of Rs 1,000 crore or net profit of Rs 5 crore, needs to spend at least 2% of its average net profit for the immediately previous three financial years on Corporate social responsibility activities. The CSR activities in India should not be undertaken in the normal course of business and must be with respect to any of the activities mentioned in Schedule VII of the act.

The companies are required to setup a CSR committee which designs a CSR policy which is approved by the board and incorporates the CSR activities that the corporations decide to take.

In Schedule VII of the Bill there are 9 specified and 1 provisional generic category of activities:

1. Eradicating extreme hunger and poverty 2. Promotion of education 3. Promoting gender equality and empowering women 4. Reducing child mortality and improving maternal health 5. Combating human immunodeficiency virus, acquired immune deficiency syndrome, malaria and other diseases 6. Ensuring environmental sustainability 7. Employment enhancing vocational skills 8. Social business projects 9. Contribution to the Prime Minister's National Relief Fund or any other Fund set up by the Central Government or the State Governments for socio-economic development and relief and funds for the welfare of the Scheduled Castes, the Scheduled Tribes, other backward classes, minorities and women 10. Such other matters as may be prescribed.

Current Trends

The Indian companies in the last two years have invested majorly in education & skill development, healthcare & sanitation, rural development projects and environment after being mandated to allocate a portion of their profits towards community development.

In a written reply to Rajya Sabha, Corporate Affairs Minister Arun Jaitley on 1st March 2016 said a total of 460 listed firms have so far disclosed spending Rs 6,337.36 crore in 2014-15. This included 51 PSUs that spent Rs 2,386.60 crore. Of the 460 companies, 266 firms spent less than 2 per cent of the average profit.

CSR trends in India

2015-16 observed 28% growth in CSR spending in comparison to 2015-2016.

Listed companies in India spent Rs 83.45 billion in various programs ranging from educational programs, social welfare, skill development, healthcare, and environment conservation. The Prime Minister's Relief Fund saw an increase Rs 7.01 billion in comparison to Rs 1.68 billion in 2014-15. The education sector received the maximum funding of Rs 20.42 billion followed by healthcare at Rs 16.38 billion, while programs such as child mortality, gender equality, maternal health, and social projects saw negligible spend.

2017 CSR spends further rose with company firms aligning their initiatives with new government programs such as Swachh Bharat (Clean India) and Digital India, in addition to education and healthcare.

To study about companies which are socially responsible In India

Tata Group

The Tata Group corporation in India brings out various CSR projects, most of which are poverty alleviation programs and community improvement programmes. It is engaged in women empowerment activities, income generation, rural community development, and other social welfare programs. In the field of education, the Tata Group provides scholarships and awards for many institutions.

Tata group also engages in healthcare projects such as assistance to child education, immunization and creation of awareness of AIDS. Other areas include economic empowerment through agriculture programs, environment protection, providing sport scholarships, and infrastructure development such as hospitals, research centres, educational institutions, sports academy, and cultural centres.

Ultratech Cement

Ultratech Cement, India's largest cement company is involved in social work across 407 villages in the country aiming to create sustainability and self-reliance. Its CSR activities focus on healthcare and family welfare programs, environment, social welfare, education and sustainable livelihood.

The company organises medical camps, plantation drives, water conservation programs, immunization programs, sanitization programs, industrial training, and organic farming programmes etc

Mahindra & Mahindra

Indian automobile manufacturer Mahindra & Mahindra established the K. C. Mahindra Education Trust in 1954, followed by Mahindra Foundation in 1969 with the purpose of encouraging education. The company mainly focuses on education programs to assist economically and socially disadvantaged communities. CSR programs invest in scholarships and grants, healthcare for remote areas, water conservation, and disaster relief programs. M&M runs programs that focuses on girl's education.

ITC Group

ITC Group, a company with business interests across hotels, agriculture, IT, and packaging sectors has been focusing on creating sustainable livelihood and environment protection plans. The establishment has been capable to generate sustainable livelihood opportunities for six million people through its CSR activities. Their e-Choupal program, which aims to join rural farmers through the internet for procuring agriculture products, covers 40,000 villages and over four million farmers

Foreign companies that are socially responsible

Company 1: LEGO

LEGO is a line of plastic construction toys invented by Ole Kirk Christiansen. It is manufactured by The Lego Group, a private company in Denmark. The company's product, Lego, consists of plastic bricks that can be interlocked to create different structures. They come in many colours accompanying an array of gears, figurines called minifridges, and various other parts. Lego was started in the year 1949 and is known for their corporate social responsibility activities.
some of the CSR activities that are undertaken by Lego to benefit the environment and society are as follows:

1. "BUILD TO GIVE" for children in hospitals around the world

The Lego Group ran a campaign during the holiday season called "BUILD TO GIVE" to lift the spirits of children in the hospital. Children all over the world were invited to display the ornaments they built. In return the Lego Group donated over 40,000 Lego sets to the hospitalised children.

2. Engaging with the local communities

Lego reached over four hundred thousand (400,000) children to involve them in environmental and social issues with creative play experiences. This was done to build their ideas to overcome the present issues and create a better world. They got a great response as thousands of passionate Lego users volunteered this activity during their spare time.

3. Safe and high-quality play experiences for children.

Lego launched a social network for kids which would enable them to share their creations online to inspire other builders around the world. This platform also helps the children to become capable digital citizens. This social network was named LEGO Life and it provided a fun and safe online environment for children.

4. Coding and Cleaning up River Thames

The LEGO Group challenged children in London, UK, to put on their creativity, thoughts and imagination, and solve practical environmental and social problems through coding. London encouraged around 450 school children to design, build and code a LEGO prototype device to help get rid of rubbish from the River Thames, harnessing the power of physical and digital play in a playful and appealing environment. The programme gives children the self-determination to discover, experiment and problem solve, nurturing skills such as collaboration, critical thinking, and innovation.

Company 2: United Colors of Benneton

Benetton Group is a global fashion brand founded by Luciano Benetton in Ponzano Veneto, Italy. The name comes from the Benetton family, who founded the company in the year 1965. Benetton has a network of about 5,000 stores in the main international markets.

The Women Empowerment Program (WE Program) is a Benetton Group sustainability program designed to support women all over the world. This is a long-term plan women empowerment plan.

To achieve the goal of women empowerment and gender equality, Benetton Group has recognized five significant priorities in accordance with the UN agenda:

• **Sustainable livelihood**:

This is to guarantee that women have access to decent work in safe places so that they may gain social and economic freedom.

• **Non-discrimination and equal opportunities**:

All forms of discrimination must be ended. Women and girls must be approved equal opportunities with men and boys in leadership, employment, and decision-making at all stages. They must play a part in peace building and state-building and have complete access to information and communications technology.

• **Quality education**:

All women and girls must be approved access to inexpensive and quality education at all levels, including vocational, technical, and university education.

• **Healthcare**:

Girls and women must be granted access to affordable and suitable healthcare facilities. They must have universal access to reproductive and sexual health and reproductive rights.

• **Fight against violence**:

Within a span to 10-12 years, the Benetton group wants to eliminate all forms of violence against all women and girls in the public and private spheres. This includes child marriage, sexual and other types of exploitation, trafficking, and harmful practices such as genital mutilation.

Company 3: M·A·C

MAC Cosmetics, stylized as M·A·C, is a cosmetics manufacturer company founded in the year 1984 by Frank Toskan and Frank Angelo. The company's headquarters is in New York City and became part of the Estée Lauder Companies in 1998. MAC is an abbreviation for Make-up Art Cosmetics.

M·A·C has five social initiative programs currently in place

M·A·C Cruelty-Free Beauty:

This principle prohibits animal testing and the policy is extended to ingredient suppliers as well. The products manufactured by MAC is no longer tested on animals unless it is mandated by the law.

- M·A·C Kids Helping Kids:

This programme was started in 1994 where kids living with HIV/AIDS create images/pictures that are reproduced as greeting cards. All the money collected by selling the greeting cards goes back to participating organizations. This is financially helping the children suffering from HIV/AIDS.

- M·A·C Viva Glam

Cent percent of the purchase price of any Viva Glam products that include lipsticks, lip-glosses and holiday sets, goes to the M·A·C Aids Fund. Multiple Celebrities have recommended the MAC Viva Glam products. Such celebrities include: Nicki Minaj, Lady Gaga, Cyndi Lauper, Elton John, and More.

- M·A·C Recycling:

MAC offers free lip-gloss, eyeshadow, or lipstick at any M·A·C location (lipsticks only at M·A·C counters in department stores) with the return of six empty M·A·C containers. Some products like Viva Glam, Pro Longwear gloss and Pro palette Shadow and sheen supreme lipsticks are excluded.

- The M·A·C AIDS Fund:

MAC supports community organizations providing direct services to people living with HIV/AIDS. To date the foundation has raised over $240,000,000 US Doller since its commencement in 1994.

Using Corporate Social Responsibility to Build a Positive Corporate Image

The CSR activities show that the organization is concerned about the well-being of the society and the protection of the environment. Organizations with developed CSR builds a favourable and positive corporate image compared to organizations that do not take CSR activities into consideration. Many organizations use CSR as an instrument for building a good corporate image to the public. CSR has a positive influence on the progress in revenues, economic performance of the organization, the corporate image and status, relations with all investors and the customer trustworthiness. CSR also gives consumers the chance to feel that they have taken the correct decision by choosing a specific service or product. The optimistic image of the organisation allows it to attract new customers and to rise the benefits and the confidence of all investors. The image of a socially responsible organization improves the dependability of the brand, creates and strengthens the competitive advantages, increases customer faithfulness and creates an emotional bond between the organization, the employees and the customers

IV.CONCLUSION

CSR is becoming a progressively significant commotion for organizations in the emerging markets as the expectations and the necessities of consumers are also increasing. A. Chattananon and M. Lawley12 note that the corporate image is shaped by three main aspects in the organization:

1. Corporate Marketing Communications,

2. Corporate Social Responsibility, and

3. Consumer Demographics.

The concepts for CSR and corporate image are integrated and go hand in hand. A company or organization that is socially responsible creates a positive impact in the global market which in turn creates a positive brand and corporate image.

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ANALYSIS OF EMPLOYEE ENGAGEMENT IN SFS INSTITUTION

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ABSTRACT
Human engagement consists of complex and emotional behavior which carries multiple undertones. It is difficult to control human behavior in different situation. Similarly it is difficult to understand and predict the behavior of humans. The same is applied to the employees working in various sectors.

This research tries to focus on employee engagement analysis on the employees of all the SFS Institutions in Bangalore. SFS group of institutions is one of the prominent education institutions in Bangalore, proving its significant presence over a number of years.

This primary study will try to analyze the Employees engagement factors like workload, stress, growth, recognition, relationship, fairness, autonomy and diversity as well among the employees. Our study will also be helpful in emphasizing the role of educators or teachers in their personal and professional life. This research will also help in identifying the problems faced by them and its probable remedies.

Keywords: Employee engagement, SFS group of institutions, Professional life and Stress Management

I. Introduction

In today's competitive business world employee engagement is needed for every organization but the biggest challenge today is fully engaging the talented people and capturing their minds at each phase of their work life. Now-a-days employee engagement has emerged as an important driver of business success and it can be a deciding factor in organizational success. It helps the organization in achieving their goals through employee's performance.

Employee engagement is about treating people as people not merely as an employee. Employees go the extra miles and deliver excellent result in terms of performance when employee engagement is greater. It is a key link to an organization's reputation, employee retention, loyalty, productivity, stakeholder value.

II.Objectives

1. To know the level of employee engagement in the institution
2. To know the motivational factors affecting employee engagement

3. To understand the opportunities of growth available in the institution

III.Hypothesis

- H1: There is a high level of employee engagement in the institution
- H0: The level of employee engagement in the institution is low

IV. Methodology adopted

Collection of primary data

1. Sample size - 60
2. Sample unit - Academician
3. Sampling technique - Convenience sampling
4. Sampling frame - SFS Educational Institution
5. Collection of data - Schedule
6. Analysis of data - Tabulation and interpretation

V.Factors affecting EMPLOYEE ENGAGEMENT

- **Workload**:- If workload on a person is more and more then the person feels the stress, depressed and they cannot concentrate either on personal life nor professional life
- **Growth**:-when the status of an employee increases in an organization, there will be a competition and greed between the employees. The growth of an employee may affect his/her physical as well as mental health.
- **Reorganization**:- if an employee doesn't get recognized for his/her work what they deserve them that might affect their work-life balance
- **Stress**: - stress has a direct connection between his/her personal as well as professional life. If their work-life balance is not well balanced it will directly affect their work.
- **Clarity**: - the employee should have clear and clarity of their objective and purpose of being in the organization.
- **Relationship**: - Relationship plays a vital role in any organization and its goal. So a good inter-personal relationship should be maintained between the employee and employer as well as peer group.

VI.FINDINGS AND ITS INFERENCES:

Table 1:You know what is expected of you at work.

Basis	Frequency	%
Strongly disagree	0	0
Disagree	1	2
Neither agree nor disagree	0	0
Agree	31	52
Strongly agree	28	46

The above table shows that more than half 52% of respondent agree that what is expected from them at work. 46% of respondent agreed for the same.

Fig 1 :What is expected from work

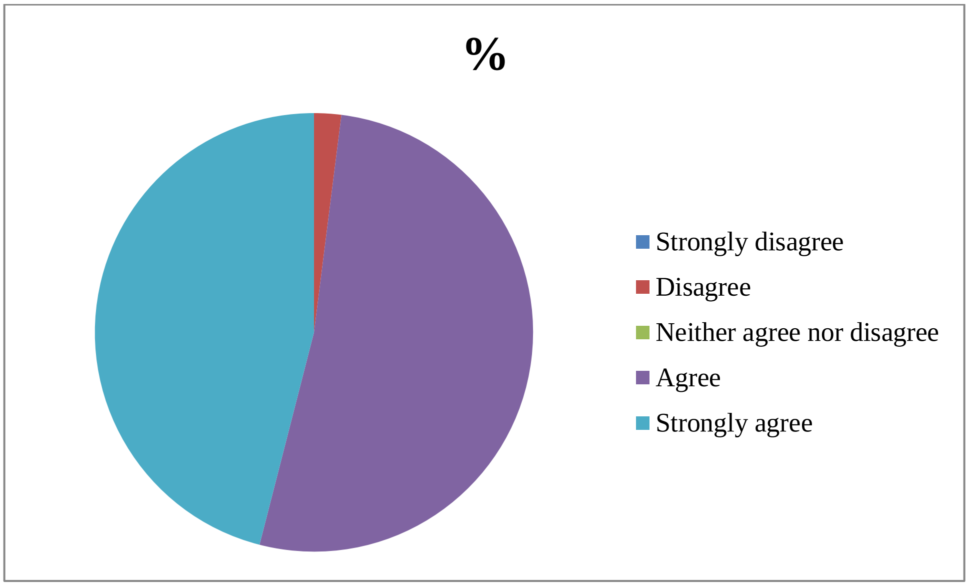

Table 2:You have the materials and equipment you need to do your work right.

Basis	**Frequency**	**%**
Strongly disagree	0	0
Disagree	2	3
Neither agree nor disagree	3	5
Agree	39	65
Strongly agree	16	27

The above table shows that more than half 65% of respondent agree that what materials and equipment to their work right. 27% of respondent agreed for the same.

Fig 2:You have the materials and equipment you need to do your work right

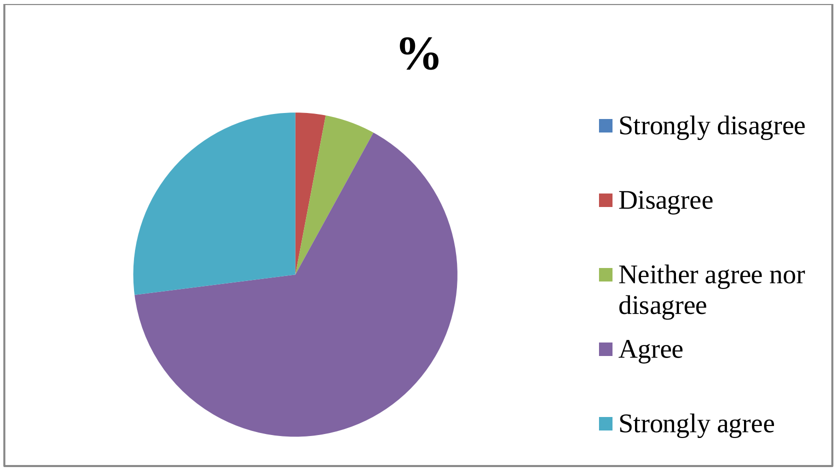

Table 3:At work, you have the opportunity to do what you do best every day.

Basis	**Frequency**	**%**
Strongly disagree	0	0
Disagree	2	3
Neither agree nor disagree	6	10
Agree	33	55
Strongly agree	19	32

The above table shows that more than half 55% of respondent agree that they have the opportunity to do their best. 32% of respondent agreed for the same.

Fig3:At work, you have the opportunity to do what you do best every day

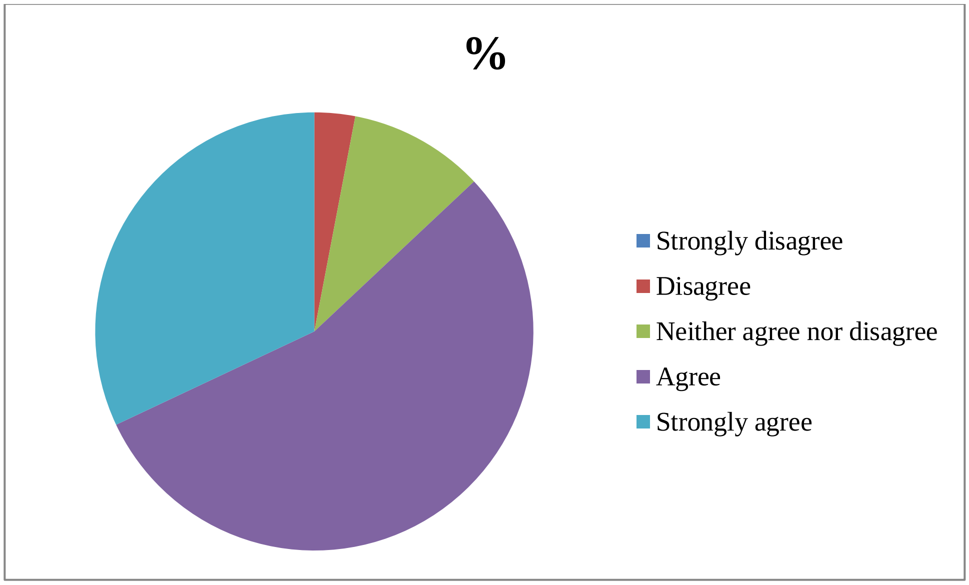

Table 4 :In the last 7 days, have you received recognition or praise for doing good work.

Basis	**Frequency**	**%**
Strongly disagree	4	7
Disagree	15	25

Neither agree nor disagree	19	32
Agree	16	26
Strongly agree	6	10

The above table shows that 32% of respondent neither agree nor disagree that in last 7 day they didn't get any recognization for their work. 26% of respondent agreed.

Fig 4 :In the last 7 days, have you received recognition or praise for doing good work.

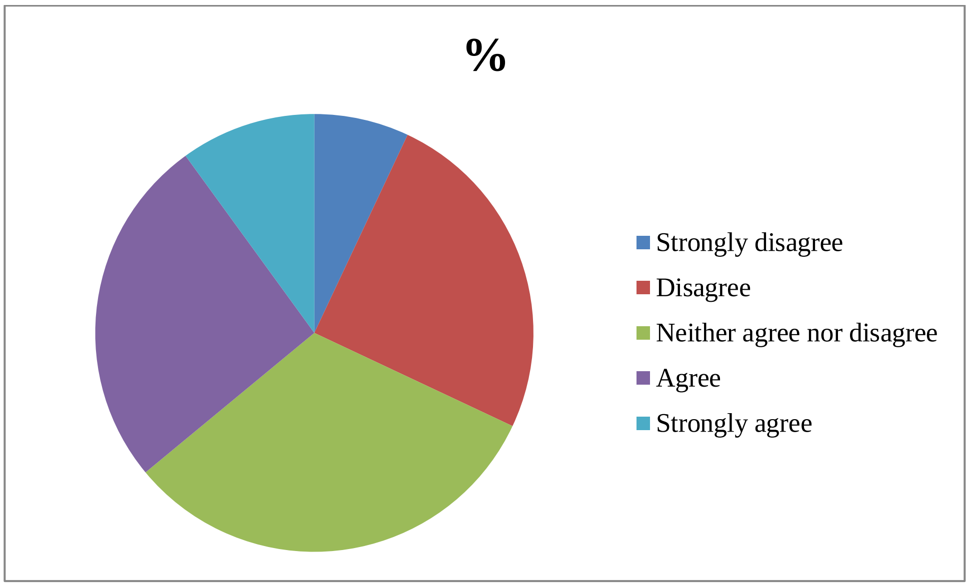

Table 5:Your supervisor, or someone at work, seem to care about you as a person?

Basis	**Frequency**	**%**
Strongly disagree	1	2
Disagree	3	5
Neither agree nor disagree	12	20
Agree	27	45
Strongly agree	17	28

The above table shows that 45% of respondent agree that supervisor, or someone at work, seem to care about them as a person. 28% of respondent agreed for the same.

Fig 5:Your supervisor, or someone at work, seem to care about you as a person?

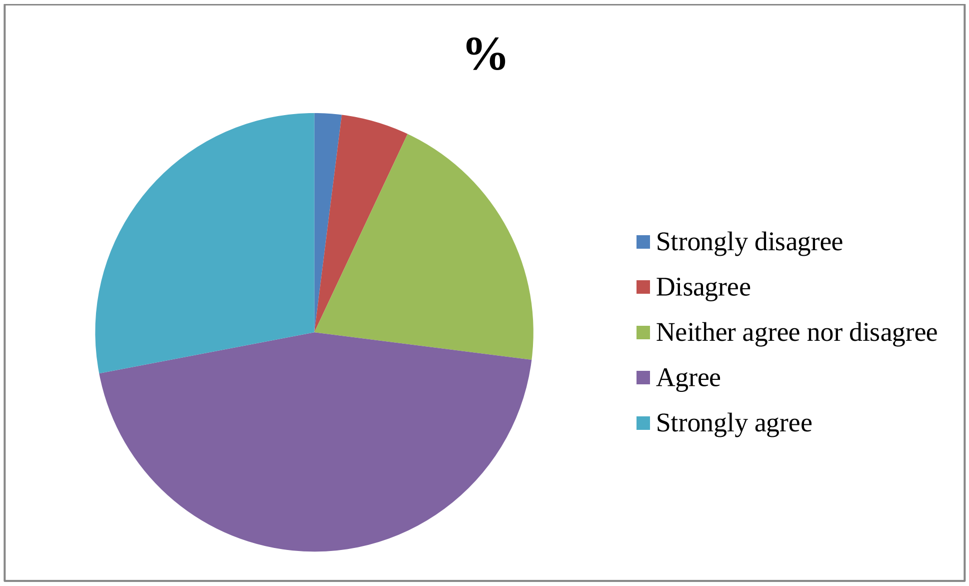

Table 6:There is someone at work who encourages your development

Basis	Frequency	%
Strongly disagree	2	3
Disagree	3	5
Neither agree nor disagree	9	15
Agree	33	55
Strongly agree	13	22

The above table shows that more than half 55% of respondent agree that there is someone at work who encourages their development. 22% of respondent agreed for the same.

Fig 6:There is someone at work who encourages your development

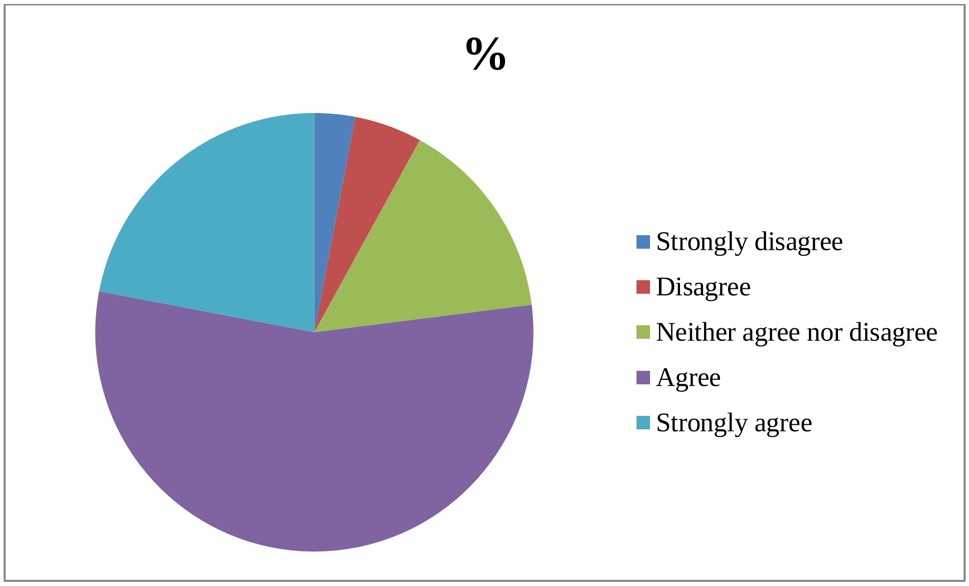

Table 7:At work, your opinions seem to be count.

Basis	Frequency	%
Strongly disagree	2	3
Disagree	1	2
Neither agree nor disagree	12	20
Agree	33	55
Strongly agree	12	20

The above table shows that more than half 55% of respondent agree that their opinions are taken to into the consideration. 20% of respondent agreed and also disagrees.

Fig7:At work, your opinions seem to be count.

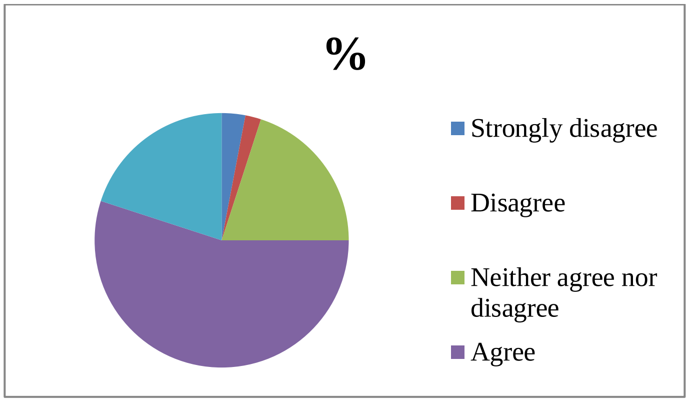

Table 8:The mission/purpose of your institute make you feel your job is important.

Basis	Frequency	%
Strongly disagree	1	2
Disagree	2	3
Neither agree nor disagree	5	8
Agree	35	59
Strongly agree	17	28

The above table shows that more than half 59% of respondent agree that they feel important for their job. 28% of respondent agreed for the same.

Fig 8:The mission/purpose of your institute make you feel your job is important.

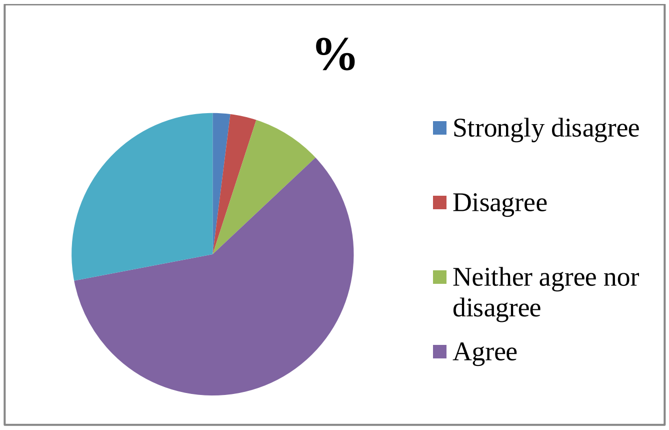

Table 9 :Your associates(fellow employee) are committed to doing quality work.

Basis	**Frequency**	**%**
Strongly disagree	0	0
Disagree	2	3
Neither agree nor disagree	12	20
Agree	35	59
Strongly agree	11	18

The above table shows that more than half 59% of respondent agree. 20% of respondent neither agreed nor disagree for the same.

Fig 9 :Your associates(fellow employee) are committed to doing quality work.

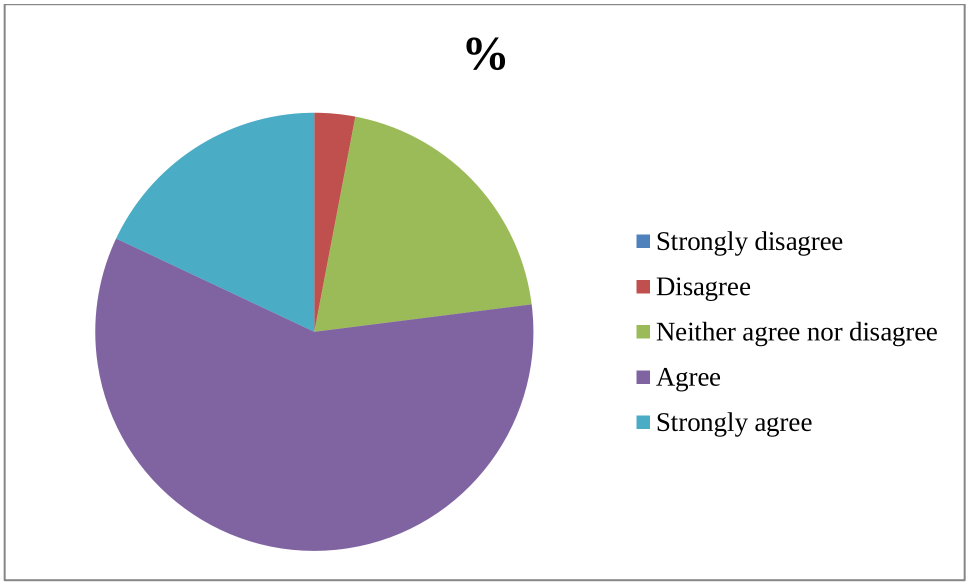

Table 10 :You have a best friend at work.

Basis	**Frequency**	**%**
Strongly disagree	2	3

Disagree	6	10
Neither agree nor disagree	9	15
Agree	22	37
Strongly agree	21	35

The above table shows that 37% of respondent agree that they have best friends at work. 35% of respondent agreed for the same.

Fig 10 :You have a best friend at work.

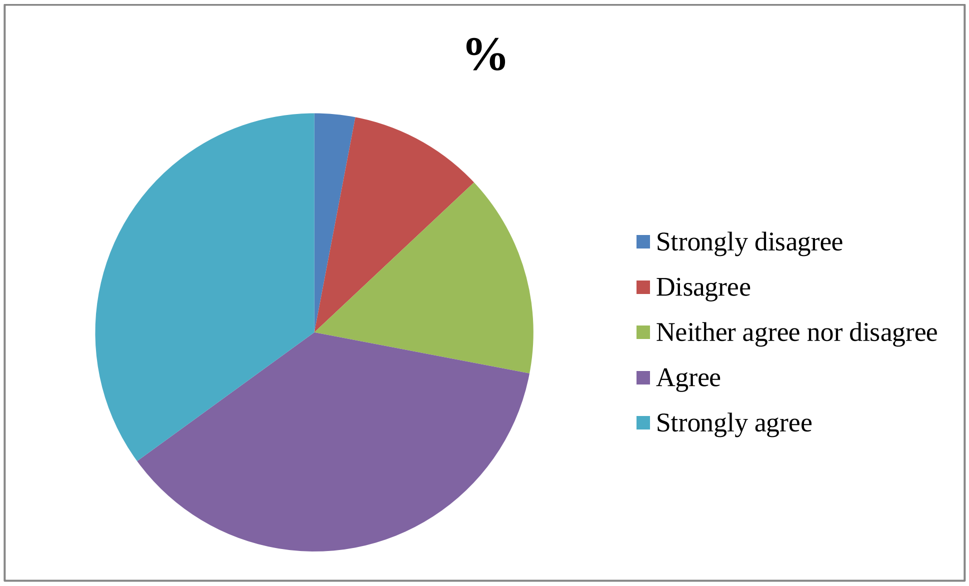

Table 11:In the last six month, someone has at work talked to you about your progress.

Basis	Frequency	%
Strongly disagree	4	7
Disagree	9	15
Neither agree nor disagree	9	15
Agree	27	45
Strongly agree	11	18

The above table shows that 45% of respondent agree thatIn the last six month, someone at work talked to them about their progress. 18% of respondent agreed for the same.

Fig 11:In the last six month, someone has at work talked to you about your progress

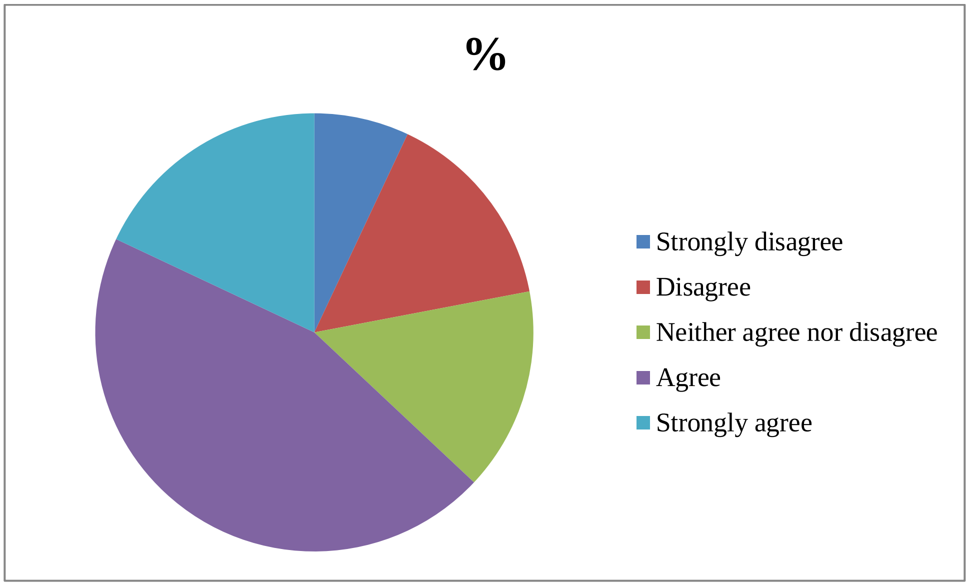

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Table 12 :In the last year, you have had opportunities at work to learn and grow.

Basis	**Frequency**	**%**
Strongly disagree	1	2
Disagree	7	12
Neither agree nor disagree	6	10
Agree	36	60
Strongly agree	10	16

The above table shows that more than half 60% of respondent agree thatIn the last year, they had opportunities at work to learn and grow. 16% of respondent agreed for the same.

Fig 12 :In the last year, you have had opportunities at work to learn and grow.

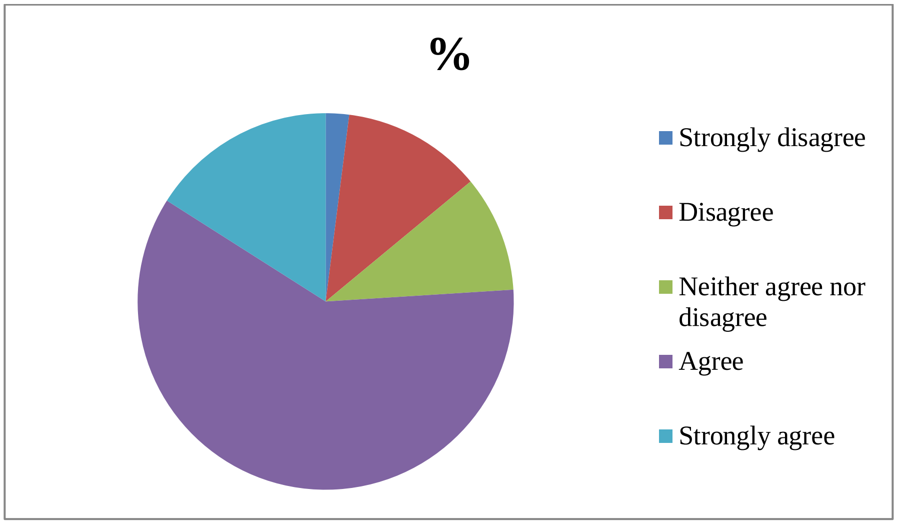


Table 13 :The pay and benefits in your organization comparable to similar institutions.

Basis	Frequency	%
Strongly disagree	1	2
Disagree	9	15
Neither agree nor disagree	15	25
Agree	23	38
Strongly agree	12	20

The above table shows that 38% of respondent agree that the pay and benefits in their organization comparably similar institutions. 25% of respondent neither agree nor disagree for the same.

Fig13 :The pay and benefits in your organization comparable to similar institutions.

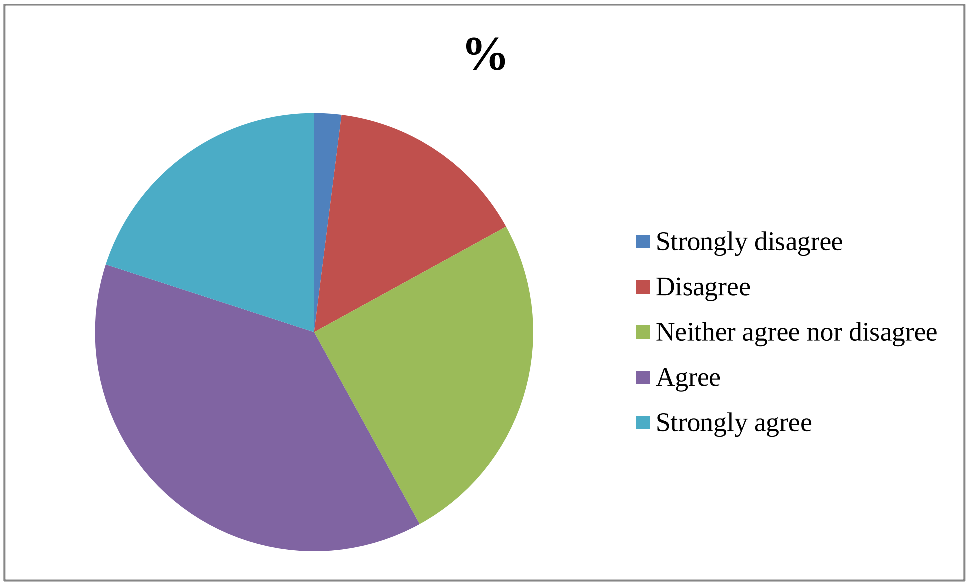


Table 14:Job promotions in this organization is fair and objective.

Basis	**Frequency**	**%**
Strongly disagree	2	3
Disagree	5	8
Neither agree nor disagree	18	30
Agree	29	49
Strongly agree	6	10

The above table shows that 49% of respondent agree. 30% of respondent neither agreed nor disagree for the same.

Fig 14:Job promotions in this organization is fair and objective.

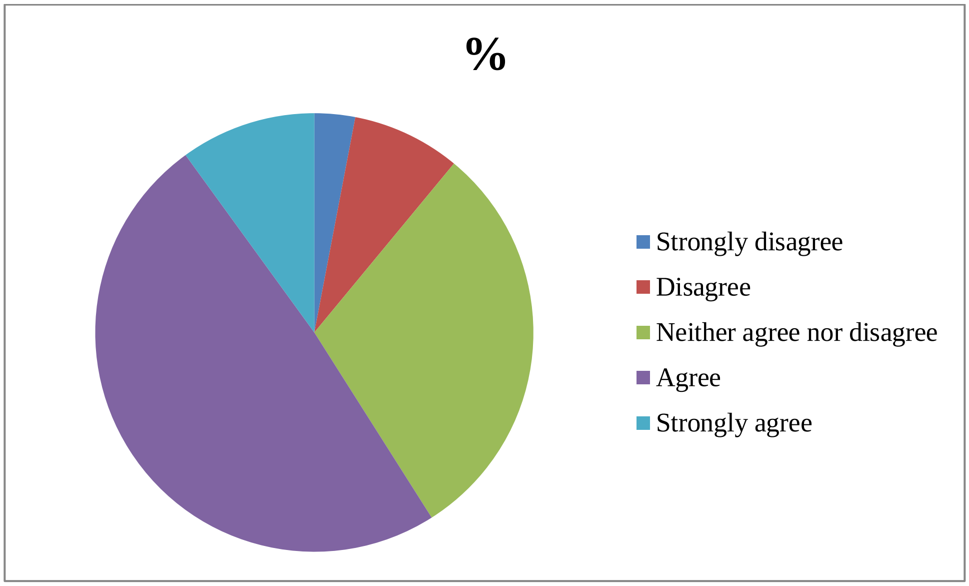


Table 15:Organization policies are clearly communicated in the organization.

Basis	**Frequency**	**%**
Strongly disagree	1	1
Disagree	3	5
Neither agree nor disagree	8	12
Agree	31	54
Strongly agree	17	28

The above table shows that more than half 54% of respondent agree that organization policies clearly communicated in the organization. 28% of respondent agreed for the same.

Fig 15:Organization policies are clearly communicated in the organization.

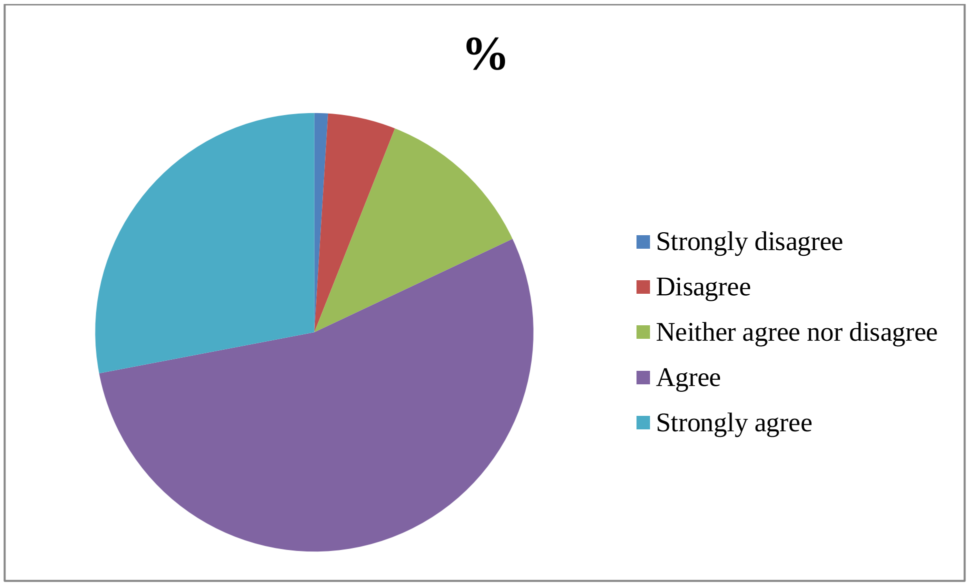
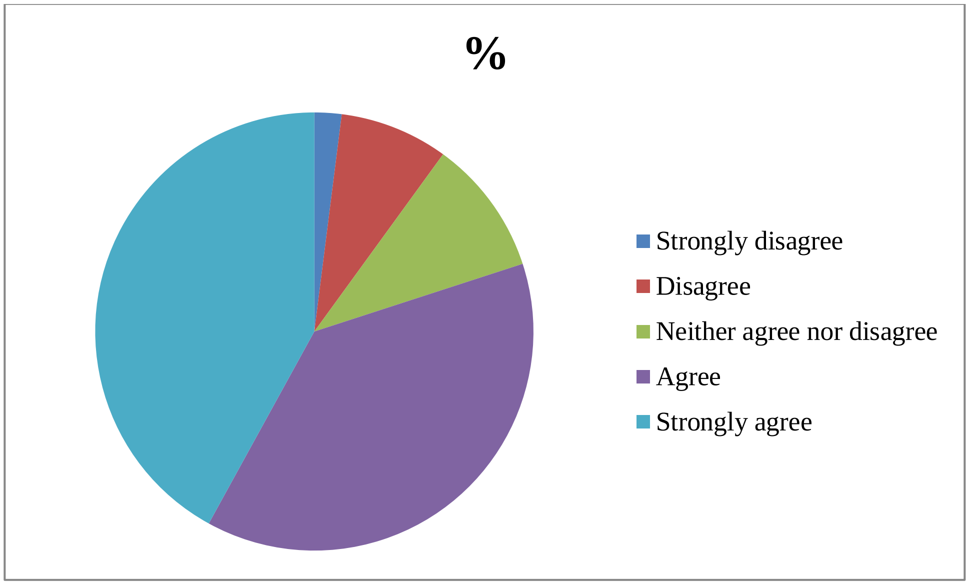


Table 16: You see yourself continuing to work for this organization two years from now.

Basis	**Frequency**	**%**
Strongly disagree	1	2
Disagree	5	8
Neither agree nor disagree	6	10
Agree	23	38
Strongly agree	25	42

The above table shows that 42% of respondent strongly. 38% of respondent agreed for the same.

Fig 16: You see yourself continuing to work for this organization two years from now



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VII.SUGGESTIONS

- Placing right people on the right job.
- Giving them the training.
- Task meaningful work.
- Check in often.
- Frequently discus employee engagement.

VIII.CONCLUSION

The findings of the study conclude that more than half of the employees working at SFS Group of Institutions are satisfied and happy with the work culture. It also determines that more than half of the employees find it easy to interact with other employees coming from different backgrounds and also feel that they diverse background and cultures are respected in the organizations. The organization also ensures that their employees feels that they contribution and work is valued. Hence, fostering a feeling of belongingness within the organization.

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IMPACT ON EMPLOYEE ENGAGEMENT BY WORK FORCE DIVERSITY IN SERVICE SECTOR

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Abstract:

Employee engagement is a complex but then a very important goal for any organisation .an organisation is combination of group of individuals having different goals whereby the organisation coordinates these individual goals and its need through employee engagement. every organisation would like to hold back its employees, at the same they also consider regarding the employee engagement. Work force diversity and employee engagement play a crucial role in the performance of the organisation and its results as well as growth in the near future. This study says about how both workforce diversity and employee engagement are related. It also attempts to examine the impact of workforce diversity on employee engagement and to what extent employee engagement is affected. The key areas focussed are regarding the effects of work force diversity, advantages and disadvantages.

Keywords: employee engagement, workforce diversity impact.

I.INTRODUCTION

The focus of this research is to determine the impact of workforce diversity on employee engagement in service sector. In today's era, every organisation not only face the challenge of holding back its employees but at the same time they aim to engage the employee fully. Organisation deals with heterogeneous individuals in respect to gender, race, ethnicity, etc., work force diversity means similarities and differences among the employees in terms of age, cultural background, physical abilities, disabilities, religion, etc., employee engagement is producing results by not changing the job frequently. Employee engagement leads to satisfaction, retention, productivity, client loyalty, etc.,

Employee engagement can be measured by four dimensions namely:

1. How can we grow?
2. Do I belong?
3. What do I give?
4. What do I get?

Due to work force diversity management use various strategies to improve the performance levels, attract and retain employees. Today's organisations have realised and respect workforce diversity. They have also understood the need for employee engagement. It's clear that "when people are financially invested, they want a return. When people are emotionally invested, they want to contribute".

A group of people get together and exist as an institution and it is called an organisation so that they are able to accomplish something collectively that they could not accomplish separately. Thus there is a need for organisations to respect the diversity, provide due importance to its employees.

II.Research design

The research is undertaken to determine the impact of workforce diversity on employee engagement. The research is conducted using research questionnaire in Vimalalaya hospital Huskur gate, gold coins club resort and teachers from few colleges nearby. The data obtained from the research is analysed in a manner which clearly determines whether workforce diversity has an impact on employee engagement and if so whether the impact is positive or negative.

The data collected is in the form of questionnaire is answered by the respondents from gold coins club workers, nurses in the hospital and teachers. Hence the information collected is processed and tabulated suitably by highlighting all the parameters for analysing the data simple tally method is used and for presentation of data bar diagrams are used.

Objectives of the study:

1) Relationship between workforce diversity and employee engagement.
2) To understand and respect workforce diversity
3) To help organisations realise the need for employee engagement.

III. Analysis and interpretation

SL.NO	CONTENT	DISAGREE	AGREE	STRONGLY AGREE	STRONGLY DISAGREE	NO OPINION	TOTAL
2	CRITICIZED	6	4	1	21	3	35
3	RELIGIOUS HOLIDAYS	0	17	17	1	0	35
4	GENDER EQUALITY	0	14	13	6	2	35
5	DISCRIMINATION	17	4	2	7	5	35
6	SEX ORIENTED PROBLEMS	20	1	1	12	1	35
7	MOTIVATED	1	23	9	0	2	35
8	SATISFACTION AND INTERESTED	0	12	13	10	0	35
9	OPPORTUNITIES	3	20	10	1	1	35
10	S-UNDERSTANDING NEEDS	1	24	6	0	4	35
11	DECISION INFORMATION	9	17	5	2	2	35
12	RECOGNITION	2	20	8	2	3	35
13	FEEDBACK	5	16	9	2	3	35
14	DECISION AUTHORITY	6	19	5	1	4	35
15	PROTECT INTERESTS	1	22	9	0	3	35

Table 1: Analysis

Fig 1:Gender equality:

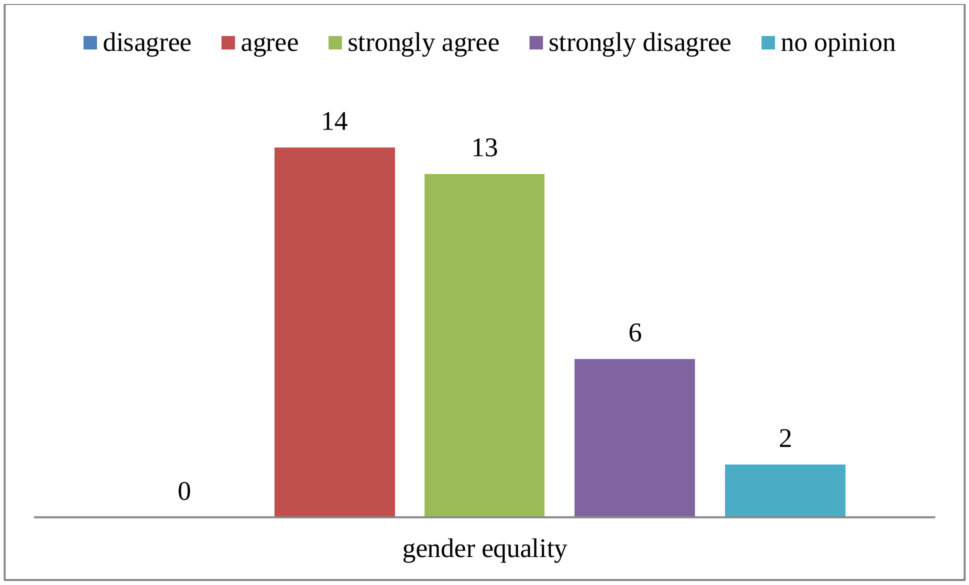


Fig2:Satisfaction and interested:

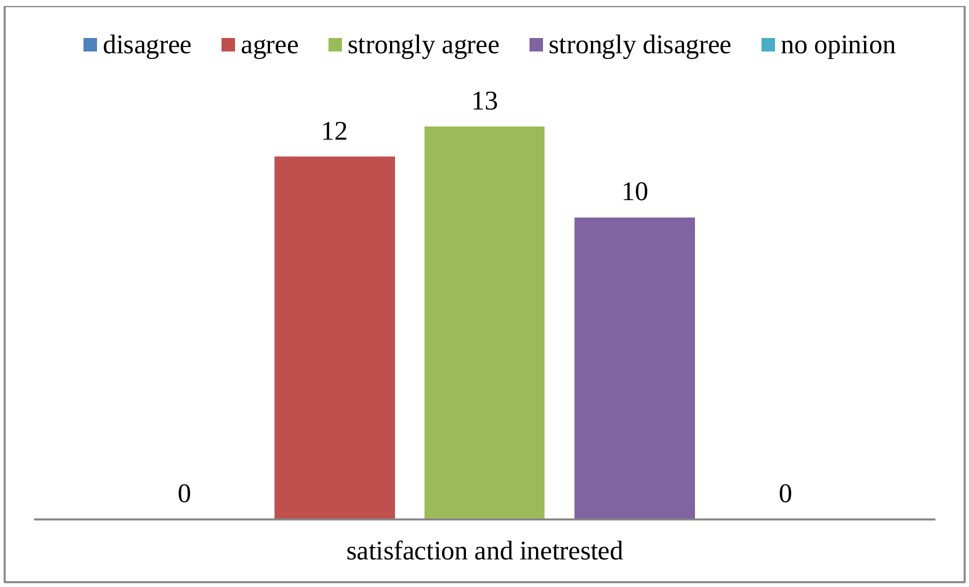


Fig 3:Recognition:

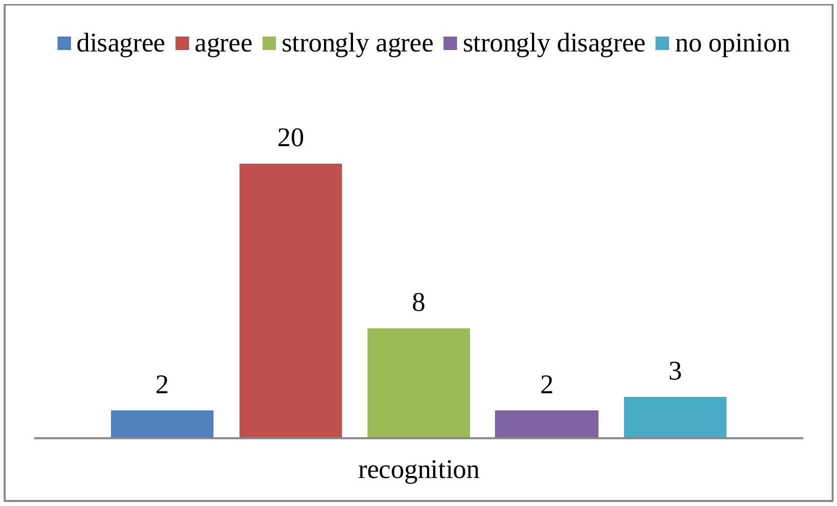


Fig 4:Feedback:

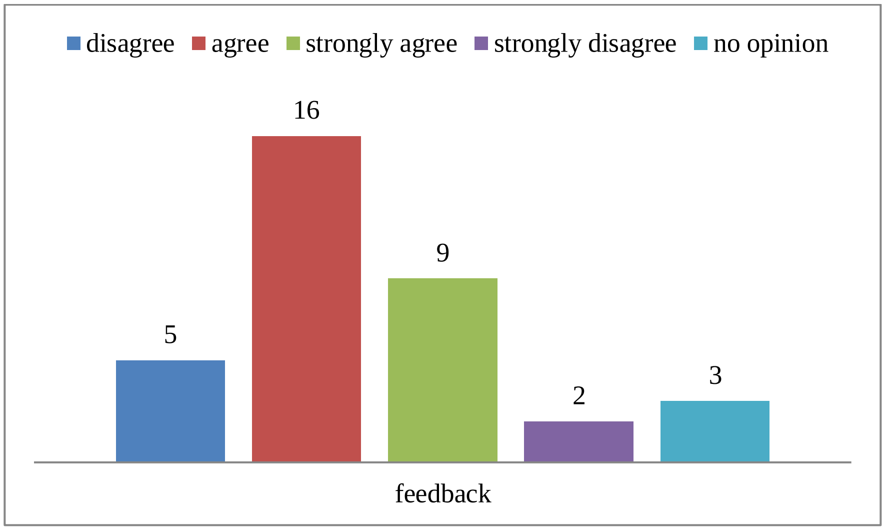


Fig 5:Discrimination:

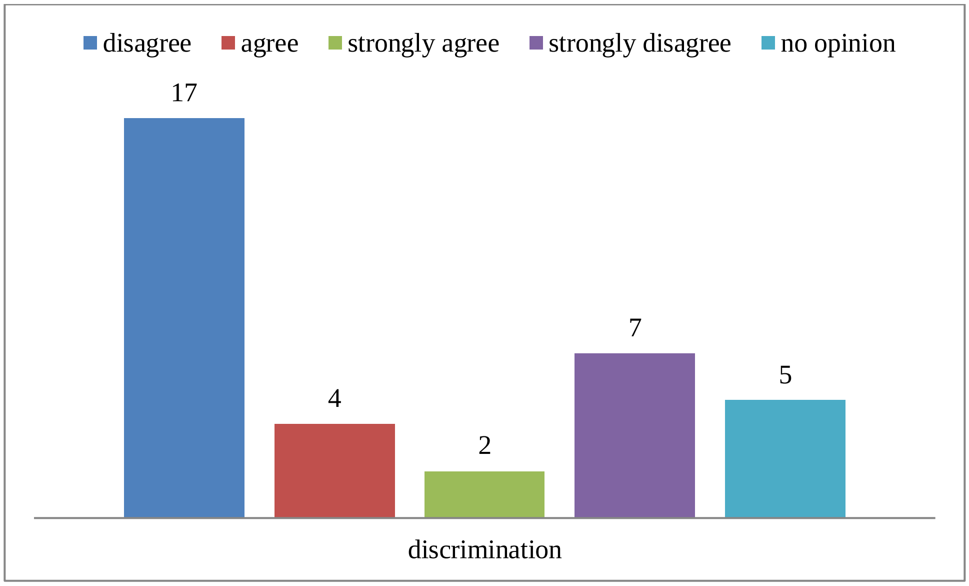
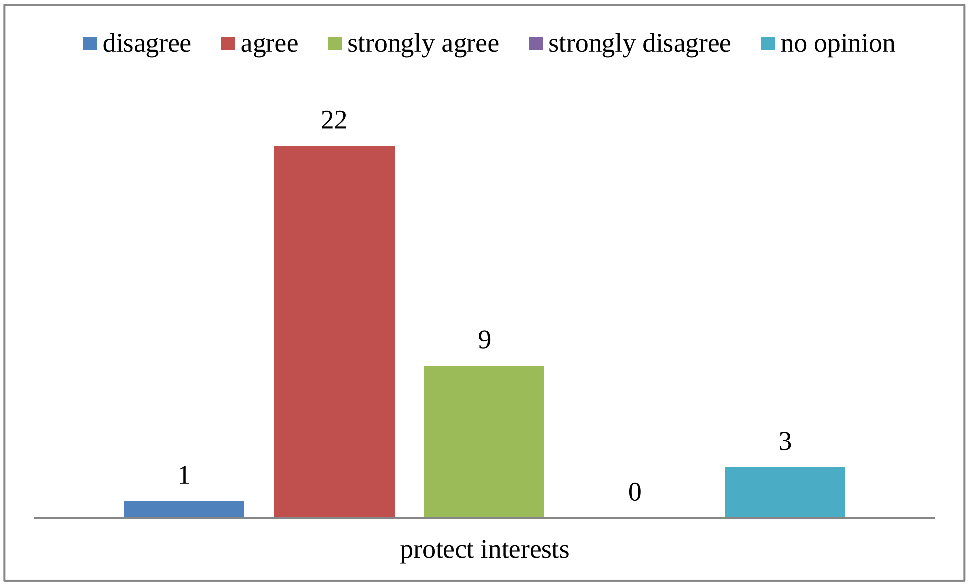


Fig 6:Protect interests:



IV.Conclusion:

The findings of the study reveal that more than half of the employees/workers who answered the questionnaire are satisfied and happy with the work culture. Most of the employees feel that their personal individual diverse background is respected by their organisations. It also concludes that the organisations make sure that the employees are accomplished for their work and contributions because according to the study employees are satisfied with their work, feel motivated, and recognized.

The main aim of this study was to find whether workforce diversity has impact on employee engagement. Hence the study reveals that workforce diversity and employee engagement are directly related. However the study says that there is a positive impact on employee engagement due to workforce diversity.

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RECENT TRENDS IN CORPORATE SOCIAL RESPONSBILITY

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ABSTRACT

Doing well is not a private act between abountiful giver and a grateful receiver; it is a prudent social act –Benjaminfranklin.

The practice of corporate social responsibility ("CSR'') as a paradigm for organization and business to follow has evolved from its early days as a slogan that was to be considered to be the trend of certain organizations following it to present day realities of the 21st century where it has not just remained fashionable but a business requirement to be socially responsible.

Corporate Social Responsibility is an important business strategy because, to some extent consumers want to buy products from companies that are trustworthy, a supplier wants to form a business partnership with companies on which he can rely on, an employee want to work for a company he respects, other concerns want to establish business contacts with companies that seek feasible solutions and innovations in areas of common concern.

I.Introduction of corporate social responsibility

What is a corporate social responsibility?

- The Companies Act, 2013("**The Act**") does not define the term CSR.
  But as per 2(c) of the CSR Rules "Corporate Social Responsibility means and includes but is not limited to:
- Projects or programs relating to activities specified in schedule in VII of the Act; or
- Projects or programs relating to activities undertaken by the Board Of Directors of a company (Board) in pursuance of recommendations of the CSR CommitteeCSR is the way in which firms integrate social, environmental and economic concerns into their values, culture, decision making, strategy and operations in a transparent and accountable manner and thereby establishing better practices within the firm, creating wealth and improving the society
- The World Business Council for Sustainable Development describes CSR as the business contribution to sustainable economic development.

Need for corporate social responsibility.

1. Business uses scarce resources of society.
2. Business often adversely affects the environment.
3. Problems are too vast and complex- government efforts need to be supplemented by business.
4. Social and environmental can be a threat to the survival of business.
5. In order to improve the image of the corporate.
6. To increase the coverage of the media.
7. To attract and retain the investors.
8. To increase the participation of foreign corporate.

How is corporate social responsibility applicable?

Section 135 of the Act provides for the applicability of the CSR provisions on **all the corporates**.

Sub-section(1) of the section lays down that every company having :

- Net worth of Rs.500 Crore or more;
- Turnover of Rs.1000 Crore or more;
- Net profit of Rs.5 Crore during any financial year

should constitute a CSR Committee of Board consisting of three (3) or more director, out of which at least one (1) director will be an independent director .Rule 3 of the CSR Rules specifies that every company which ceases to be a company under section 135 as the limits specified under three consecutives financial years shall not be required toconstitute a CSR committee then comply for the provision of section 135, till such time so that it meets the required criteria.

Applicable to holding and subsidiary companies.

Rule 3(1) provides that CSR is applicable to-

a. Every company including its holding or subsidiary; and in case where the company fulfills the criteria specified in sub-section (1) of section 135 of the Act. The net worth, turnover or net profit of a foreign company will be prepared in particular with the requirements of the Act.

Applicable of CSR policies

A foreign company defined under clause (42) of section 2 of the Act having its branch office or project office in India which fulfills the criteria specified in sub-section (l) of section 135 of the Act shall comply with the provisions of section 135 of the Act and the rules.

The net worth, turnover or net profit of a foreign company under the Act shall be computed in accordance with balance sheet and profit and loss account of such company prepared in accordance with the provisions of clause (a) of sub-section (1) of section 381 and section 198 of the Act.

II.Following are the clarifications given by the ministry of affairs regarding corporate affairs on corporate social responsibility.

The Ministry has received various references and representation from stakeholders seeking clarifications on the provisions under Section 135 of the Companies Act, 2013.

The CSR expenditure be spent on the activities beyond the Schedule VII

The statutory provision and policies of CSR Rules, 2014, is to ensure that while activities undertaken in pursuance of the CSR policy must be relatable to Schedule VII of the Companies Act 2013, the entries in the said Schedule VII must be ***interpreted socially,*** so as to capture the essence of the subjects enumerated inthe Schedule.

Tax benefits availed under CSR

No tax exemptions.

What are the additional requirements to be included in Schedule VII or to be clarified as already being covered under Schedule VII of the Act?

One-off events such as marathons/ awards/ charitable contribution/ advertisement/ sponsorships of TV programmers etc. would not be regarded as part of CSR expenditure.

Contribution to corpus of a Trust/ Society/ Section 8 Company will qualify as CSR expenditure as long as-

The trust/society/section 8 company is created exclusively for undertaking CSR activities

Or

Where the corpus is done exclusively for a purpose directly relatable to a subject covered in Schedule VII of the Act.

Expenses incurred by companies for the fulfillment of any Act/ Statute of regulations (such as Labor Laws, Land Acquisition Act etc.) would not count as CSR expenditure under the Companies Act.

Expenditure incurred by foreign holding company for CSR activities in India will qualify as CSR spend of the Indian subsidiary if, the CSR expenditures are routed through Indian subsidiaries and if the Indian subsidiary is required to do so as per section 135 of the Act

Salaries paid by the companies to regular CSR staff as well as to volunteers of the companies (in proportion to company's time/hours spent specifically on CSR) can be factored into CSR project cost as part of the CSR expenditure

III. Objectives

1. Anobligation, beyond that required by law and economics for a firm to purse long term goals that are actually best for our society.

2. The continuing commitment of the business by the concern or business to be and behave ethically that can contribute economic development while improving the quality of life of the workforce and their families as well as that of the local community and society at large

3. What and how company managesits business process to produce an overall positive impact on the society

4. Support various national campaigns on the social and hence develop issues that need support to have a greater impact ex: sustainable development, education health and sanitation and helps community to develop at large.

5. To maintain long run success of the business and achieve customers loyalty.

IV. Scope

Initially, CSR emphasized the official behavior of individual firms. Later, it expanded to include supplier behavior and the uses to which products were put and how they were disposed of after they used

V.Advantages

• It helps to avoid excessive bribery and corruption.

• For companies to know what is eventually expected by them .for promoting a level playing field

•many aspects regarding the CSR behavior are right for business such as reputation of business human resources branding and easier to locate communities.

• CSR helps in improving the growth sustainability, and profitability

. • Few areas ,such as downsizing could help in addressing the problems for the companies

•rogue companies would then find hard and difficult to compete through low standards.

• The wider community would receive benefit as and when companies reach out to the key issues of underdevelopment around the world.

VI. Disadvantages

• Additional bureaucracy, which helps with rising costs for observance.

• Costs particularly regarding operation could rise above required continued profitability and sustainability.

. • Critics have already argue that the CSR of the companies is simply to make profit and legislation would the increase vocalization of the concerns

•Reporting criteria varies company wise, state wise and also technically in the evolution.

VII. Emerging trends of corporate social responsibility

Attitude by the business and its relationship is been changed and not shaped by the outside events .these are the demonstrations of social problems that rapidly change the environment .within which companies do business.

These can be diverse as extreme climate event changingthe profile and the public concern about climate change because corruption behavior are called upon the business to solve the problems related to external data

Secondly –expert practitioners should have a vision as of how sustainable business should be operated and develop new ideas as of how this would increase the expertise on past experiences.

Lastly outside agencies would create a vision for the achievement for the future goals

1. **Moving from internal engagement**.

The current model of CR reporting has eventually hit something of a celling term of the quality of the data we have spent for the past years evolving our approach for measuring our progress but then still have not been close to the original goal so that findings ways to measure CSR in a reliable and purposeful way that enable us to compare performance with other individual companies.so some of the companies are now starting to focus on their aim on the engagement side . since customers , employees and suppliers generally don't read reports companies are beginning with the experiments ways to interest its early days but for this one ,but the implications of this trend is due to its CSR executives becomes less compliance focused and more involved in discussion with marketers.

2. It's about the business model

More companies are starting to understand a little more the scale of the challenge that eventually faces sustainability and but the central dilemma on the model is that if the company do well it will nowhere harm the environment but since it is not the achievement of positive outcome for which company has work hard to achieve in spite of your business process or can find a business model where social outcome can be better achieved.it is not though easy to jump from all sides interface floor carpets tried to tackle it when, the business customer they offer a service of professional floor covering rather than selling a thing

3. Findings our own identity and respect

CSR executives have been asking themselves for some time whether they are part of a proper professional discipline or not when accountability was first formed in the late 1990s, it would have been styled the institute of the social environmental accountability with a view that it would happen , but then we have also seen the CRO in the states and the corporate responsibility group in the tackling the same question .but there are also minuses and pluses here . An s acknowledged profession can establish standards of expertise for those entrusted by the companies with the important responsibility which gains respect within corporations and increase authority of voice in aboard room.The potential minuses come because of the baggage that comes with professionalization. No to put too fine a point on it, professions create for themselves a series of perverse incentives.

4. Taking role of global citizens

Business have always taken an interest in influencing the public policy agenda , but historically and purely for a defensive purpose of tending off potential restrictions on its ability to make profit companies are pragmatic entitles and that who always makes adaptability to change that is where they are uniquely suited for responding globally challenges but when governments are really suffering in this regard the global economy had made them be in this defensive position where the citizens are holding them responsible for the fact that they suddenly they can no longer afford the things they able to hence it becomes difficult to hold back the in the area where many people believe to be separate and disconnected to the people to their current discomfort and the fact is that it isn't disconnected that it makes no difference if what's people believe.

VIII. Conclusion

Corporate Social Responsibilityconcerns in treating the stakeholders of the firm ethically or in a responsible manner. "Ethically or Responsible" means treating stakeholders in a manner deemed acceptable in civilized societies. Social includes economic responsibility. Stakeholders exist both within and outside the firm – the natural environment is a stakeholder for example. The wider aim of social responsibility is to create higher and higher standards of living, while preserving the profitability of the corporation, for peoples both within the corporation and outside it.

Successful CSR initiatives take organisations beyond compliance with legislation and leads them to honour ethical values and respect people, communities and the natural environment. CSR is sustainable – it involves activities that your organisations can maintain without affecting your business goals. CSR is about more than environmental responsibility or having a recycling policy. CSR considers the whole picture, from your internal processes to your clients, and takes part in every step that your business takes during day-to-day operations.

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A BRIEF INTRODUCTION OF FORENSIC ACCOUNTING AND ITS TYPES

Maria Tejashwini.L

Abstract

Forensic accounting, forensic accountancy or financial forensics is the specialty practice area of accounting that describes engagements that result from actual or anticipated disputes or litigation. The integration of accounting, auditing and investigative skills yields the speciality known as Forensic Accounting. "Forensic", according to the Webster's Dictionary means, "Belonging to, used in or suitable to courts of judicature or to public discussion and debate."

Keywords: Forensic accounting,Auditing etc.

I.INTRODUCTION

"Forensic accounting", provides an accounting analysis that is suitable to the court which will form the basis for discussion, debate and ultimately dispute resolution. Forensic Accounting encompasses both *Litigation Support and Investigative Accounting. Forensic accounting* integrates an understanding of accounting principles with investigative techniques to determine whether the actions behind financial records and statements are suspicious.

II.OBJECTIVES OF THE STUDY

1. To highlight about forensic accounting and its various types.
2. To estimate various procedures involved in forensic accounting.
3. To highlight importance of it in today's accounting world
4. To highlight the scope and nature of forensic accounting and also the career opportunities.

III.COMPONENTS

Forensic accounting has two major components: litigation support and investigative accounting. Forensic accountants can be involved in either one or both of these areas.

Litigation support

Forensic accountants act as expert witnesses or consultants for parties involved in a lawsuit. Litigation support often involves determining financial damages or valuing businesses or assets. Both sides in a lawsuit may retainforensic accountants to testify as expert witnesses.

Investigative Accounting

Investigative accounting involves using auditing, quantitative methods, and related skills to reconstruct financial records and determine if fraud or other illegal financial activities have occurred. Investigative accountants are sometimes called fraud auditors or fraud examiners. For example, an investigative accountant might reconstruct a business's financial records, as in the Madoff case, or a business might call in an investigative accountant if it suspects an employee is embezzling money. Investigative accountants also work for law enforcement during fraud investigations.

Computer forensics

Computer forensics is also a large part of forensic accounting. With the aid of technology, it has become a lot easier to perpetrate and hide fraud. However, forensic accounting has brought about innovative technology that can detect even the most encryptedfraud, ensuring that every dollar that companies earn is accounted for.

IV.AIM

Forensic accounting aims to determine the probability and/or extent of the occurrence of fraud. By analyzing definite financial and non-financial information, checking public records, and administering fact-finding and admission-seeking questioning and evaluation, suspicions or accusations will be resolved and refuted.

V.IMPORTANCE

Forensic accounting is very importance not only because they have special skill and trained in investigation, and expertise in accounting records, but also because of the evidence that found are play the very importance role in judge decision making. This job is quite different from auditor and cannot substitute by them. As we know, auditor performs their testing in the accounting records against accounting standard like US GAAP or IFRS.Their responsibility is not investigating and quantifying the fraud that happen in the company and also the evidence found in by auditor might not use by court. However, the evidence that found by forensic accounting could be used by court as expertise evidence. For example, FBI also has forensic accounting team to working for them in investigating any mater related to accounting

Forensic accounting procedures

Forensic Accounting Procedures are not too much different from audit procedures. Those procedures include analytical reviews, inquiries, observations, recalculations, and inspection etc.

1. Inquires

It is the importance in Forensic Accounting Procedures. Sometime Forensic Accountant requires the officers or personnel who being investigated to be vacant temporary. This procedure has its own purpose. For example, one the officer being investigate is on leave, and then his daily job is done by someone else. During this time, Forensic accountant could be able to notify if there any opportunity that the fraud could have happen. Yet, this procedure does require the corporation from top management of the company.

2. Analytical Procedures

For analytical procedure, Forensic Accountant should always pay very strong caution which to make sure that the data they use for analysis is accurate. However, sometime the analytical review may not be used for gather data since the result from analytical review is based on the best projection and estimate.

3. Recalculations, and Inspection

Inspection of data and records is the most popular procedure to be used in gathering evident regarding to Forensic Accountant's job. It just simply mean collecting the sample of original invoices, receipts, and others importance documents. Then, figure out how much the lost should be or figure out the amount of which item, in this procedure.

4. Observations

Before perform some specific testing, of cause, it is require understanding some specific procure or function and to do so they need to perform actual observations. It is the very importance part of FA accountant's job or FA auditor's jobs.

Other importance things are, they might need some specific information from the person who involve in specific procure like payroll account the one who involve with calculating salary. Moreover, Forensic Accountant might inquire information from the low level of staff to the top level or from external party if required like banks, suppliers or investors.

In summary, the Forensic Accounting Procedures is similar to audit procedure, but the evident need to be more specific and realistic. It also involve in planning, detail testing, and conclusion, but the conclusion need to be more specific like how much the fraud or loss.

Of cause, the Forensic Accounting also need to issue the report, but this report going to be used legal purpose or dispute resolutions. This report is different from the audit report.

Forensic Accountants

Forensic accountants, investigative accountants or expert accountants may be involved in recovering proceeds of serious crime and in relation to confiscation proceedings concerning actual or assumed proceeds of crime or money laundering.In India there is a separate breed of forensic accountants called Certified Forensic Accounting Professionals.In India there is a separate breed of forensic accountants called Certified Forensic Accounting Professionals.Forensic accountants utilize an understanding of economic theories, business information, financial reporting systems, accounting and auditing standards and procedures, data management & electronic discovery, data analysis techniques for fraud detection, evidence gathering and investigative techniques, and litigation processes and procedures to perform their work. Forensic accountants are also increasingly playing more proactive risk reduction roles by designing and performing extended procedures as part of the statutory audit, acting as advisers to audit committees, deterrence engagements, and assisting in investment analyst research.

VI. Conclusion

Forensic accounting is growing rapidly in the world of accounting and also in India. Companies like CIME holding etc. are currently using it for decreasing frauds. It has a huge scope in future and will soon become a prominent part of it.

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IMPACT OF CASHLESS ECONOMY "ISSUES AND CHALLENGES"

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ABSTRACT

A cashless economy is an economy in which all types of transactions are carried out through digital means.It includes e-banking (Mobile Banking or Banking through computers),debit and credit cards, card-swipe or point of sales(POS) machines and digital wallets .The paper under study tries to throw light on the rising trend of digital transactions in India being carried out in various cashless modes over the last few years but simultaneously being ourselves making alert of the negative impact of going cashless thereby showing downside of digital India . As the people of India are showing amazing response towards move of digitalization, it is the big indicator of prosperous future for India to be cashless India. So the need of an hour is to spot the weakness involved in cashless transactions and work out on them to achieve the vision of Prime Minister Modi's digital India.

KEYWORDS :Card-swipe, cashless e-banking, mobile banking, POS.

I.INTRODUCTION

Prime Minister Mr. NarendraModi launched the programme "Digital India" with a vision to transform India into a digitally empowered nation and creating a cashless, paperless economy . As per the current status of India only 7% to 8% of all the payments are taking place electronically . On Nov 8 2016 a historical date PM talked about making India a cashless economy and on Nov 27 during an election rally in Uttar Pradesh, PM again motivated the people of India to become familiar with cashless transactions . On the same day during his radio programme "Mann kiBaat", he said : "learn how this digital economy works . Learn the different ways you can use your bank accounts and internet banking . Learn how to effectively use the apps of various banks on your phones. Learn how to run your business without cash. Learn about card payments and other electronic modes of payment. Look at the malls and see how they function. A cashless economy is secure, it is clean. You have a leadership role to play in taking India towards an increasingly digital economy."

Meaning of cashless economy and where India stands?

A cashless economy is an economy in which all types of transactions are carried out through digital means. It includes e-banking (Mobile Banking or Banking through computers), debit and credit cards, card-swipe or point of sales (POS) machines and digital wallets .

At present India is far behind to other economies with regard to cashless transactions. The ratio of cash to gross domestic product in India is one of the highest in the world 12.42% in 2014 as compared with 9.47%in China or 4% in Brazil.

Another report by Boston Consulting Group (BCG) and Google India mentioned that last year around 75% of transactions in India was cash based while it was 20-25% in developed nations such as US, Japan, France, Germany etc.

another statistics have revealed that India has 76.47 billion currency notes in circulation in 2012-13 as compared with 34.5 billion in the US. Moreover various other studies have shown that people prefer to make payments in cash in malls even when they carry credit cards with them. But the step taken on Nov 8 2016 of demonetization has pushed digital and e-transaction to the forefront in India due to depletion in cash. Now e-banking, e-wallets and other transaction apps are becoming more prevalent.

Benefits of going cashless to the economy

Going cashless has helped in creating a positive impact on society as the paper based methodology in financial transactions has been reduced thereby economy in operations, time and cost.

Various benefits of going cashless can be listed out as under:

1.*It will help in curbing the generation of black money.The cashless economy has attacked the parallel economy. People who hoard money under their bed, people who launder money bypassing banking channels, terrorist who need money to finance their terror will find difficulty in cashless economy.*

2..*It will help in reducing instances of tax avoidance. All the transactions can be monitored and hence traced back to an individual. Income tax officials can easily trace out the transactions and it will become difficult for individuals to evade taxes. Ultimately it will help in increasing revenue of the government from taxes and more productive activities can be carried out in the economy.*

3.*It will lead to reduction in real estate prices because of curbs on black money as most of it is invested in real estate which ultimately inflates the prices of real estate markets.*

4.RBI spent Rs.27 billion in financial year 2015 on currency issuance and management. This could be avoided if India becomes a cashless economy.

5.Cashless economy will boost consumption as people would not be attracted towards keeping money in banks. More consumption will lead to more production, more employment opportunities and hence income of people will increase.

Practical implementation for moving on path of going cashless (in context of India)

For making India cashless these are the various modes available in form of digital transactions which are being considerably implemented and which clearly indicate that cashless transactions are being actively used by people in India. These can be highlighted as under:

1.*Payments Banks*

Payment bank is a new model of banks introduced by RBI. Payment can issue services like ATM cards, mobile banking, net banking and debit cards etc. These payment banks offer amazing competition to traditional banks in terms of services. Two such prominent licensees are Airtel (founded in 1995, in 2016 reaching at revenue of $14.5 billion) and PayTM (founded in 2010 and valued at $1 billion presently).

2.*Electronic fund transfer systems*

Two popular methods RTGS and NEFT are increasingly used by people at a large scale for making funds transfer from one bank to another leading to less time and economy in operations.

3.*Mobile wallets*

Option to open a zero KYC or a full KYC wallet along with your mobile number and the application to be downloaded to your smart phone.

4.*Internet banking*

For this type of digital service to take benefit of the individual must hold a bank account and opt for the online service same.

5.*Banking cards*

Banking cards are available by the bank by providing the KYC (know you customer) information to the bank. Applying for a card and getting a pin for the same. Credit and Debit cards are plastic cards that are used as method of payment.

6.*Banks prepaid cards*

For this service a bank account is there with wallet or a prepaid card and a smart pone to generate the MPIIN.

7.Point of sale

A handheld device with the biometric reader along with a merchant bank account and internet connectivity. POS machines facilitate acceptance of payment from customers by swiping of their debit/credit/prepaid cards on POS terminals. Number of POS terminals in India has increased from 5 lakh in year 2010 to 14.62 lakh in year 2016.

8.*Mobile banking*

A bank account is required along with a mobile phone application of the bank and internet connectivity to take benefit of this digital service. Mobile banking concept is gaining its momentum over the years.

Negative impact of going cashless

As we know every good has its bad side also surely aura of cashless transactions is spreading all over India converting India into Digital India simultaneously the more and more use of internet is giving rise to various negative effects also. Following can be highlightesd as the negative effects of going cashless with reference to India:

1.*Increase in cyber crimes*

Due to the increasing rate of online frauds, the risk of hacking will also increase as more people will be on the digital mode. More and more use of internet is giving boost to cyber crimes at an increasing pace as can be seen below:

2.Increased chances of trapping

Performing digital transactions using public networks can be more prone to traps on mobile devices and thereby giving opportunity to hackers to access account related sensitive information.

3.Frauds through digital transactions

A report by ASSOCHAMEY on study titled "Strategic Nation measures to combat cyber crimes" highlights 46% complaints of credit/debit cards frauds, 18% on account of hacking of email ids and 21% complaints on account of cheating through mobiles.

In Oct 2016 3.2 million card details were stolen in malware related security areas. These cards belonged to customers of SBI, HDFC, ICICI, Axis bank and were used at ATMs. Stolen debit cards were used in China. No legal decision has been taken and the case is still under investigation.

Challenges in making India a cashless economy

1. *A large part of the population approx 50% of Indians is not covered under any banking system. According to 2015 report by Price Water house coopers Indians unbanked population was at 233 million. Though bank accounts have been opened through Jan DhanYojana most of then are lying unoperational. Unless people start operating bank accounts cashless economy is not possible.*
2. *The digital mode is a big hurdle for the tech unfriendly people. Since India has a low penetration of 34.8% as per Internet live stats and only 26.3% of all mobile phone users have a smart phone therefore it is difficult to go digital.*
3. *The low literacy rates in rural India and lack of infrastructure like internet access and power make things extremely difficult for people to adopt cashless economy.*
4. *In India there are approx 350 million internet users. The internet penetration rate is just 27% which is very low in comparison to countries like Nigeria, Kenya and Indonesia etc. It has to be at least 67% which is global median.*
5. *Only 17% of Indians use smart phones which is very less and only 15% of Indians have internet on their smart phones.*
6. *The internet loading speed is very low. The average page load time is 5.5 seconds in India in comparison to 2.6 seconds in China.*
7. *POS machines (Point of sales) are must for any cashless transactions. A study was conducted by Macquarie Research and it was posted on website of National Payments Corporation of India in which it has been highlighted that India still far behind in terms of number of POS machines which is 2 per 1000 debit cards as compared to other countries like in Brazil 14.8, China 12.5, Russia 6.1, US 13.1 and in Australia is 33.2 per 1000 debit cards.*
8. *Since India is dominated by small retailers therefore they don't have enough resources to invest in electronic payment infrastructure.*

9.*Most card and cash users have the perception that they will be charged more if they will be charged more if they use cards. Moreover non users of credit cards are not aware of the benefits of credit cards.*

Steps taken by RBI and government to discourage use of cash

1.*Government is also promoting mobile wallets. Mobile wallet allows users to instantly send money, pay bill and recharge mobiles, book movie tickets and send physical and e-gifts both online and offline. Recently the RBI had issued certain guidelines that allow the users to increase their limit to Rs 1,00,00 based on certain KYC verification. Various incentives offered by government to promote digitalization in India to make India "Digital India" by focusing on cashless modes are:*

(i)On digital transactions up to rupees 2000, service tax of 15% waived off.

(ii)Digital purchase of fuel through credit cards, mobile wallets or e-wallets, discount of 0.75%.

(iii)Free accident insurance worth rupees 10 lakh on account of online ticket buyers.

(iv)On purchase of new LIC policies online via its site 8% discount is offered.

2.Government has also launched UPI (pdf) (Unified Payment Interface) payment system that can be used for immediate mobile transfers between account holders of two different banks.

3.Government has introduced various technologies like BHIM (Bharat Interface for Money) app to transact between each other as well as with other merchants. BHIM app currently has 17 million downloads in less than 3 months since its launch. And government is considerably promoting their digital cashless technologies other than BHIM such as UPI and Aadhar Enabled Payment Systems. As per National Payments Corporation of India, payment transactions through Aadhar Enabled Payments Systems have raised 12 times over 6 months from April 2016 to October 2016 which is highlighting that traditional bank themselves are moving towards e-wallet services on mobiles at a faster pace.

4.In addition to govt or RBI, companies are also participating in combating of cyber crimes because of increasing trend of cashless or diital transactions. Microsoft opened full scale cyber security center called Cyber Security Engagement Center(CSEC) in India. This centre located in Delhi functions as a satellite to company's Redmond Digital Crime Unit (DCV). This centre monitors how viruses are spreading from where cyber attacks are originating and helping customers to tap pool of security specialists.

II.Measures to be taken for stepping towards cashless India

1. *Basic cyber hygiene must be taken care of such as non-sharing of passwords with others, non-saving of passwords on public networks and better access to control techniques with strong authentication measures should be implemented by mobile e-wallet companies.*
2. *Open bank accounts and ensure they are operationalized.*
3. *Abolishment of government fees on credit card transactions, reduction of interchange fee on card transactions, increase in taxes on ATM withdrawals.*
4. *Tax rebates for consumers and for merchants who adopt electronic payments.*
5. *Need is to scale up the capabilities of POS machines for faster rollouts in country.*
6. *Making electronic payment infrastructure completely safe and secure so that incidents of cyber crimes could be minimized and people develop faith in electronic payment system.*
7. *The Reserve Bank of India too will have to come to terms with a few issues from figuring out what digital payments across borders means for its capital controls to how the new models of payment affect key monetary variables such as the velocity of money.*

8.RBI will also have to shed some of its conservatism part of which is because it has often seen itself as the protector of banking interests rather than over all financial development.

III. Conclusion

The future of the cashless India looks pretty promising as the response of the country people towards this move of the government and the support towards it is a clear indication that the governments move is likely to succeed. The transparency in the economy will increase through the e-commerce transactions and the digital payment gateways which will increase the GDP of the economy. This will increase the creditability of the country and make a rise in investments. This step of cashless is truly going to create ripples of big success and it will help to attain vision of Prime Minister Modi's vision of "Digital India".

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IMPACT OF CASHLESS ECONOMY: ISSUES AND CHALLENGES

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ABSTRACT

Cashless economy is an economic system in which transactions are not done predominantly in exchange for actual cash. It does not refer to an outright absence of cash transactions in the economic setting but one in which the amount of cash-based transactions are kept to the barest minimum.

Keywords: Cashless economy,E-Payment etc

I. INTRODUCTION

A cashless economy or an e-payment system is a situation where there is little or very low cash flow in a given society, meaning thereby, transactions will be made by electronic channels like debit cards, electronic funds transfer, mobile payments, multifunctional ATMs, and internet banking. It is the economy that run mostly on plastic or digital money and thus with minimal cash or money in paper form. In other words, it refers to the widespread application of computer technology in the financial system. It is designed to breakdown the traditional barriers hindering financial inclusion of millions of Indians and bring low cost, secure and convenient financial services to urban, semi-urban and rural areas across the country. Nevertheless, cashless economy is defined as one in which there are assumed to be no transactions frictions that can be reduced through the use of money balances, and that accordingly provide a reason for holding such balances even when they earn rate of return. It is not the complete absence of cash but it is a payment system that is secure, convenient, and affordable. It is an economic system in which goods and services are bought and paid for through electronic media.

TYPES OF CASHLESS MODES AND PAYMENTS

1.1 Mobile wallet

It is basically a virtual wallet available on mobile phone. A mobile wallet is a way to carry credit card or debit card information in a digital form on mobile device. A user can pay with his/her Smartphone, tablet, or smart watch instead of using your physical plastic card to make purchases. A user needs to make an account with a mobile wallet provider. After which money is added to the 'mobile wallet' account using a debit, credit, online transaction from bank account or via cash. An individual can store cash in his/her mobile to make online or offline payments. Various service providers offer these wallets via mobile apps, which is to be downloaded on Asian Journal of Applied Science and Technology (AJAST) She/he can transfer the money into these wallets online by using credit/debit card or net banking. This means that there is no need to

furnish the card details every time while paying a bill or make a purchase online via the wallet. It can be used to pay bills and make online purchases.

1.2 Plastic money

It includes credit, debit and prepaid cards. The latter can be issued by banks or non-banks and it can be physical or virtual. These can be bought and recharged online via net banking and can be used to make online or pointof-sale (PoS) purchases. They can be given as gift cards. These cards are used for three primary purposes – for withdrawing money from ATMs, making online payments and swiping for purchases or payments at PoS terminals at merchant outlets like shops, restaurants, fuel pumps etc.

1.3 Net banking

It does not involve any wallet and is simply a method of online transfer of funds from one bank account to another bank account, credit card, or a third party. It can be used through a computer or mobile phone. A person has to log in to her/his bank account on the internet and transfer money via national electronic funds transfer (NEFT), real-time gross settlement (RTGS) or immediate payment service (IMPS), all of which come at a nominal transaction cost.

II.BENEFITS OF CASHLESS ECONOMY

1.4 Faster transactions

It has been proved that queuing at point of sale terminals and vending machines is greatly reduced;

typically three times more people can be served using a cashless system than could have been if they were paying cash. This leaves employees more time to enjoy their break. Improving the speed of service may also offer the benefit of reducing staff levels at off peak times.

1.5 Prompt settlement of transactions

E- banking speeds up the settlement of transactions both locally and internationally, where the bank stands as paying bank to the customers for settlement of transaction or as collecting bank for collection of payment on transactions.

1.6 Convenience and Lower risk

The ease of conducting financial transactions is probably the biggest motivator to go digital. There will be no need to carry cash, plastic cards, or even queue up for ATM withdrawals. It is easy to block a credit card or mobile wallet remotely if it has been stolen. But, it's impossible to get the stolen cash back.

1.7 Taxation

There is lesser scope of hiding income and evading taxation because of lesser availability of hard cash at homes and more in banks. When there are more tax payers, it ultimately leads to a lesser rate of taxation for the whole country

III. CHALLENGES OF CASHLESS POLICY IN INDIA

1.8 Digital Literacy

More than half of the nation still does not know how to use a computer. People in rural areas still don't know about smart phone. Besides, there is lack of internet facilities and without it a country cannot become cashless. There are still many rural and urban areas where there the access of having 2G network is very difficult. Moreover, the cost of Internet access is very high as compared to developed countries.

1.9 Few Banks in villages

The capital city New Delhi alone has about 20 HDFC bank branches. There are several villages and Tehsils that don't even have one. More the banks, more the cash deposits in accounts. Banks in villages should be helpful in teaching the residents the process, usage and benefits of plastic cards.

1.10Low Literacy Rate

Low literacy rate hinders the accessibility of banking services. Citizens should not only know how to read and write but also possess basic ICT literacy to fully enjoy the benefits of e-payments.

1.11Language Barrier

Internet is an English based platform. The details on the plastic card are also in English. The message received on mobile regarding transaction is also in English. Therefore, it is required to use multiple languages regarding these processes or make everyone learn English.

1.12Costly Swipe Machines

Swipe machines are also not subsidy free. It can only be afforded by rich shopkeepers. It can't be expected from an auto driver or a normal grocery seller to afford swipe card machines. Besides, many street vendors, shopkeepers don't know how to use swipe machines.

IV.OBJECTIVES OF THE STUDY

1. To elucidate the concept of cashless economy.
2. To highlight the challenges before cashless economy in India.
3. To examine the benefits of cashless economy to the general public

Challenges and opportunities ahead

"A vision can't be wrong, its implementation strategy may go wrong "

It was JULY 2010. While shopping with my sister in AURANGABAD,I felt thirsty.I saw a coconut water hawker with his old cart. I realized I have no money in my wallet and for taking money from ATM of PNB I will have to walk some distance away from the hawker. I asked my sister:"DIDI JUST IMAGINE THIS HAWKER ALSO have A POST MACHINE AND I CAN HAVE COCONUT WATER BY SWIPING MY CARD "

India is a country with currency in circulation Rs. 17.97 lakh crore (trillion) as on November 2016 and with annual population growth rate of around 1.2% annually the need of currency for transaction will also rise .With 1.34 billion population of this country and only 3-4% actually paying taxes there is really a point of concern .Please take note every year Government bear around 1.7% of real GDP as a cost of cash and foregone tax revenues from the 'shadow' economy account for 3.2% of GDP.

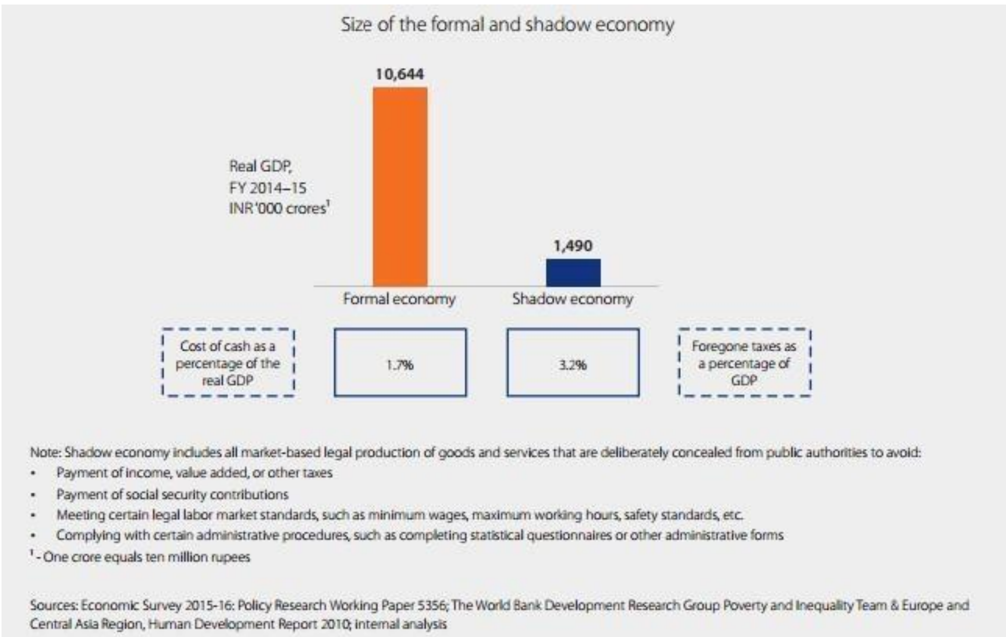


Fig 1 : Formal Economy and shadow economy

After reading almost number of articles regarding demonetization ,some positive and most of them negative ,many questions have came in my mind. Like

1) why do people avoid taxes even after earning so much money and how to reduce this tax evasion .

2) Why do we have to carry a note in our pocket when we have a card ,smart-phones these days with us ?

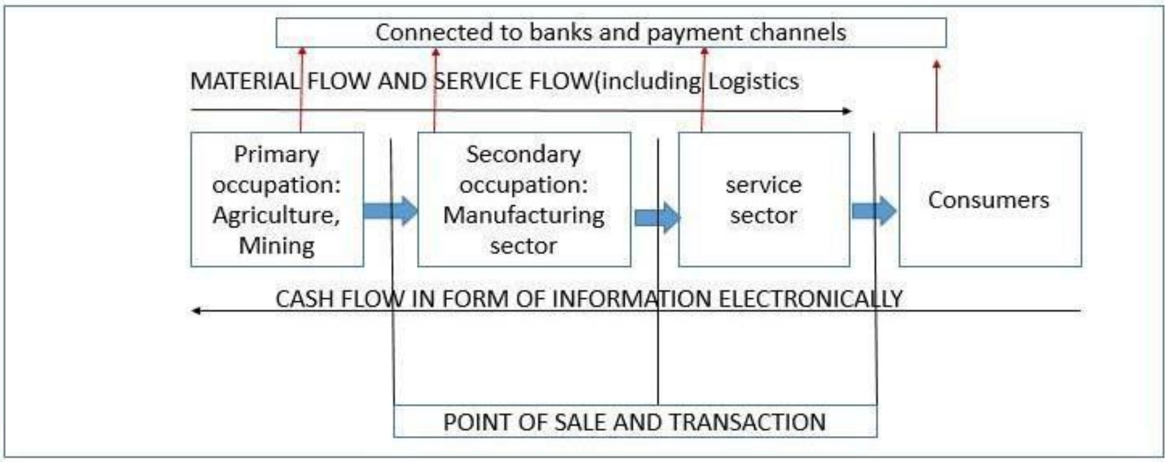
3) Why still many companies into old way of doing business transaction with cash in the entire supply chain pipeline when they have to bear a risk of carrying cash with them in pipeline ?

4) what is that which can actually bring job to this country in rural sector apart from giving the same old pot digging work under MNERGA?

"Problems are Opportunities " when we know a problem actually exists in tax payment in this country and there is a problem of black money generation ,there is an opportunity also .This opportunity is

V.CASHLESS ECONOMY

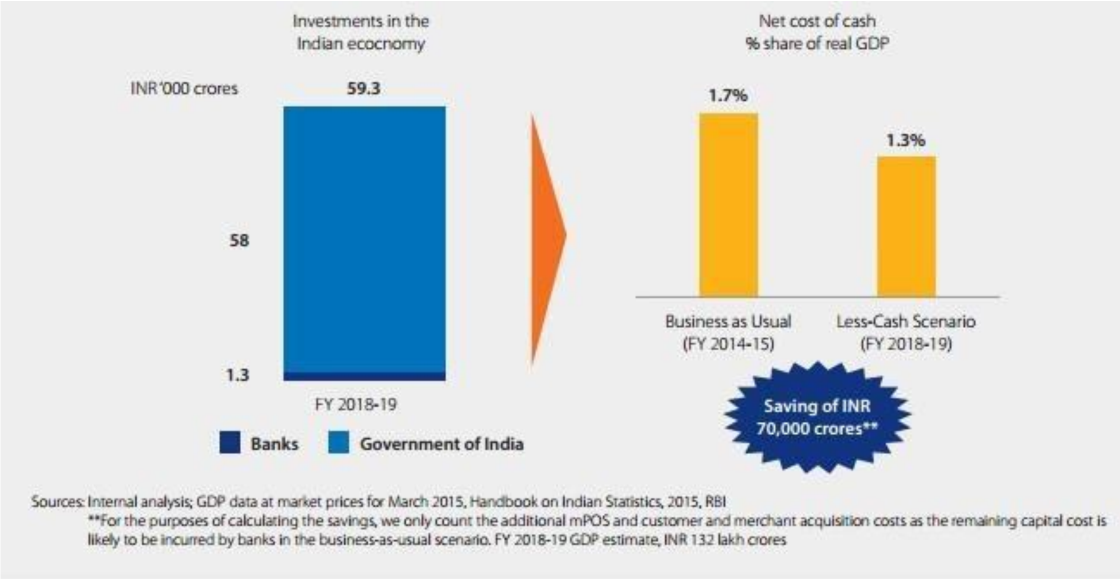
But there are many threats and problems in this transformation out of which I wanna discuss some with



SUPPLY CHAIN PIPELINE OF CASHLESS ECONOMY

suggestions too :

1) MINDSET OF KEEPING AND SAVING CASH : This is the most dominating factor in our country which will give challenges to this transformation . But this can be solved if government give reasons/advantages for moving to digital economy .Be it incentives or bonuses or other benefits , if government use the money which is saved because of going digital (cost of cash) in these kind of promotion , I think there will be more acceptability .



For a total investment of about INR 60,000 crores over 5 years, India could reduce its cost of cash from 1.7% to 1.3% of GDP. and this saved money can be used effectively in solving the 3 A's :AVAILABILITY (Infrastructure),ACCEPTABILITY (buying behavior and mindset),Affordability(cost of setting infrastructure like pos machine).

2)**Financial inclusion** : Still many people are not in the financial inclusion of the country . For women the figures are really bad . What I believe : government should promote the cashless economy by using the platforms of women empowerment so that be it entrepreneurial role or a housewife role or a mother role the transaction through digital channel gets increased .Imagine a situation where a mother does not give pocket money to her school going child and give instead a separate card having dedicated amount for his expenses in account.

3)**Digital literacy** : Personally i know many people who do not know how to use payment apps like Paytm .Some do not know how to make on-line payments . Despite of bearing pain of standing in queue many people do money transfer standing in queues especially in rural areas and tier 3 cities and places which are close to such areas. And this happens because they are not knowing how to use such tools . I think this is where opportunities are in creating jobs . Imagine for every villages there is one trainer assigned by government or banks who train few people and they also join government initiative as an employee in training others . But just providing knowledge about how to use is not sufficient .From security point of view required information should be given like Dos and Don'ts .

4)**connectivity :** still many areas do not get proper Internet connections .Especially in remote areas . I really can not understand what kind of infrastructure do these companies have developed that when I go to any village areas in my home state the connectivity and speed are the issues always existing . In case of connectivity ,it is so terrific sometimes that I skipped the idea of using mobile in such areas. I think the biggest challenge and first challenge in building a cashless economy is developing an infrastructure for that . "YOU CANNOT RUN A TRAIN IN AN AREA WHERE YOU DON'T HAVE RAILWAY TRACK "

Besides these ,government can promote the cashless transactions among those MSME entities who are still not into financial inclusion of economy by educating them about the benefits of this

. In any business , technology adaption always save the cost to a great extent .And this will save their cost .

"Many colleagues of mine said to me :" this cashless economy ,digital economy wont succeed in villages .These are not for poor". I think they are wrong .Because in research report by Accenture in 2014, it is clearly mentioned out of 2800 rural consumers across 8 states and 10 Focus Group Discussions, 50 percent expressed willingness to use digital channels to gather information about offerings and make purchases, while 38 percent said getting explanations on how to use digital channels could help them accelerate usage.

What government should do on an urgent basis to push this digital economy :

1) make the payment mode digital at places like government offices , petrol pumps , toll points , railway stations ,banks,state buses and their bus stops mandatory .

2) make the payment channels in supply chain involving rural sector digital with cash going directly to the real person and for this appoint individuals within those areas to train them and to guide them to promote this transformation among villagers .

If sector like organized dairy sector can get benefits from this cashless transactions like they got after demonetization , why cannot other sector get benefit !

I know , absolute cashless economy is not possible but even a 15% rise will benefit our economy to great extent .

VI. CONCLUSION

From the above analysis, it has been found that cashless economy is an economic system in which there is little or very low cash flow in a society and goods and services are bought and paid through electronic media. Cashless economy is the economy in which transactions are made by debit cards, credit cards, cheques or direct transfer from one account to another. There are many benefits of cashless economy like faster transactions, increased sales, prompt settlement of transactions, convenience and lower risk, transparency and accountability, and reduced maintenance costs. Despite many benefits, there are several challenges before cashless policy in India such as inadequate number of ATMs, digital illiteracy, lack of internet facilities, few banks in villages, costly swipe machines etc. Nonetheless, the present study also conducted a survey of 112 respondents in Aligarh District through questionnaires designed on five point likert scale to evaluate the benefits of cashless economy to the general public. One sample t-test has been applied as the statistical tool to test the hypothesis. The findings revealed that there are no significant benefits of cashless economy to the general public.

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IMPACT OF CASHLESS ECONOMY IN BUSINESS

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Abstract:

Cash may no longer be the king . cashless economy is a system of transactions being done through the digital means like debit,credit cards,electronic fund transfer,mobile payments, internet banking ,mobile wallets and other newly evolved payment channels,which leave a very little scope for flow of hard cash in the economy.

In which we talk about the difference of India and other countries and their advantages and disadvantages of having a cashless economic system ,reference to what are the major advancements of the business in a cashless economy and finally why to adopt a cashless payment system convenience over liquidity crunch.

Keywords: Cashless economy,Debit and credit etc.

I. Introduction

Cashless economy as meant is a system of exchanging goods and services the without using physical form of the currency. Its in an economy which facilitates conducting financial transactions electronically over internet.in the traditional economy paper money and coins are the mediums of making and receiving payments. But in cashless economy there are mediums like internet banking, debit, credit card,E-wallet,mobile based payment application etc .

Moving from cash to cashless economy gives birth to many challenges and opportunities. The largest economies of the world are running with partially

Cashless economy to cope with the challenges of a fully cashless system .India is one of the fastest growing economics of the world and has stepped forward toward cashless digital system.

II.Brief on Indian Economy

From Cash to Cashless System Indian economy is the seventh largest economy of the world. Agricultural sector dominates in in Indian economy. But contribution of service and manufacturing sector in GDP is also increasing rapidly. Most of the financial transactions takes place by actual exchange of currency notes and coins. Currency notes of Rs.1, Rs.2, Rs.5, Rs.10, Rs.20, Rs.50, Rs.100, Rs.500 and Rs.1000 denomination were in circulation. Coins of the face value of Rs.1, Rs.2, Rs.5 and Rs.10 were in use. Total value of currency in circulation was Rs. 17, 54, 000 crore. 98% of total financial transactions used to be performed in cash mode. This was the glimpse of Indian economy before 8th November 2016, the day Prime Minister Mr. Narendra Modi announced demonetization of Rs.500 and Rs.1000 currency notes. This step was taken to reduce the volume of black money in Indian economy but is also proved to be a milestone in forcing the Indian economy towards a digitally transacting hub. Rs.500 and Rs.1000 notes together accounted for Rs.14.2 lakh crore which was 86.4% of the total currency in circulation as of 31st March 2016. Immediate lack of liquid currency motivated people to look for alternate modes of making and receiving payments. This resulted in growth of users of different digital payments platforms like RTGS, NEFT, Internet banking, mobile wallets, mobile applications based payments systems etc. Digital payments increased to 22 % from October 2015 to October 2016. Mobile banking and immediate payment system (IMPS) witnessed drastic growth in last 12 months ended October 2016. Mobile banking transactions increased 175% while IMPS transactions increased 116%. Prepaid payment instruments also known as PPI doubled during last 12 months. Transactions using National Electronic Fund Transfer (NEFT) grew 16% post demonetization. According to data of central statistical office, consumptions of goods and service increased 2.8% in the quarter ended September 2016 compared to the previous quarter of the same year. In the same period, cashless payments in the country increased 6%. Thus, it can be concluded that the consumers are responding well to the government initiatives to digitalize the economy. The transactions using unified payments interface (UPI) increased from 30 crore in August 2016 to 480 crore till December 2016. Bharat interface for money (BHIM) which is developed by national payments corporation of India based on UPI. It was released on 30th December 2016. During union budget 2017, finance minister Mr. Arun Jaitley declared that it is currently being used by 125 lakh Indian citizens. All these facts and figures are indicating that India is moving rapidly from traditional cash based economy to a digital cashless economy. The progress of the economy post demonetization is satisfactory but it is not sufficient.

III.Situation in India

Looking into Indian economy after note ban, cashless economy is still a distant dream

If we were to go by data with RBI, cash is still king while cashless forms just 5 per cent of all the transactions in India.

The word demonetisation became a part of everyday vocabulary on November 8, 2016. Before that day if you had asked the common man what it was he would respond with a shrug. Ask him now what it means and he will not only tell you what it means but also what he thinks about it. This is because the country was sent into a tizzy on November 8, as Prime Minister Narendra Modi announced that come midnight, Rs 1,000 and Rs 500 currency notes would become invalid.

In his 40-minute speech, Modi said that this was done to weed out black money and to promote a less cash economy. A year has passed since then and according to the Reserve Bank of India (RBI), 99% of the demonetised high value currency notes have come back into the banking system. But what about increasing the usage of digital payments? Have we, as a country, reduced our dependence on cash?

If we were to go by data with RBI, cash is still king. The number and value of cashless transactions, understandably, shot up right after the **note ban** and remained high till about March 2017 and has since come down to pre-demonetisation levels. In November 2016, a total of 523.23 million cashless transactions took place worth Rs 93.63 lakh crore and by March it was 682.45 million transactions amounting to Rs 150.24 lakh crore. Now, coming to cash, as on October 2017, the total cash in circulation was a whopping total Rs 1, 31, 81, 190 crore and the total currency with the public was Rs 15, 32, 850 crore. All of us together have put in money worth Rs 1,03, 65, 840 crore in time deposits with banks. And cashless forms just 5 per cent of all the transactions in India.Does this mean that demonetisation has not succeeded in taking India closer toward a cashless economy? Although it has definitely led to all of us taking a giant leap towards digital payments, there is still a long way to go.

Why do Indians love cash?

All stakeholders are to blame; right from regulations, digital payment infrastructure, to the mind sets of the people. "The government needs to keep putting pressure on all stakeholders to make sure that digital payments are accepted more. We are one of the few countries where the usage of cash is incentivised. This has to change," said Alpesh Shah, senior partner and managing director, Boston Consultancy Group.

What are the advantages & disadvantages of cashless system

As the country moves towards cashless environment after demonitisation so in a way or another it promotes the concept of digital india. But at the initial stage it gives a lot of confusion to the people whether it will give benefit and convienence or stress.

IV.Advantages

Like everything have two aspects i.e. positive and negative, cashless transactions also have its positive effects as well as negative effects,some advantages and disadvantages as well. First of all I want to throw some light on the advantages of the cashless transactions in india. They are:-

1.In various economic activity, paper contains some cost. Thus, currency in physical form also contain some cost,cash operation costs RBI and commercial bank Rs. 21000 annually.

2.It gives convienence to customer because they need not to carry cash with them. In case of internet banking they don't need to carry atm's with them.

3.Security measures are provided with cashless transactions which is not available with physical availability of cash.

4.It is easy for customers to close their digital wallet and debit cards if it goes in wrong hand. 5.Biometric security system is available with the cashless transaction option.

6.It reduces the chances to forfeit currency.
7.By linking all accounts with adhaar card no. it will help in tracking the black money. Same benefit will be recieved by doing cashless transactions. It will result in more transparency in the system.
8.It gives more discount options especially in purchasing insurance policy,petrol and in rail tickets.Which will result in improved cash flow of an individual.
9.It tracks spending of an individual. It helps in filing income tax returns and in case of any scrutiny one will be able to explain his expenditures.
10. By being cashless one can pay off all his borrowings, alike Government Of India aims to enable all loans to be sanctioned within 5 minutes by digital working of a system.
11. One can pay off to the shopkeepers exact amount without worrying about the change.

V.Disadvantages

But making India a cashless economy, government will face some problems initially. Especially in a country like India where majority of people reside in rural area, the cashless economy concept will face some resistance by the people. So, coming on the point the disadvantages of the cashless transactions in India are as follows:-

1.As majority of the population live in rural area they are still outside the banking net. Inspite of having credit and debit cards the ability to use them are still limited.
2.Rural people are not aware or educated enough to use these digital facility .
3.As 90% of the population works in an unorganized sector, it will not be easy for an informal sector to accept this change of cashless transactions.
4.Technological factor plays an important role like in metro cities people are facing problems due to poor networks.
5.Banks have to invest more in technological and security needs which will result in cost increment at initial stage.
6.People will only opt for cashless transactions when they will find it easy and convienent to use.
7.Government will have to take proper steps in encouraging cashless economy by discouraging cash payments and by not taking too aggressive steps.
8.It will result in over spending as people do not feel the pain of parting away with money because the pain of parting away with money will only be felt when the

money is available in physical form with the individual.

Inspite of these disadvantages the cashless transactions will benefit India in long run. Since Goverment is making his full effort for making India a cashless economy as an initiative for this the Goverment Of India had launched a BHIM app which will help rural India in becoming digitally advanced and thus enhancing the cashless transactions by more and more transparency in banking system.

Digital competence is the most recent concept describing technology related skills.The dream of Digital India will only come true when people of India are digitally competent. A cashless society is a society w here currency notes or cash money are not used inmonetary transactions.The European Commission(Punie&Cabrera, 2006) has defined

Why to adopt cashless payment system?

The pase of inovation in finance requries regulatours to not only be responsive but also proacitive, so they can balance new product development with stibility and consumer protection.

VI.CONCLUSION

Throught the researsh we may see there is wide scope for cashless digital economic system in India but low literacy rate and lack of basic infrastructures like access to internet and power are making it difficult for middle and lower class of the society to adopt digital mediums of transactions. Government of India should attempt to digitalize the country in a phased manner. Either state wise or district wise within a state. Point of sale terminals should be increased on a large scale so as to reach the rural sectors of the country.

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DEPARTMENT OF COMPUTER SCIENCE

MIMAMSA 2018

CYBER SECURITY

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CONTENTS

CYBER SECURITY AND PRIVACY ISSUES IN SMART GRIDS

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Abstract

This paper focuses on Smart grid. Smart Gird is a promising power delivery infrastructure integrated with communication and information technologies. The bi-directional communication and electricity flow enable both utilities and customers to monitor, predict, and manage energy usage. It advances energy and environmental sustainability by the integration of distributed energy resources. Nevertheless, increased interconnection and integration also introduce cyber vulnerabilities in grid. Failure to address the problems will hinder the existing power system in a modern way. In order to build a reliable smart grid, an overview of relevant cyber security and privacy issues is presented. Based on current literatures, several potential research fields are discussed at the end of this paper.

Keywords: Smart grid; SCADA; AMI; security; privacy; accountability

INTRODUCTION

The technology and innovation is to modernize industry, our electric power system has been maintain from years ago. The increasing load and consumption demands increase electricity complications, such as voltage sags, black outs, and overloads. Meanwhile , the current electrical network contributes greatly to carbon emissions. The United States' power system alone takes up both economic and environmental interests , substantial changes must be made to such an unstable and inefficient system. Therefore, many nations (e.g., U.S., EU, Canada, China, Australia, South Africa, etc.) are now modernizing their power grids [42]. They believe that they not only require reliability, scalability, manageability, and extensibility, but also that they should be secure, interoperable, and cost-effective. Such an electric infrastructure is called a "smart grid." Generally speaking, the smart grid is a promising power delivery infrastructure that is integrated with two-way communication and electricity flows. Through advanced sensing technologies and control methods, it can capture and analyse.

DIFFERENCES OF IT NETWORKS AND SMART GIRD

Categories	**IT Networks**	**Smart Grid**
Architecture	1) flexible and dynamic topology; 2) center server requires more protection than periphery hosts	1) relatively stable treelike hierarchy topology; 2) some field devices require the same security level as the central server
Technology	1)Diverse operating systems; 2) public networks; 3) IP-based communication protocols	1) proprietary operating systems; 2) private networks; 3) DNP (Distributed Network Protocol) - based communication protocols.
Quality of Service	1) transmission delay and occasional failures are tolerated; 2) allow rebooting	1) high restrictions on transmission delay and failures; 2) rebooting is not acceptable

According to the analysis results, the smart grid may provide predictive information and corresponding recommendations to all stakeholders (e.g., utilities, suppliers,and consumers) regarding the optimization of their power utilization .It may also offer services like intelligent appliance control for energy efficiency and better integration of distributed energy resources (DERs) to reduce carbon emissions

In fact, we have some IT security techniques into the smart grid to meet its security and privacy requirements. However, while choosing any of the possible security measures, there always exists a trade off among security, cost, and performance

OVERVIEW OF SMART GRID

Features

Enabling Informed Participation by Customers: Unlike traditional power systems, customers are better informed by a two-way communication technology. The entire smart grid becomes an active electricity market that allows customers to shift load and to generate and store energy based on near real- time prices and other economic incentives

Accommodating All Generation and Storage Options: The smart grid not only accommodates remote centralized power generation, but also adopts diverse and widespread distributed energy resource (DER) (e.g., solar, wind, or geothermal energy) through flexible network architecture and distributed management.

Enabling New Products, Services, and Markets: New products and services are essential parts of the smart grid that can promote low-cost and green solutions for all power users. By using consumer-oriented "smart appliances" or intelligent electronic devices (IEDs), for instance, customers or authorized service providers can remotely control IEDs' power usage.

Providing the Power Quality for the Range of Needs: Power quality involves factors like voltage flicker, voltage volume, momentary interruptions, etc. Different consumers may have distinct power quality requirements .To satisfy a particular consumer's power usage, the smart grid must meet a wide range of power quality needs in terms of architectural designs and contract concerns.

Optimizing Asset Utilization and Operating Efficiently: The smart grid is a complex system of systems that manages a variety of appliances, facilities. Optimizing the utilization of those assets and enabling efficient operation and maintenance will reduce both whole life-cycle and investment costs and power consumption.

Operating Resiliently to Disturbances, Attacks, and Natural Disasters: This concept **is** proposed to ensure the reliability of the power grid. Regardless of the type of physical damages or cyber attacks , the smart grid can effectively resist these problematic events through local, regional, and national coordination.

Key Components

AMI (Advanced Metering Infrastructure): AMI is an integration of multiple technologies that provides intelligent connections between consumers and system operators . It is designed to help consumers know the near-real-time price of electricity and thus to optimize their power usage accordingly .

SCADA (Supervisory Control and Data Acquisition): SCADA system is responsible for the real-time monitoring and control of the power delivery network .Through intelligent remote control and distributed automation management at medium voltage substations, it can both help the grid reduce operation and maintenance costs and ensure the reliability of the power supply . Two related subsystems are the energy management system (EMS) and the distribution management system (DMS) .

SCADA systems consist of four parts (as shown in Fig. 3)

field data interface devices such as remote terminal units (RTUs) and programmable logic controllers (PLCs),

A communication system (e.g., telephone, radio, cable, satellite, etc.),

A central master terminal unit (MTU), and

Human machine interface (HMI) software or systems

PHEV (Plug-in Hybrid Electric Vehicle): PHEVs, addition to reducing carbon emissions and reliance on fossil fuels, could also provide a means to support DER in the smart grid. Since most PHEV batteries are designed to speed up rapidly for fast discharge, parked PHEVs can supply electric power to the grid . This vehicle-to-grid concept may improve the efficiency and increase the reliability of the power grid .

Communication Protocols and Standards: The communication standards for the power industry were developed by five leading organizations including the IEEE, the IEC (International Electro-technical Commission), and the DNP3 (Distributed Network Protocol) Users Group . The most prevalent protocols for SCADA communication systems are IEC and DNP3 . (Manufacturing Message Specification, ISO 9506) protocol security in the IEC standard. Specifically, the MMS will work with the TLS to secure communications . Not all components are required to adopt this secure mechanism. Part-5 focuses on the security of serial communication in IEC and DNP3.

CYBER SECURITY ISSUES ON SMART GRID

The traditional power delivery system focuses on developing equipment to improve integrity, availability, and confidentiality. Recently, contemporary communication technologies and equipment were typically regarded as supporting the power industry's reliability. Securing the power grid prevents, prepares for, protects against, mitigates, responds to, and recovers from unexpected cyber events or natural disasters .

The development of a secure smart grid would encounter the following four challenges:

The power delivery system has new communication requirements in terms of protocols, delay, bandwidth, and cost. Avoiding early obsolescence is essential in smart grid security development.

Many legacy devices have been used in power automation systems for decades. Most of them only focus on a certain functionality and thus lack sufficient memory space or computational capability to deal with security problems. Integrating the existing legacy equipment into the smart grid without weakening their control performance is a challenge. Networking in the current power grid uses heterogeneous technologies and protocols such as ModBus , ModBus+ , ProfiBus (Process Field Bus) , ICCP (Inter-control Center Communication Protocol), DNP3, etc. Nevertheless, most of them were designed for connectivity without cyber security.

Current power systems are usually proprietary systems that provide specific performances and functionalities but not security.

Device Issues

Devices like PLCs (Programmable Logical Controllers), RTUs, and IEDs are widely deployed in power delivery systems to allow administrators to perform maintenance or to dispatch functionalities from a remote location .

- The function enables malicious users to manipulate the device and disrupt normal operations of the grid, such as shutting down running devices to disconnect power services or tampering with sensing data to misguide the decisions of the operators .
- The authors in discussed such a cyber vulnerability, in which an attacker could switch-off hundreds of millions of smart meters with remote off switches.
- No agreed solutions are proposed in present standards and regulations, some recommended counter measures in may be considered in further discussions.
- Addressing the problem may require hardware support. We therefore not focus on its solutions in this paper.
- They used AES-CCM with 128 bit shared key to encrypt the line between the meter and the gateway, which showed their protocol is reliable and energy efficient (according to their experiment results). As for the customer interfaces and PHEVs, not too many papers are presented to address potential security problems. On going relevant research mainly focuses on issues of malware attacks and fast encryption.
- Although there is currently no solution, one thing is recommended: all mobile code (e.g., ActiveX, JavaScript, Flash animation, etc.) in the smart grid should be strictly controlled from suppliers to operators.

Networking Issues

Potential security problems of networking in smart grids mainly focus on issues of the Internet, wireless networks, and sensor networks. Just like the Internet, multiple networking technologies can be utilized for the smart grid, including fiber optics, land mobile radio (LMR), 3G/4G (WiMax), RS-232/RS-485 serial links, WiFi, and so on . It depends on the requirements of the grid environment and is an open issue in the development of smart grid communication standards.

IT industry has witnessed a series of attacks against wireless mesh technologies such as cross-layer traffic injection, node impersonation, route injection, message modification, etc. Most existing routing protocols lack specific strategies to secure the paths and the data mainly because of their inherent distribution features .

Dispatching and Management Issues

Smart grid can be regarded as a combination of several micro grids . Each micro grid operates autonomously within its local SCADA system and interacts with others like "Island Functionality" or "Islanding." Micro grids will be controlled by a central master SCADA system in which every local SCADA acts as a slave controller providing energy related information to the central controller. This framework ensures reliability of the smart grid and thus has been approved by the IEEE-1547 standard.

This increased interoperability, makes them more accessible to public users, which inevitably increases the risk of the system being compromised as follows:

- Take down the server
- Gaining control over the system
- Stealing corporate data
- Fiddling with billing information
- Key logger software
- Gain competitive advantage
- Misuse the SCADA servers to attack the other servers in the system and gain access information to the valuable information from the utility companies.
- Manipulate mathematical data points to off track the utility operators, who then tend to detect a false alarm and tend to shutdown or rescale the system causing unnecessary latencies.
- Change user logged data in a distant and remote DBMS; this can affect the innocent users as well as the utility companies.

For example: an attacker can attack the power grid by attacking the energy management system (EMS) faking meter data and misleading EMS by the state estimator to make bad decisions.

FUTURE RESEARCH DIRECTIONS

Generally speaking, three areas should be further studied to enhance the security level of the grid:

- Integrity and confidentiality of the transmitted data,

- Building a robust and efficient dispatching and management model for SCADA system
- Establishing a universal policy and standard for secure communication technology. We also have examined privacy concerns in the smart grid.

Control System Security

Industrial control normally does not do too much about security. In recent years, people pay some attention to control systems security to protect power generation, transmission and distribution. Co-designs of control and security in smart grids will be interesting topics in the future.

Power System Security

Besides cyber security, vulnerabilities in physical power grid should also be further explored and studied. Since new devices will be largely deployed, no one can guarantee the power line itself is 100% secure. Standards and regulations for those new components and their compatibilities need to be modified accordingly.

Authors gave us a good example. They proposed a graph-based model that combined both cyberand electrical grid. It can be used for analyzing the cause-effect relations on cyber attacks. Before it applies to a large-scale power grid, more work is still required.

Accountability

Advanced cyber security technologies protect every level of the current network infrastructure. New vulnerabilities and risks continue to emerge under the particular framework of the smart grid. As a complement, accountability is required to further secure the smart grid in terms of privacy, integrity, and confidentiality.

Generally speaking, accountability means that the system is recordable and traceable; this makes the system liable to those communication principles for their actions. Every single change in a local host or network traffic, which may be the most important or most desirable information, can be used as evidence in future judgment. Under such a circumstance, no one can deny their actions, not even the administrators or other users with high privileges.

Integrity and Confidentiality

Integrity and confidentiality are two main aspects for computer and network security design. Naturally, they are still essential for securing the smart grids. For example, integrating with huge numbers of DERs may incorporate with distributed database management system and cloud computing technologies. Whether or not we could adopt current solutions to provide integrity and confidentiality for smart grid is indeed a future research direction.

Privacy

Privacy issues in cyber security may be addressed by adopting newly anonymous communication technologies. Current approaches to anonymize traffic in general networks will cause overhead problems or delay issues. For some time-critical operations, limited bandwidth and less connectivity features in the smart grid may hinder the implementation of anonymity.

CONCLUSION

This paper mainly gives an overview of cyber security and privacy issues in the smart grid. According to existing research, we may conclude that almost every aspect related to IT technology in the smart grid has potential vulnerabilities due to inherent security risks in the general IT environment.

The paper also provides future research directions. Cyber security and privacy issues in the smart grid are new areas in the fields of power industry, electrical engineering, and computer science. More in-depth research is required to develop such a promising power grid in the near future**.**

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CYBER SECURITY: PHENOMENA, CHALLENGES AND LEGAL -RESPONSE

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Abstract

The purpose of this paper is Understanding Cybercrime: Phenomena, Challenges and Legal Response is to assist everyone in understanding the legal aspects of cyber security and to help harmonize legal frameworks. As such, it aims to help better understand the national and international implications of growing cyber threats, to assess the requirements of existing national, Regional and international instruments, and to assist in establishing a sound legal foundation. It provides a comprehensive overview of the most relevant topics linked to the legal aspects of Cybercrime and focuses on the demands of developing countries. A solution out of this dilemma is a cyber-security policy that is decidedly anti-vulnerability and at the same time based on strong considerations for privacy and data protection. Such a security would have to be informed by an ethics of the infosphere that is based on the dignity of information related to human beings.

Keywords

Cyber-security, Indian IT Act, Cyber Forensic Labs, Cybercrime Cells

INTRODUCTION

Cyber-threats and the measures necessary to counter them are the security issue of the hour. In recent years, a number of sophisticated cyber-attacks and intensifying media attention have combined to give the impression that cyber-incidents are becoming more frequent, more organised, more costly, and altogether more dangerous. As a result, cyber-fears have percolated upwards, from the expert level to executive decision-makers and politicians. Threats to cybersecurity can include computer viruses, spam, identity theft, data breaches, denial of service attacks, and cybercrime. Attackers can range from hackers to activists to petty criminals to businesses to national governments. With over 370 million people falling victim to cybercrimes each year and tens of thousands of known viruses in existence, the threats to our security are real - but so are the threats to our human rights online. Deterring cybercrime is an integral component of a national cyber security and critical information infrastructure protection strategy. In particular, this includes the adoption of appropriate legislation against the misuse of ICTs for criminal or other purposes and activities intended to affect the integrity of national critical infrastructures. At the national level, this is a shared responsibility requiring coordinated action related to prevention, preparation, response and recovery from incidents on the part of government authorities, the private sector and citizens.

LITERATURE REVIEW

Cyber-security has two elements: the specificities of the ''threat'' and the related ''referent object'' (that which is seen in need of protection). In any political process, the definition of referent objects is not only closely connected to how a danger is viewed, it also is an unavoidable decision since any danger discourse must be tied to some kind of endangered entity to become meaningful (Hagmann and Dunn Cavelty 2012). The ''human'' is presented as a direct threat in the form of the (evil) hacker, the inadequate software developer or system administrator, but is hardly ever a specific and direct referent object of security. The threat to (national) security is presented as possible disruption to a specific way of life—one building on information technologies, economic performance and ''critical'' functions of infrastructures—but the direct threat to human security, especially a threat that undermines acquired values such as anonymity, privacy, freedom of speech, free access to information, etc. does not figure prominently in the policy discourse. Computer hackers (Chandler, 1996; Duff and Gardiner, 1996; Sterling, 1994; Jordan and Taylor, 1998) played an important role in the early stages of the conceptual development of the internet, combining high levels of specialized knowledge to test out and develop new ideas with a staunch ethical belief in freedom of access to all information.

OBJECTIVES

- To define a concept and terminology of cyber security and cyber crime
- To analyze the growing cyber security threat
- To provide a solution to tackle with cyber crime
- To create awareness about latest cyber crime
- To propose recommendations and a comprehensive research agenda regarding cyber security and cyber-crime

WHAT IS CYBER-CRIME?

Cyber dependent crimes (or 'pure' cyber-crimes) are offences that can only be committed using a computer, computer networks or the other form of information communications technology (ICT) .These acts include the spread of viruses or other malware, hacking and distributed denial of service (DDoS) attacks. They are activities primarily directed against computers or network resources, although there may be a variety of secondary outcomes from the attacks. For example, data gathered by hacking into an email account may subsequently be used to commit a fraud.

Framing the issue

- Mobile devices and apps- Every new smart phone, tablet or other mobile device, opens another window for a cyber-attack, as each creates another vulnerable access point to networks.
- Social Media Networking - Growing use of social media will contribute to personal cyber threats. Social media adoption among businesses is skyrocketing and so is the threat of attack.
- Protect systems rather Information - As consumers and businesses are like move to store more and more of their important information online, the requirements for security will go beyond simply managing systems to protecting the data these systems house.

CASES OF CYBERCRIME IN INDIA

Mumbai

Vodafone was directed to pay Rs 4.5 lakh to a Mulund resident who fell victim to cybercrime after a duplicate of his SIM card was allegedly issued to another person.

Bangalore

Bangalore police arrest man for hacking bank account: It just took four days for him to siphon Rs 3.94 lakh from a Bangalore based ABN- Amro bank account into his ICICI bank account in Vadodara.

Delhi

The cyber cell of Gurugram police arrested a 27 year old commerce graduate for allegedly duping over a hundred of people from Delhi-NCR by getting their debit/credit card details and also involved in 135 cyber fraud cases.

Initiatives taken by Indian Government

- Cyber Crime Cells have been set up in States and Union Territories for reporting and investigation of Cyber Crime cases.
- In collaboration with Data Security Council of India (DSCI), NASSCOM, Cyber Forensic Labs have been set up at Mumbai, Bengaluru, Pune and Kolkata for awareness creation and training.
- Programmes on Cyber Crime investigation. National Law School, Bangalore and NALSAR University of Law, Hyderabad are also engaged in conducting several awareness and training programmes on Cyber Laws and Cybercrimes for judicial officers.

Legal Action:

As far as legal action is concerned, the following actions may be helpful to reduce Cyber Crime and important to take into

- Electronic Communications Privacy Act of 1986
- Indian IT Act
- Computer Fraud and Abuse Act of 1984
- Computer Security Act of 1996
- Personal Data Privacy and Security Act of 2007
- Identify Theft Prevention Act

QUALITATIVE STUDY

- An online cyber security research survey was conducted with 53 respondent's data analysis.
- According to which 70% of respondents were doubtful about their internet security

- Whereas 80% of the respondents wanted more stricter laws to be implemented with regards to their online privacy
- Around 45% of respondents preferred online payment systems that were anonymous to those that were user defined.

Methodology: Online survey method

Suggestions

- Properly configure and patch operating systems, browsers, and other software programs.
- Use and regularly update firewalls, anti-virus, and anti-spyware programs.
- Be cautious about all communications; think before you click.
- Don't reveal too much information about yourself on social media websites.
- Complain about illegal communication and activities, if found to Internet service Providers and local law enforcement authorities

Future Enhancements

In cyber-security as currently understood and practised, human beings are seen as victims, as weakest link in the system, as direct threat—but not (or only very indirectly) as beneficiaries of the type of security that states (and companies) want. On the one hand, the neglect of the human element is a direct consequence of a focus on technical systems as targets and technology-based countermeasures in cyber-security. On the other hand, the lack of consideration for ''the human'' in this field also seems to be an effect of the issue that human security scholarship has already tackled decades ago: that too much focus on the state and national security tends to crowd out consideration for the individual citizen, with often detrimental effects for security overall (cf. Burgess and Owen 2004). I look at both aspects and their consequences for security below and then turn to the clash between this type of security and human security.

CONCLUSION

- Cybercrime is now serious, widespread, aggressive, growing, and increasingly sophisticated, and poses major implications for society and economic security.

- Reduction in Cyber Crime is only possible when user will be much more aware of the aspects of Cyber Crime.
- With the increasing incidents of cyber-attacks, building an effective intrusion detection model with good accuracy and real-time performance are essential.

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A COMPREHENSIVE STUDY ON CYBER SECURITY ISSUES IN ORGANIZATION

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ABSTRACT

In this era of digital world all forms of data are moved around the globe in digital form. According to the global Wikipedia survey about 51 percentage of world's population had internet access. Security to these digital data are very necessary from the intruders, foes and unauthorized individuals for any organization. Security is the protection against danger, criminal and loss. But due to the day to day emerging sophisticated technologies we are unable to cope up for the new vulnerabilities which came along with it. This research paper emphasis the data security issues in an organizations and various cyber security techniques by which chances of cyber-attack can be reduced.

INTRODUCTION

Today man is able to send and receive any form of data may be an e-mail or an audio or video just by the click of a button but did he ever think how securely his data id being transmitted or sent to the other person safely without any leakage of information?? The answer lies in cyber security. Today Internet is the fastest growing infrastructure in everyday life. In today's technical environment many latest technologies are changing the face of the mankind. But due to these emerging technologies we are unable to safeguard our private information in a very effective way and hence these days' cybercrimes are increasing day by day. Today more than 60 percent of total commercial transactions are done online, so this field required a high quality of security for transparent and best transactions. Hence cyber security has become a latest issue. The scope of cyber security is not just limited to securing the information in IT industry but also to various other fields like cyber space etc.

Even the latest technologies like cloud computing, mobile computing, E-commerce, net banking etc. also needs high level of security. Since these technologies hold some important information regarding a person their security has become a must thing. Enhancing cyber security and protecting critical information infrastructures are essential to each nation's security and economic wellbeing. Making the Internet safer (and protecting Internet users) has become integral to the development of new services as well as governmental policy. The fight against cyber-crime needs a comprehensive and a safer approach. Given that technical measures alone cannot prevent any crime, it is critical that law enforcement agencies are allowed to investigate and prosecute cyber-crime effectively. Today many nations and governments are imposing strict laws on cyber securities in order to prevent the loss of some important information. Every individual must also be trained on this cyber security and save themselves from these increasing cyber-crimes.

DATA SECURITY ISSUES FACING COMPANIES TODAY

TARGETED CYBER ATTACKS

Cyber attacks are no longer the creation of the teenage hackers looking for bragging rights. With global organized crime syndicates behind cyber attacks, the nature of how they attack networks is changing, says a report by Forrester Research. No need for the hackers to gather as much information as possible in one go; targeted attacks can now extract data over a longer period of time.

DATA BREACH

From international leaks from disgruntled employees to blunders involving misplaced laptops, data is escaping from inside organizations. The 2010 Version Data Breach Investigations report released in July found that almost 50 percent of data breaches were inside jobs. Companies need to be more vigilant about who has access to information, especially when it comes to corporate networks outside the firewall. The U.S military is so concerned about insider threats that the department of Defence is working on an algorithm to figure out when trusted insiders may be on the brink of psychologically turning on an organization.

CLOUD COMPUTING

Cloud computing opens up a new set if data-security concerns, mainly because it means companies must relinquish control of security to an outside party. While cloud computing providers are doing everything they can to build a secure data centres, the way data is stored in cloud- in shared environments alongside other customer data is different from how a company might store it themselves and poses security concerns.

SOCIAL NETWORKS

Corporate employees aren't use wasting time on social networking sites -they're inadvertently leaking company data. Aside from the vulnerabilities in these online applications that seep into corporate networks, people are often posting private information.

Third party applications that employees can access through Facebook which are often developed by individuals or very small companies- may also pose security threats unknown to corporate IT administrators.

MOBILE DEVICES

Smartphones are ubiquitous in today's workplace. While companies have some control over protecting devices they configure, many employees use personal smart phones to download and access corporate information, giving IT administrators little to no control over their security. Because it's so difficult to implement platform-specific security given the range of devices being used, the paradigm is shifting from device-specific solutions to the security being built into the network.

CYBER SECURITY TECHNIQUES

Furthermore only way to decrease the chance of being a victim to the cyber-attack are 1.

ACCESS CONTROL AND PASSWORD SECURITY

The concept of user name and password has been fundamental way of protecting our information. This may be one of the first measures regarding cyber security.

AUTHENTICATION

The documents that we receive must always be authenticated be before downloading that is it should be checked if it has originated from a trusted and a reliable source and that they are not altered. Authenticating of these documents is usually done by the anti virus software present in the devices. Thus a good anti virus software is also essential to protect the devices from viruses.

MALWARE SCANNER

This is software that usually scans all the files and documents present in the system for malicious code or harmful viruses. Viruses, worms, and Trojan horses are examples of malicious software that are often grouped together and referred to as malware.

FIREWALL

A firewall is a software program or piece of hardware that helps screen out hackers, viruses, and worms that try to reach your computer over the Internet. All messages entering or leaving the internet pass through the firewall present, which examines each message and blocks those that do not meet the specified security criteria. Hence firewalls play an important role in detecting the malware.

ANTI-VIRUS SOFTWARE

Antivirus software is a computer program that detects, prevents, and takes action to disarm or remove malicious software programs, such as viruses and worms. Most antivirus programs include an auto-update feature that enables the program to download profiles of new viruses so that it can check for the new viruses as soon as they are discovered. An anti virus software is a must and basic necessity for every system.

FINDINGS

The scope of cyber security is not just limited to securing the information in IT industry but also to various other fields like cyber space etc. With the never ending new technology its definite that cyber related attacks have an infinite ways to hack into a target system and even though the cyber security tools are increasing the level of danger of being the victum of a cyber-attack too is increasing. The fight against cybercrime needs a comprehensive and a safer approach. Given that technical measures alone cannot prevent any crime, it is critical that law enforcement agencies are allowed to investigate and prosecute cybercrime effectively.

FUTURE ENHANCEMENTS

This is a comprehensive research paper in which not very detailed study is conducted. In future further research can be conducted through various methodology like survey method and include responses of top MNCs.

CONCLUSION

Cyber security is a vast topic that is becoming more important because the world is becoming highly interconnected, with networks being used to carry out critical transactions. With every passing year cyber-crime continues to diverge into different paths and so does the information security. Challenging organization with not just how they secure their infrastructure, but how they require new platforms and intelligence to do so.

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EMERGING CYBER SECURITY CHALLENGES

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Abstract

Cyber Security plays an important role in the field of information technology. We are living on incredibly large digital word and securing the information have become one of the biggest challenges in the present day. Now a day's 24/7 online lifestyle making humans lifestyle very easy, everything is connected with other but we can't deny that it is giving chances to cyber criminals. Security of Big Data and internet of things (IoT) is a very serious concern, it is creating a huge problem in cyber security world. According to survey 1.9 billion Cyber Attacks recorded in worldwide in 2017 just double from 2016. Cyber Crimes are increasing immensely day by day. This paper is a study on the top emerging field in which the cyber security is big challenges and provides some suggestion or technique to overcome on these challenges. This study is based on secondary data collected from well-known articles of journals, different types of research papers, websites.

Keywords: Cyber Security, Cyber Crimes, Challenges, Big data, internet of things.

INTRODUCTION

The fastest-growing areas of technical infrastructure development is the Internet. Now days everything is connected with internet. As of June 2017, 51% of the world population has internet access. Fast growth of internet user is offering lots of new cyber security problem because majority of internet users don't know the basics of cyber security technique or how they can protect themselves from hackers.

Cyber security or information technology security are the techniques of protecting computers, networks, programs and data from unauthorized access or attacks that are aimed for exploitation from cyber criminals. Cyber Crime is nothing but where the computers are used as an object or subject of the crime. In simple word crime which are committed using computer to steal the data or the information. Criminals who performs these illegal activities are often referred to as Hacker or called cyber criminals.

There are many cyber security threats present in the world like malware, phishing, passwords attacks, DDos, ransomware etc. As day by day technology is playing in major role in a human life the Cyber Crimes also will increase along with the technological advances. One simple way to reduce attacks are Every individual must be trained on cyber security so they can save themselves from these Cyber threats

Here mentioned below are some of the emerging field where the cyber security is going to big challenges

Change Mobile Technologies

We are not only living in highly connected world but also one that is highly mobile cellular wi-fi, Bluetooth, RFID, NFC these are just a sampling of the technology. The around 35% of people of the world population are using smartphone. Mobile users are growing day by day. We can not even think about single day without a smartphone. Amazing number of app we are using day to day bases. Now days smartphones know us more than others. The users don't know what type of information our smartphone is collecting by different type of sensors and apps used in mobile devices and they also don't know how to secure their information. But the most frustrating thing is majority of user are not aware, when they download and install third party apps, what all are rights they giving to those apps to access their data or information. No one wants to read the rights taking by the apps. Now days hackers are too intelligent what will happen if they will be able to build digital profile using third party apps and use it against us. This is a very scary thing.

Effect of Ransomware

It is a latest type of virus. It stands for ransom demanding malware. It gets on a computer either when we download an attachment containing the virus or when we visit non-secure website and clinks on a link. As soon as attack succeed, it starts encrypt all files, and to unlock the file we have to pay the demanded ransom (money) to the hacker.

In the report says, 184 million ransomware attacks were carried out from 2014 to 2017. This Threats is most challenging and growth rate of this is very high.

Internet of Things (IoT)

The Internet of Things (IoT) is the network of physical objects or Things embedded with electronics, software, sensor and network connectivity, which enables these objects to collect and exchange data. now days devices are connected with each other by the new technology called IoT.

After analyzing the data, it is found that the IoT devices have weak security because if the hackers are successful in hacking one device then they can hack all other connected devices with the help of that. It is estimated that there will be 30 billion IoT devices by 2020. just think what a rich attack surface this is going to give to the hacker or cyber criminals.

Big Data Issues Leads to New Attacks to Security

Big data most commonly refers to more and more large and complex data sets. Big data not only refers to the volume of data but also data's variety and the velocity at which it is created, linked & altered. This is because of dramatically expanding universe of sensors, information technology services and connected devices, which all produces more and more data. All digital data created, replicated or consumed is growing by a factor of 30, doubling every two years. By 2020, there will be over 40 trillion gigabytes of digital data or 5200 gigabytes for every person on earth. It is said that every human is going to generate 1.7 megabytes in every second. The best example of this is Attack in India in Mumbai city on 2008, the attackers utilized cyber space for targeting venues and they simply processed the big data for their plan.

The Human Factor

We can have Million Dollar security infrastructure in place but it is said that "Cyber Security is only as good as the weakest link in the security chain." And weak link is not technology it is us human. It is said that amateur hack system but professionals hack people because it is easy by using social engineering technique to make them reveal information rather than using tools and technology. Facebook, g-mail, and millions bank account have been hacked and analysis of 32 million breached account indicates the people use insecure passwords. People carry this burden of having to remember so many different passwords. Research say that Almost 90% of cyber Attacks are caused by human error or behavior. Here mentioned below are some of the cyber security technique to overcome on the cyber security challenges.

FINDINGS

Cyber Security Awareness

The main reason for the increase in Cyber Crime is lack of awareness or education towards cyber security. Country like India have large number of internet user and facing many cyber Crime issue because majority of people don't have basic cyber security literacy. There should be a subject on cyber security in school. Making people aware about the cyber security can reduce the Cyber Crime.

Alternative of Passwords

To solve the problem of remembering password we can increase the use of multi-factor authentication and three-factor authentication. This can help people to make their passwords more safe and secure.

Use of Machine Learning and Artificial Intelligence

We can use machine learning and AI technology to find out the attacks. We can use machine learning in our device and system to analyze the data and find out the threats. It can help to solve the problems in bid data as well as in IoT.

Malware Scanners

Viruses, worms, and Trojan horses are examples of malicious software that are often grouped together and referred to as malware. We can build a software that usually scans all the files and documents present in the system for malicious code or harmful viruses.

Antivirus Software

Antivirus software is a computer program that detects, prevents, and takes an action to disarm or remove malicious software programs, such as viruses and worms. Most antivirus programs include an auto-update feature that enables the program to download profiles of new viruses so that it can check for the new viruses as soon as they are discovered. Antivirus software is a must and basic necessity for every system.

Firewalls

A firewall is a software program or piece of hardware that helps screen out hackers, viruses, and worms that try to reach your computer over the Internet. All messages entering or leaving the internet pass through the firewall present, which examines each message and blocks those that do not meet the specified security criteria. Hence firewalls play an important role in detecting the malware.

Future Enhancements

According to study conducted these challenges in cyber security are overcome from various solutions described. In future study can be expanded by conduct a survey of internal issues which every organizations faces on impact of big data and IoT. Further study can be conducted based on responses from clients and business people who are actively involved.

Conclusion

Cybercriminals are going to create jobs for security professionals over the next few years. And they're going to do it at a remarkable rate. Sadly, there seems to be no end to hackers who want to access your business and customer data and then use that information to their own malicious ends. cyber threats and cyber security will continue to play a major role in our life but the people and technologies can work together to find out effective solutions. There is no perfect solution for Cyber Crimes but we should try our level best to minimize them in order to have a safe and secure future in cyber space.

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SECURING ATM USING BIOMETRIC AUTHENTICATION

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ABSTRACT

Biometric frameworks works on behavioral parameters and biometric instalment framework is utilized for different sorts of frameworks rather than the strain of keeping cards and to remember their troublesome security code.Useful and secure as well simple to utilize it, without utilizing watchword or mystery codes to recall as contrast and past framework like Visa instalment, remote, portable. In day to day life, the use of Visas, check card for shopping, transport card, metro card for voyaging, understudy card for library and office, and numerous sorts of cards for boundless purposes are increasing. Hence, the issue is any person needs to take many cards, remember their passwords or mystery codes and to keep secure.

Keywords : Fingerprint , Security, ATM, Biometric, Skimming, Pin code, Frameworks

INTRODUCTION

The behavioural biometric parameters are mark, discourse, keystroke and these parameters changes with age and conditions. However, physiological qualities, such as, confront, unique mark, palm print, and iris stays unaltered all through the lifetime of a man. Society today holds new potential outcomes along with, challenges with respect to security advances. Effective alteration takes place in many fields with the developing utilization of biometry and remote advancements.

Such frameworks having distinctive biometric qualities are being utilized, for example, fingerprint, hand geometry, iris as well as retina structure, hand vein structure, face, and voice. The other applications which are developing are mark, DNA, ear shape, warm pictures, body notice, and writing rate and nail epidermis.

The ID mode works on a particular character by performing matches against various unique finger impression biometric formats. Fingerprints are being utilized as a part of day to day life for over 100 years, due to its possibility, peculiarity,not variant, precision.

A cashless payment is a new way in which all transactions are done through cards or digital means like Mobile wallets, UPI apps, etc. The main advantage of a cashless society is that it records all economic transactions minimizing the black marketing and also reduces the chances of tax avoidance.

Objectives

The objective is to implement fingerprint recognition algorithm. The Region of Interest (ROI) for each fingerprint image is extracted after enhancing its quality.

The false minutiae are eliminated. An alignment based matching algorithm is then used for minutia matching.

The specific objectives of this research are:

- To study the importance of fingerprint recognition in the current biometric authentication systems.
- To determine the factors affecting the fingerprint recognition system.
- To investigate the factors affecting the fingerprint recognition rate.
- To develop an effective algorithm for fingerprint recognition.

LITERATURE SURVEY

A reasonable amount of research survey has been carried out on Fingerprint and the Biometric Payment System.

The work presented by Swaroop Borukar, Kinjal Patel, K.T.Talele [1], designed a system, which uses power source for its working without any PC interfaced to it, hence programming language like C for its implementation has been used The data can be retrieved from the system at any desired time using the GUI designed for it.

The examination work of RenuMourya , Ms.Sarita [2], portrays the distinctive sorts highlights about the fingerprints and demonstrates an audit of various strategies display in the writing for coordinating fingerprints.

The purpose of the assignment[4] become to create an a device for two-wheelers based totally on biometrics like Fingerprints. The self-start of the two wheeler is replaced with the fingerprint machine. As quickly as the finger print module acquires the fingerprint, the fingerprint module immediately in interacts with the microcontroller and checks if that fingerprint is present in the database of the module.

The exploration done Ruggero DonidaLabati, Vincenzo Piuri, and Fabio Scotti [5], presents an exploration on Comparison with customary procedures used to build up the personality of a individual, biometric frameworks offer a more noteworthy certainty level that the confirmed individual is not imitated by somebody else.

The work done by Anil K.Jain, Lin Hong, Sharath Pannkanti and Ruud Bolle [6] demonstrates the plan and usage of a model programmed personality validation framework that utilizations fingerprints to verify the character of a person.

The paper presented by Dileep Kumar, Yeonseung Ryu [7], was on survey of biometric payment system. They developed a fingerprint payment system via recognition, matching, and extraction and enhancement techniques.

The paper presented by Priyanka Mahajan, SupriyaMalekar, Anuja More, Amol Wairagade, Prof. B. Mahalakshmi [9] focused on the objective to provide security for online transaction and to ensure that valid user should always get access to his account without any inconvenience.

The Paper by Jaswinder Singh, Jaswinder Kaur [10] pro- posed a strategy to enhance the execution in ATM machine security improvement. Security of client account is ensured by the Personal Identification Number (PIN).The paper discussed ATM framework security and was enhanced by incorporating the fingerprinting and voice acknowledgment of the client.

FINGERPRINT FEATURES

Unique mark elements can be characterized into three classes. To start with highlight gives full scale level subtle elements of the edge stream, second includes a detailed focus on features which are sufficiently discriminative for acknowledgment, and third element gives pores of the unique mark which supplement the uniqueness of second element.

Problem

One method is two-factor authentication, which adds an additional layer of security a user must pass before being allowed access to an account.

Often used when logging in to online services like social media and email systems, two-factor authentication has most commonly involved entering not only the PIN but also a numeric code received by text message on the user's phone and valid for only a short period of time.

This method, no longer considered secure because it is so easy to falsely simulate cellphone numbers, is being phased out in favor of smart phone apps that generate new codes every few seconds – or even physical keys. Without this one-time code, an attacker can't access the victim's bank account.

Solution

Future methods of user authentication at ATMs are likely to involve biometrics, like fingerprints, which could augment – or even replace – the cards and PINs that have gotten banks and users through the past 50 years of automated banking.

Advance Encryption Algorithm should be used to the pin and password at the time of access of ATM.

FUTURE SCOPE

This integrates Biometric services over Internet of Things (Internet of things is a concept of Integrating embedded system with Internet by binding through cloud services) to offer an unique solution for ATM security and transaction that not only integrates biometric authentication but also takes care of the case where user can not be present in the booth.

Offer Biometric scan (Both Fingerprint & Face) and authenticate

- Validate Pin number of ATM
- Release Money

- Actual User should get an alert message in his mobile along with photo of the person in the ATM booth. The message opens a Face Biometric App in Android Mobile. Wherever user is, he can verify his face remotely through his device.
- Upon face verification, user needs to supply ATM pin through his mobile.
- Upon verifying by actual user, transaction window for selecting money will be presented to user in the booth.
- If any false user then the buzzer in ATM centre should ring and ATM location to be sent to user and nearest police station.

CONCLUSION

As we all know, these days most of the ATMs have been attacked by the robberies. From the first ATM being installed in the world till now, ATM has gradually become a target of crimes. While with the constantly evolving of reported ATM crime ATM industry has begun to pay attention to the safety of ATM, even cardholders.

Monitory transaction in ATM is one of the most vulnerable security threat in the banking process. Over last few years several instances of ATM misuses are being reported which includes card skimming and duplicating ATM cards and shoulder surfing. Virtually user has no control over the amount being withdrawn from the ATM in his absence. Therefore ATM security has been an evolving domain. Some banks recently have incorporated fingerprint based security for ATMs, but even such solutions do not solve the afore mentioned problem.

This paperwork highlighted the execution investigation for unique mark biometric system. The success assessment has been done on reviewed research with existing techniques and various parameters. The review considered different issues identified with unimodular biometric frameworks. The security and protection worries that biometric verification raised cannot be over looked. It is over viewed that programmed unique mark acknowledgment. It is one of the best competitor biometric innovations for explosives security from an investigation of the prerequisites security, convenience, toughness, estimate, frame factor, protection and operational temperature run.

We chose to work on this topic as its benefits are not just restricted to any single company or college but its usage is worldwide. So we are adding upon new technologies to improve security for our hard earned money.

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SIGNIFICANCE OF ENCRYPTION IN CYBER SECURITY

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Abstract

With the rapid evolution of computers and the need for them to be connected and share data, there is a need to protect and secure being shared between these computers. These data can be encrypted so they do not give access to third party users or prevent unauthorized access and can be transmitted through network of computers. The data in the form of plaintext is being encrypted with a function and a key to derive a cipher text. The cipher text can only be decrypted with the key value which was used to encrypt the data or message. Encryption of data ensures data confidentiality, integrity and authentication. With the constant threats and attacks on data there is need to secure personal and confidential files and documents from tampering from third parties. To ensure proper security on the cyber space we need to have stronger pass keys and more secure networks for which we can transmit data. Encryption is a very essential factor in cyber security because it ensures that the internet network of things is safer for there is a vast number of information which is under threat from external forces.

INTRODUCTION

Cyber security is a growing and fundamental part of safety and security for individuals, organizations and society. We humans have arrived at an age whereby our lives are slowly being integrated with computers. When the computer was first introduced it could only do a handful of operations like writing a text and then providing the same in print format but with the evolving technologies, we are now being woken up by computers; our coffee is being made by a computer, we even drive to work in a machine that is controlled by hundreds of computers. Indeed, we are surrounded by computers we don't even think of them as computers anymore as they have become part of our daily lives.

These computers are not just omnipresent but they are connected. In the past a computer was connected to nothing at all but the socket on the wall and a printer to print out whatever information we needed. A few years down the line the internet was introduced as a link between two university researchers. The first email was sent in 1971 but now we live in a world where

40 trillion emails are sent in a single year, the first website was created by 1991 but buy the year 2013 that number has grown and known to be over 30 trillion individual web sites.

The internet now has evolved from mainly sending emails and compiling information: it now handles the linking of electronic devices to other remote devices we find in our households. Cisco (the company in charge of handling the back end of the company) has estimated that by the end of 2012 there were over 8.7 billion devices connected to the internet and that number is estimated to increase to over 40 billion by 2020 as cars, fridges, medicals devices, gadgets not yet invented or imagined all link in. In short, domains that run from commerce to communication to the critical infrastructure that powers our modern day civilization all operate on what has become a globalized network of network.

With every device that is connected to the internet, it faces a difficult challenege some form of cyber-attack and some degree of cyber security is required. For all the hope and promise of the information, ours is also a time of "cyber-anxiety"; the cyber area has been described as the "single greatest emerging threat".

EMERGENCE OF ENCRYPTION

In the information age, information security issues are increasingly important. We often need a measure to protect our data, to prevent those people with bad intentions who would want to steal or destroy it. Therefore, there is a grave need for strong security measure to protect confidential data from theft and tampering. The way to solve this problem is data encryption.

An encrypted network, not only to prevent an unauthorized users to eavesdrop on the network, but to also to deal with other malicious software. In some cases, users may need to encrypt some confidential files, not because they want to transfer the file on the network, but worry about someone stealing a computer password to obtain the confidential file. Identity authentication is based on encryption technology; its role is to determine whether the user is true. Network security requires confidentiality, integrity, availability, can be achieved using cryptographic techniques. It can be said that cryptography is one of the practical means of protecting information on large scale communication networks.

With the rapid development of modern information and the popularity of the network, people need not go out to every part of the world to understand the world events and learn some important information. For our own personal privacy not to be leaked, data encryption is very important to us, the data encryption can be used in various fields, and it affects all aspects of our lives.

OVERVIEW OF CRYPTOGRAPHY

Cryptography is an ancient disciple but for the average person it can be somewhat strange. For a long time, only in a very small range such as military, diplomatic, intelligence and some other few departments have made use of cryptography. Computer cryptography is the science that studies the encryption, decryption and transformation of computer information. With the development of computer network and computer communication technology, computer cryptography has received unprecedented attention and has been rapidly popularized and developed. In advanced countries it has become the main research direction of computer security.

Encryption and Decryption can be translated to "cipher" and "decipher". The message is called "plain text", and the process of using a method to disguise the message and hide its contents is called encryption. The secret message is called as "cipher text", and the process of converting the cipher text into a plaintext is called decryption. The plaintext can be a bit stream, a text file, a bitmap, a digitized speech stream, or a video image.

An encryption function acts on a message and it converts this into cipher text which cannot be understood. A decryption function acts on the cipher text which is the by-product of encryption and it translates the cipher text back to plaintext which is understandable. This is the basic process of how encryption works over a network between two computer systems.

FINDINGS

Key and Algorithm

K can be an arbitrary value in many values, and the range of possible values for key K is called the key space.

Encryption and decryption operations use this key, that is, the operation depends on the key, and K as the subscript expression, encryption and decryption function expression:

EK (M) = C

DK (C) = M

DK (EK (M)) = M

Some algorithms use different encryption keys and decryption keys, that is, the encryption key K1 is different from the corresponding decryption key K2. In this case, the encryption and decryption function expressions are:

EK1 (M) = C

DK2 (C) = M

Caesar plus decryption algorithm

Julius Caesar uses a simple replacement password - called Caesar cipher. Caesar is first applied to the military (Gallic Wars), his replacement rules: each letter with the subsequent third letter to replace.

Caesar password can be described as follows:

Plain: ABCDEFGHIJKLMNOPQRSTUVWXYZ

Cipher: DEFGHIJKLMNOPQRSTUVWXYZABC

Symmetry Algorithm

Key-based algorithms usually have two types: symmetric algorithms and public key algorithms (asymmetric algorithms). Symmetric algorithms are sometimes called traditional cryptographic algorithms, and the encryption key can be derived from the decryption key, which in turn is established.

In most symmetric algorithms, the encryption and decryption keys are the same. The symmetric algorithm requires the sender and the receiver to negotiate a key before secure communication. The security of a symmetric algorithm depends on the key, and the leaking key means that anyone can encrypt and decrypt the message. The encryption and decryption of the symmetric algorithm is expressed as:

EK (M) = C

DK (C) = M

Public key algorithm

The encrypted key of the public key algorithm (asymmetric algorithm) is different from the decrypted key, and the decryption key cannot be calculated from the encryption key or cannot be calculated at least in the time that can be calculated.

It is called the public key algorithm because the encryption key can be made public, that is, the stranger can encrypt the information with the encryption key, but only with the corresponding decryption key to decrypt the information. The encryption key is called a public key (referred to as public key), and the decryption key is called a private key (referred to as a private key).

The public key K1 is encrypted as:

EK1 (M) = C

Public key and private key is different; the private key K2 decryption is expressed as:

DK2 (C) = M

Suggestions

Purpose of encryption

Encryption algorithm to achieve the purpose of four points:

(1) To provide high-quality data protection, to prevent unauthorized disclosure of data and unaware changes;

(2) Has a very high complexity, making the cost of deciphering more than possible benefits, but also easy to understand and master;

(3) The security of the cryptosystem should not depend on the confidentiality of the algorithm; its security is based only on the confidentiality of the encryption key;

(4) To achieve economic, effective operation, and applies to a variety of completely different system applications;

Encryption tips

In the process of using the computer, we are dealing with the password all the time. If you set the password by someone else guess or decipher, then it will lead to important information, personal privacy is leaked. So how to set a safe password is a major event associated with each. Here we introduce you to set the password in the process must comply with the ten military regulations.

(1) As long as possible;

(2) As unfamiliar as possible;

(3) As complex as possible;

(4) From the front to the previous order;

(5) Easy to forget the password;

(6) Do not use the same password;

(7) Frequent replacement of the password;

(8) Do not save the password;

(9) The correct password;

(10) The most important self-safety awareness;

Relevance of encryption to cyber security

To understand the attack and mode of attack we need to tackle the principles of security to tackle the problem of attack. The following are security principles that encryption can be applied to which can enable organizations must put in place before they send data on the internet or store data

- Confidentiality: It refers to the fact that only intended recipient must be able to access the message sent by a sender. If someone else accessing the message in transit, confidentiality is compromised. Such attack is known as Interception. This can be prevented when the messages are encrypted before being sent to the recipient; this ensures that even if the messages are intercepted their contents are encrypted and cannot be accessed.
- Integrity: The contents of the message must not be changed by any means, otherwise integrity gets lost. These changes can be beneficial to the attacker like financial gain, or it is just to create a nuisance to the recipient as they are not able to read any relevant information. Attack made on to compromise the integrity is called Modification. Encrypted messages cannot be modified which preserves this principle because when they are intercepted they cannot be read or accessed which preserves the information of the organization of sender of the message.
- Availability: Normal services provided or operations performed by computer server must be available to the legitimate users without any interruptions or downtimes. Attacks that compromise the availability of the services are known as Interruption or Denial-of-Service. Networks can be encrypted and access granted to legitimate users and access is restricted to third party users.
- Authentication: Authentication helps to ensure the correct identity of sender of the message. Attacker can pose as a different user and may try to communicate with the victim and try to gain the critical information. Such attack can be known as Fabrication. This can be prevented if the details of the sender are encrypted over the network to prevent the attacker from gaining access to the sender on the network.
- Non-Repudiation: Non-repudiation refers to the fact that sender refuses sometimes for the transmission of the malicious messages. Therefore, it is important to have some methodology to verify the original sender of the message. These methodology can be employed using encryption and decryption techniques which have keys. When a message is encrypted with a certain function key, that key would be required the encrypted message. This can be used to test the genuineness of the message being sent.

CONCLUSION

With the continuous development of Internet technology and scale, the scope and field of its application in the continuous expansion and promotion of security issues, but also gradually become increasingly prominent. Especially in the financial, e-commerce, database areas, the security requirements are higher. On the basis of demand, with the traditional method to solve the security problem, there are great drawbacks. More and more users are aware of the importance of data confidentiality. Data sensitivity, confidentiality will have a means or method to solve, so the use of data and dissemination of encryption is very important, must greatly guarantee their encryption reliability and security. But security is a combination of technology, management and regulation, and absolute security is not the only way to minimize the potential threat of the network through all efforts. So encryption is the core of network security, file security, e-commerce security. Encryption algorithm, key management, field type processing problem is an important research topic of network database encryption and fi le encryption.

In this paper, the data confidentiality technology is studied under such a premise, and the key technologies of data encryption, encryption method, data encryption technology and data encryption are analyzed. After analysis and comparison, the advanced encryption technology is selected, encrypt the data. This will maximize the protection of our data security.

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INFORMATION ABOUT CYBERCRIME AND MODES OF CYBERCRIME SECURITY

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Abstract

As we all know that cyber crime has been one of the common practices made by the computer expert. In the paper I have mentioned some of the impact of the cyber crime. Cyber crime is that activities made by the people for destroying organization network stealing others valuable data ,documents ,hacking bank account and transferring money to their own and so on. My paper gives detailed information regarding cyber crime, types ,modes of cyber crime and security measures including preventation to deal effectively with cyber crime…….finally I will go for the research on the crime made by the misuse of cyber crime in some of the field and areas like financial crimes, cyber pornography, online gambling, intellectual property crimes, forgery, cyber defamation, cyber stalking, email spoofing, email bombing, virus /warm attack, web jocking, data diddling etc. and also tried to find which type of cyber crime is most practice in the world and finally I will get the main objective of my term paper. like this my term paper will be complete.

INTRODUCTION

In Malaysia, ICT infrastructure had been use in many organizations for doing their activities in efficiently and effective to support a quality of production. The study will discuss about more issues of digital security in the usage of ICT services. Security issues of the digital Journal of Education and Social Sciences, Vol. 8, Issue 1, (October) ISSN 2289-1552 2017 280

- Errors and accident - These threats are happen from by many agents like people errors, procedural errors, software errors, electromechanical problems and dirty data problems.
- Natural and other hazards - Some of these threats can causes all the systems or applications will be down overall and permanently.
- Crimes against the ICT infrastructures -This kind of the threat is about illegal act perpetrated against the ICT infrastructures.

- Crimes using the ICT infrastructures - Before that, it had discussed about how the crimes act to the ICT infrastructures but now how the crimes happen by using ICT infrastructures.
- Malware - It is a computer programs or software that can causes destruction or make slowly the operations of the computers, systems or other ICT services and infrastructures.
- Computer criminals. - This is about types of the people who's involved in this ICT threats. People in the organization such as the employees and the people outside the organizations such as suppliers, customers, hackers, crackers and professional criminals can be categorizing as that types. In the many cases of the computer criminals, the organizational employees do it itself. This is happen because they can access the ICT infrastructure own by the organizational from the inside of the organizational. They may be use the ICT facilities in the organization in the dishonesty purpose for his personal profit, sell the information or steal the hardware. Outside users such as suppliers and customers may be having a link or certain access to the ICT infrastructure of that organizational. So, they can use this ability to make a threat to the ICT facilities of that company. But in the cases of the hackers and crackers, which are usually categorized as the outside people, are the peoples that are can get the unauthorized access to the ICT infrastructure of the company. The different between these two kinds of users are the hacker does it for challenging but the cracker does it for malicious purpose. Professional criminals are members of the crime are organizational. They didn't only using ICT but also does the illegally business or process like selling the drugs or gambling. All this threat to the ICT infrastructure had become more seriously to the any organizations because of the increments of the more sophisticated user which is using its ability to make an unauthorized access and make several software that can break the any organization's digital security. By this problem any organization must have its control and safeguarding on their ICT infrastructures that will be in details on the next part.

ICT SECURITY MANAGEMENT

The definition of Information Security based on ISO/IEC 17799:2005 is "preservation of confidentiality, integrity and availability of information, in addition, other properties such as authenticity, accountability, non-repudiation and reliability can also be involved". Information has many definitions as follows:

- Information is about someone or something consists of facts about them.
- Important or useful facts can be obtained as output from a computer by means of processing input data with a program.
- Information is an asset which is like other important business assets which is has value to an organization and consequently needs to be suitably protected.
- Information can exist in many forms. It can be printed or written on paper, stored electronically, transmitted by post or using electronic means, shown on films or spoken in conversation. The core elements of information security management are to ensure the information assets, namely the following aspects
- Confidentiality
- Availability Upon the successful implementation and testing of a new and improved security profile, an organization might feel more confident of the level of protection it is providing for its information assets (A. Vance, 2012). By the time the organization has completed implementing the changes mandated by an upgraded security program, a good deal of time has passed. In that time, everything that is dynamic in the organization's environment has changed (A.C. Kim, 2012). Some of the factors that are likely to shift in the information security environment are:
- New assets are acquired.
- New vulnerabilities associated with the new or existing assets emerge.
- Business priorities shift.
- New partnerships are formed.
- Old partnerships dissolve.
- Organizational divestiture and acquisition occur.
- Employees who are trained, educated, and made aware of the new policies, procedures, and technologies leave.
- New personnel are hired possibly creating new vulnerabilities. Journal of Education and Social Sciences, Vol. 8, Issue 1, (October) ISSN 2289-1552 2017 281 If the program is not adjusting adequately to change, it may be necessary to begin the cycle again. That decision depends on how much change has occurred and how well the organization and its program for information security maintenance can accommodate change (C. Melara, 2003). If an

organization deals successfully with change and has created procedures and systems that can flex with the environment, the security program can probably continue to adapt successfully. The CISO determines whether the information security group can adapt adequately and maintain the information security profile of the organization or whether the macroscopic process of the SecSDLC (Security System Development Life Cycle) must start a new to redevelop a fundamentally new information security profile. It is less expensive and more effective when an information security program is designed and implemented to deal with change (J.Fonseca, 2013). It is more expensive to reengineer the information security profile again and again. Management model must be adopted to manage and operate ongoing security program (K.H.Guo, 2012). Models are frameworks that structure tasks of managing particular set of activities or business functions. With that, by assist the information security community to manage and operate the ongoing security program, a management model must be adopted (Tripathi A. Singh, 2011). In general, management models are frameworks that structure the tasks of managing a particular set of activities or business functions.

METHOD AND PROPOSED

Model The usage of ICT services and infrastructures can be disabled or become poorly usage by many factors. It will be down the productivity of businesses in the organizations. All this factors may be become from one of these agents which it is the components of the IT itself whether it is in indirectly or not indirectly such as peoples, procedural, software errors, applications, electromechanical problems, dirty data, and hardware and communication parts. The methodology of the proposed research will be carried out based on the fundamental of the experimental information technology method. This method examines the research work to demonstrate two important concepts: proof-of-concept and proof-of-performance. To demonstrate the proof-of-concept, some important steps were performed. First, the research area within security maintenance is critically reviewed to provide the overview that leads to the justification of a valid research problem. Then, a novel model of the security maintenance framework is designed and analytically analyzed. This includes the creation of the mechanism for managing security model, processes and metrics in relation to use of security maintenance. Proof-of-performance is demonstrated by integrating the proposed security model, processes and metrics within a novel conceptual framework of the security maintenance in ICT infrastructure. Then, it will be assessed using proposed framework. In those proposed framework, various parameters and workloads were used to examine and demonstrate the viability of the proposed solutions compared to other similar baseline solutions. Also, analytical analysis of some proposed security metrics is performed to evaluate the correctness. Specifically, the main stages involved in the research are divided into three: • Data Acquisition Stage • Investigation and Modeling Stage • Analysis and Evaluation Stage The proposed conceptual framework for security maintenance in mid-size ICT infrastructure represents as an integration of ICT security management model and concepts covering several facets of information security aspects and processes. The framework draws from multiple areas including software vulnerability, risk assessment, attack motivation, threat detection, deterrence and security objective. It is based on an earlier model for information security management model. The framework has been enhanced with the inclusion of combination of constructs and refined through the recalibration of cyber or ICT security management model to ensure that potentially anomalous situations are prevented. **CONCLUSION**

Actually, a novel conceptual framework of the security maintenance had proposed to make any ICT infrastructures and services that follow those guidelines will accessible properly and secure by any authorized peoples. However, there are no security aspects had been discuss in details for ICT services and infrastructure's maintenance. Then, the documentation had been provided as a manual access which is needs to follow the guidelines. Now days, security should be concern in any ICT services and infrastructures including in any proposed maintenance model and guidelines. Then, its need overall coverage to make the guidelines become more effective and easy to use. Security maintenance is more important in cyber space for any organizations especially for ICT services and infrastructure usage in safe and secure manner.

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THREAT INTELLIGENCE - MISCONCEPTIONS AND REALITY

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Abstract:

The current generation is in an era of exponential advancement in technology, and every new technology comes with an inherent risk of being exploited for malicious purposes. We are all aware that the protection of data, especially in terms of cyber security, is vital. This is where Cyber Threat Intelligence (CTI) or Technical Threat Intelligence (TTI) comes into play. Threat Intelligence is organized, analysed and refined information about potential or current attacks that threaten an organization. It includes in-depth information about specific threats to help an organization protect itself from the types of attacks that could do them the most damage. The major concern is that, to this day there isn't enough awareness and CTI is considered to be an elusive concept. The aim of this presentation is to address the misconceptions and elucidate on its functioning. In today's environment, there isn't enough awareness on the need for Threat Intelligence. In this paper, I will be discussing about the challenges that are faced by organizations in maintaining the privacy of the content that they are accounted for. There are three infamous cyber threat intelligence myths that are dealt with in this article. I would also like to throw light on the reasons behind organizations hesitating to approach Threat Intelligence vendors and how this situation can be overcome.

Keywords: Threats, intelligence, myths, data, organizations.

INTRODUCTION

In the context of military/business/security, intelligence is information that gives a strategic advancement.

What exactly is meant by Threat intelligence?

Threat Intelligence can be defined as proactive measures taken against potential threats that are anticipated based on collected evidence.

Figure 1. Threat Intelligence process [1].

The primary purpose of TI is to help organizations understand the risks of threats and to help them overcome these.

Scenarios in which organizations may require Threat Intelligence.

Threats come from internal as well as external sources. Owing to this, organizations are under tremendous pressure to manage threats. Even if raw data is available, it is not an easy task to analyze and prioritize things. This is where the concept of Threat intelligence is helpful.

The categories of threats and the indicators of compromise [2] are illustrated. (Table 1).

Why do organizations hesitate to approach TI vendors?

Using the same words often doesn't imply the same thing for different people. Similarly, there are many misconceptions regarding Threat Intelligence, especially considering the situations where TI vendors requested for the signing of a non-disclosure agreement, which is reasonable.

Myths and Reality.

They are three widespread myths regarding Threat Intelligence that generally contribute to confusions [4].

Myth #1:

We can get all the threat intelligence we need from internal data and logs. This is a reactive approach, instead of a proactive one (which has proven to be efficient time and again). You can only *respond* to security events that are happening on your network, instead of *preventing* events from ever happening in the first place. External threat intelligence data, on the other hand, can show you how your industry, technologies, and even your specific digital assets are being targeted — with relevant information on new vulnerabilities, exploits, and malware. You will also be able to identify threats that your internal logs can't find, such as spear phishing attacks or malware targeting industry-specific hardware or software. This saves time for your information security team, which they might otherwise spend chasing false positives or threats that have little to no impact on your business.

Category	Indicators of Compromise	Examples
Network	• IP addresses • URLs • Domain names	Malware infections targeting internal hosts that are communicating with known bad actors
Email	• Sender's email address and email subject • Attachments • Links	Phishing attempts where internal hosts click on an unsuspecting email and "phone home" to a malicious command and control server
Host-Based	• Filenames and file hashes (e.g. MD5) • Registry keys • Dynamic link libraries (DLLs) • Mutex names	External attacks from hosts that might be infected themselves or are already known for nefarious activity

Table 1. Categories and examples of threats [3].

Myth #2:

External threat intelligence is just a matter of tapping into data feeds. External threat intelligence comes in many forms — vulnerability feeds, targeted threat feeds, social media feeds, dark web alerts, and nation-state warnings, just to name a few. Merely obtaining the data isn't sufficient; the data is further evaluated and put into context to understand how it affects the particular organization. It's also important to correlate data from many feeds. Multiple perspectives are usually required to truly evaluate the seriousness of a particular threat to the environment, and to ensure that they are discovered at the earliest.

Myth#3:

Threat intelligence experts can easily analyze threat data feeds. There is simply too much information, and to assess these, human expertise is not enough. Humans on their own don't have the capacity to absorb and understand all the variables and all the "if-then" paths of a potential threat. Certain tools and processes are required to manage all the information and to combine external threat intelligence data with internal data. Before feeding external threat intelligence data into a SIEM system(Security information and event management[5]), the data has to be analyzed by correlating, stripping, and synthesizing the feeds, and then putting it all into context based on analysis from other feeds and data sources. Only then will the intersection of external and internal data make sense. By automating the analysis process, information security experts can then focus on the output that first identifies the true red flags, as well as the false positives. The team can then make sure it focuses its efforts on mitigating the threats that can do the most potential harm to the business.

Conclusion:

Although the concept of Threat Intelligence could be refined and could be made to be more lucid, the points emphasized in this presentation are to support the usage of the same. The major concern seems to be appropriate awareness amongst businesses/organizations, and once they are addressed, there will be much more efficient usage of TI.

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DEPARTMENT OF SCIENCE

ANKURAM 2018

MODERN APPROACHES IN SCIENCE AND MATHEMATICS

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Abstracts

FLAVONOIDS IN MANGROVES: A COMPARISON

Jyothismitha N. , Rubyka B. K.

St. Francis de Sales College, Bangalore-100

Abstract:

Mangroves produce secondary metabolites and it is estimated that some 20% of the total carbon fixed by photosynthesis is channelled into phenylpropanoid pathway, thus generating the majority of naturally occuring phenolics, such as flavonoids. Flavonoids are diphenylpropanes (C6–C3–C6) occurring ubiquitously in edible plants. They are common components in the human diet. Flavonols and flavones are flavonoids of particular importance in the food components as they have been found to possess antioxidant and free radical scavenging activities. Epidemiological studies have indicated that their consumption is associated with a reduced risk of cancer. The aim of this study is to analyse the available qualitative and quantitative data of flavonoids from different plant sources to make a comparison of the existing information on the presence of food flavonoids in mangroves. The aim of this comparative study is to evaluate the possibilities of the use of mangroves as alternative natural sources for these antioxidant chemicals of extensive pharmaceutical and neutraceutical relevance.

Keywords: Flavonoids, mangroves, Quercetin

1. Introduction

Flavonoids are widely distributed in plant foods and therefore important constituent of human as well as animal food. Many plants are considered to be excellent sources of flavonoids that could be used, not only to preserve foods, but also to contribute to a healthy diet (Justesen and Knethsen, 2001). Dietary flavonoids are considered to be even more powerful antioxidants than vitamins C and E (Sokol-Letowska *et al.*, 2007).

Flavonoids possess many biochemical properties, but the best described property of almost every group of flavonoids is their capacity to act as antioxidants. The antioxidant activity of flavonoids depends upon the arrangement of functional groups about the nuclear structure. The configuration, substitution, and total number of hydroxyl groups substantially influence several mechanisms of antioxidant activity such as radical scavenging and metal ion chelation ability (Heim *et al.*, 2002; Kumar & Pandey., 2013). The B ring hydroxyl configuration is the most significant determinant of scavenging of reactive oxygen species (ROS) and reactive nitrogen species (RNS) because it donates hydrogen and an electron to hydroxyl, peroxyl, and peroxynitrite radicals, stabilising them and giving rise to a relatively stable flavonoids radical (Cao *et al*., 1997). Because of their capacity to chelate metal ions (iron, copper, etc.), flavonoids also inhibit free radical generation. Quercetin in particular is known for its iron-chelating and iron-stabilising properties.

Food derived flavonoids, especially; flavonols (kaempeferol, quercetin and myricetin) and flavones(apigenin and luteolin) are of particular importance and are reported to exhibit multiple biological functions such as anti-allergenic, anti-artherogenic, anti-inflammatory, antimicrobial, anti-thrombotic, anti-oxidant, cardioprotective and vasodilatory effects (Shahidi *et al*., 1992; Manach *et al*., 2005) and have significant vitamin C sparing activity, with myricetin being one of the most active (Miean and Mohamed, 2001). Vegetables, fruits, and beverages are the main dietary sources of these flavonols and flavones (Hertog *et al*., 1992, 1993). The structures of apigenin, luteolin, myricetin, quercetin and kaempferol are given in Fig 1.

2. Flavonoids in mangroves

Mangrove forests not only play an essential role as the source of food for marine organisms (Nagelkerken and Velde, 2004) but these are a good source of food for human based on their nutrient potentiality (Kirui et al., 2006; Carvalho et al., 2007). Several mangrove plants are consumed as the medicinal plants in traditional medication for many years (Bandaranayake, 2002).

It was found that the Rhizophoraceae mangroves showed comparatively higher antioxidant capacity which can be attributed to their higher phenolic content. Additionally, the mangrove plants of Rhizophoraceae family are the source of potent antiviral substances (Premanathan et al, 1999). The Rhizophoraceae family of true mangrove plants is the most populated and contains widely distributed species. Today, high performance liquid chromatography is established as the most convenient method which enables separation and identification of flavonoids using various detection systems (De Rijke et al. 2006). High performance liquid chromatography methods are developed for qualitative and quantitative analyses of flavonoids in various plant materials (Saddique et al. 2011; Olszewska 2007).

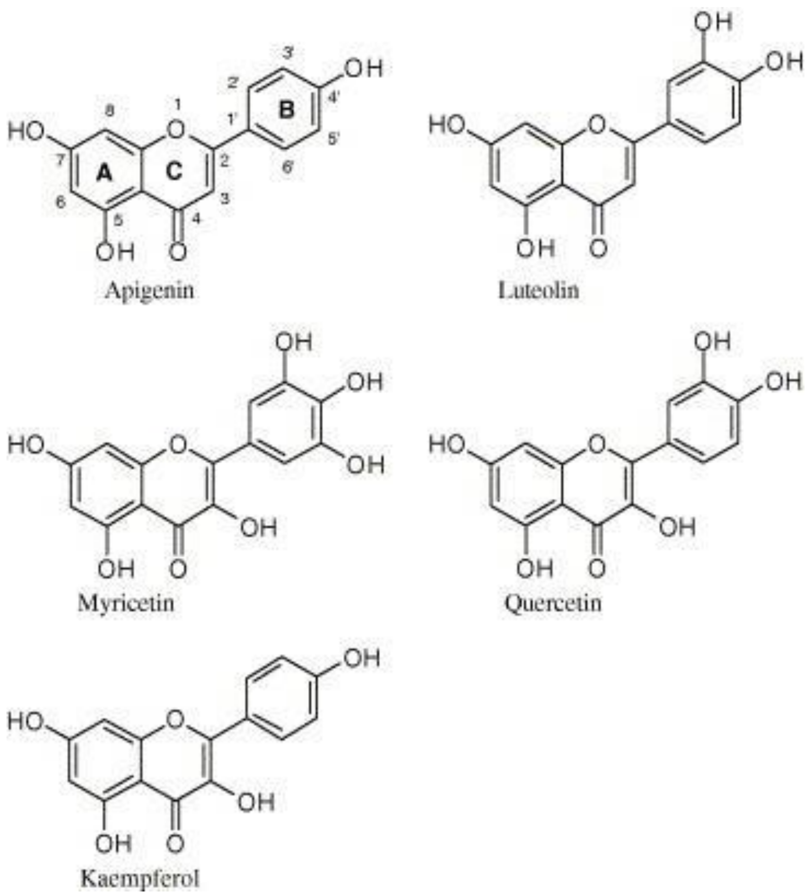

Figure .1 Structures of apigenin luteolin, myricetin, quercetin and kaempferol

The mangrove plants of the family *Rhizophoraceae* show comparatively higher antioxidant capacity which can be attributed to their higher phenolic content (Arivuselvan *et al*., 2011; Agooramoorthy *et al*., 2008). Also, they are source of potent antiviral substances (Premanathan *et al*., 1999).

3. Inter-specific variations of flavonoids among mangroves

Based on the study conducted on five rhizophoraceae mangroves (Table 1) from Kochi, Kerala, the variation of the three flavonols myricetin, quercetin and kaempferol among the plant species is shown in fig 2 (Nebula, 2016) .

As per the study the flavonol concentration dominates the flavones in the mangrove plant parts. Quercetin is the flavonoid found to be present in greater concentration in the plant tissues. In this study, the genus *bruguiera* showed low levels of quercetin when compared with the other two; Kandelia and Rhizophora. Next to *K. candel*, *Rhizophora* mangroves possess higher quercetin concentration. *Bruguiera* plants showed lower quercetin content than the other plants.

Previous studies also report quercetin as a major flavonoid present in fruits and vegetables (Hertog *et al*., 1992; Justesen and Knuthsen, 2001). Eventhough the leaves of *R. apiculata* and the bark of *K. candel* lacked myricetin, it showed its presence all the other plants considered for comparison.

Species	Genus	Family	Order	Location
Bruguiera cylindrica	*Bruguiera*	*Rhizophoraceae*	*Malghiales*	Puthuvypu, Kochi
Bruguiera gymnorrizha	*Bruguiera*	*Rhizophoraceae*	*Malghiales*	Puthuvypu, Kochi
Kandelia candel	*Kandelia*	*Rhizophoraceae*	*Malghiales*	Valanthakkad, Kochi
Rhizophora apiculata	*Rhizophora*	*Rhizophoraceae*	*Malghiales*	Aroor
Rhizophora mucronata	*Rhizophora*	*Rhizophoraceae*	*Malghiales*	Puthuvypu, Kochi

Table 1. Mangrove plants considered as source of flavonoids

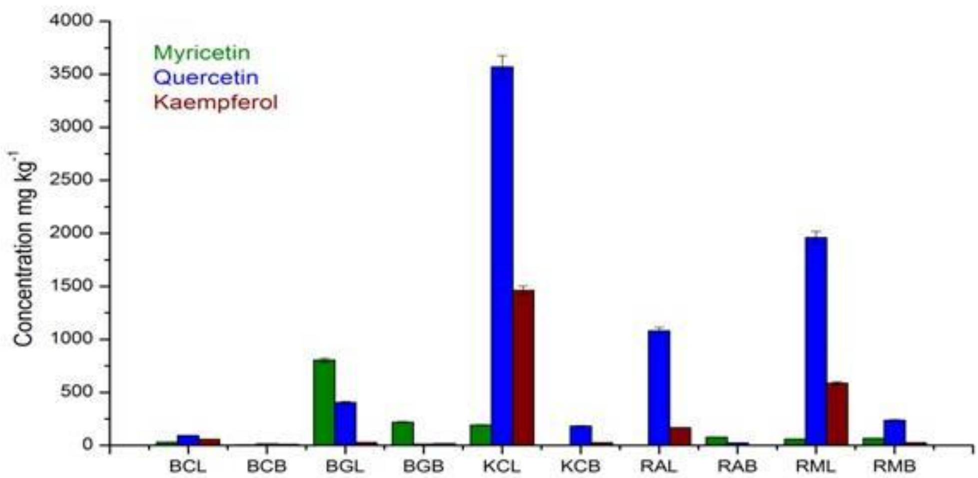

Figure 2. Variation of myricetin, quercetin and kaempferol concentration among *Rhizophoraceae* mangroves (Ref: Nebula, 2016)

The flavonol, kaempferol showed its presence in all the *Rhizophoraceae* mangroves under investigation. It showed highest value in *K. candel* while it was absent in the bark of *R. apiculata*. Next to the Kandelia species, the genus Rhizophora was found be the best contributor of kaempferol. The *bruguiera* plants showed very low concentration of kaempferol in their tissues.

Flavones, luteolin and apigenin have restricted distribution in the family *Rhizophoraceae* (Fig.3). Luteolin was found in detectable levels only in *B. cylindrica* which is reveals its chemotaxonomic relevance. In all others species this flavone was not detected. The presence of apigenin was detected only in *K. candel* and *R. apiculata*. It was not detected in the genus Bruguiera pointing towards its chemotaxonomic importance. Comparing the flavonoid composition of the five species reveals greater similarity among *R.mucronata* and B. *gymnorrizha* having only quercetin, myricetin and kaempferol in their leaves and bark. The plants of the same genus, *R. mucronata* show distinct flavonoid composition with respect to the absence of myricetin and apigenin. Myricetin is not detected in the leaves of *R. apiculata* while apigenin was present only in its leaves but not in *R. mucronata* showing the biochemical distinctiveness of the two plants.

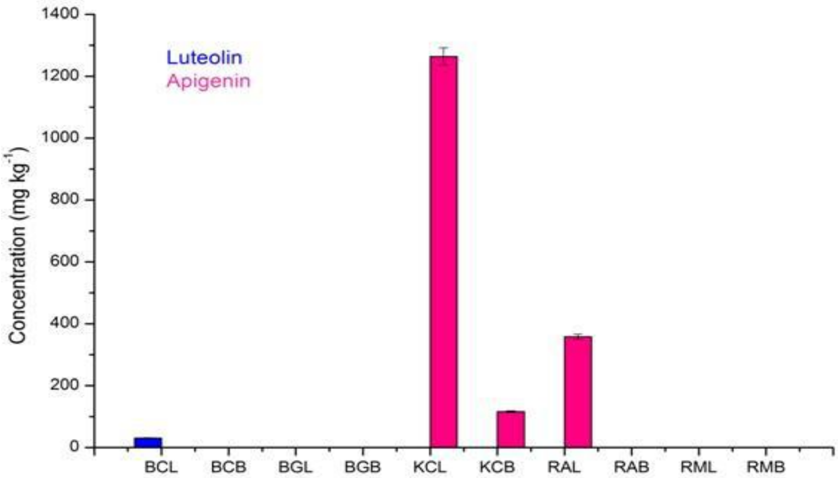

Figure 5. Variation of luteolin and apigenin concentration among *Rhizophoraceae* mangroves (Ref:Nebula, 2016)

The presence of flavonoids in plant foods is largely influenced by genetic factors and environmental conditions and other factors such as germination,degree of ripeness, variety, processing, and storage also influence the content of plant phenolics (Aherne and O'Brien, 2002; Anderson and Markham, 2010). The aglycone results do not completely agree with the existing classifications. Such disagreement in the aglycon content and classical taxonomy is been previously reported in family *Dipterocarpaceae* in Sri Lanka (Joshi *et al*., 2004) suggesting the need for a revision of the species and sectional levels in the classical taxonomy based on morphological parameters. Eventhough the present findings are useful in chemical characterisation of *Rhizophoraceae* mangroves more comprehensive investigation on other areas, such as molecular, cytological, ecological as well as biogeographical aspects are also needed to draw the specific relationships of these plants as the interaction of a number of factors, including species differences, the light

Plant name/parts	Myricetin mg/kg	Quercetin mg/kg	Luteolin mg/kg	Kaempferol mg/kg	Apigenin mg/kg	References
B. cylindrica Leaves	29±0.78	93.7±2.03	30.5±0.89	56±1.09	ND	Nebula & Chandramohanakumar 2017
B. cylindrica Bark	4.8±0.10	13.96±0.02	ND	9±0.14	ND	Nebula & Chandramohanakumar 2017
B. gymnorrizha Leaves	803±19.09	404±12.12	ND	28±0.84	ND	Nebula & Chandramohanakumar, 2017
B. gymnorrizha Bark	219±5.57	11±0.33	ND	16±0.48	ND	Nebula & Chandramohanakumar, 2017
K. candel Leaves	192±3.76	3570±107.1	ND	1463±39.89	1264±27.92	Nebula & Chandramohanakumar, 2017
K. candel Bark	ND	182±5.46	ND	26±0.78	116±3.09	Nebula & Chandramohanakumar, 2017
R. apiculata Leaves	ND	1079±32.37	ND	166±3.98	358±8.74	Nebula & Chandramohanakumar, 2017
R. apiculata Bark	77±1.31	23.7±0.71	ND	ND	ND	Nebula & Chandramohanakumar, 2017
R. mucronata Leaves	59.8±1.09	1960±58.8	ND	585±14.55	ND	Nebula & Chandramohanakumar, 2017
R. mucronata Bark	66±1.23	237±7.11	ND	26±0.78	ND	Nebula & Chandramohanakumar, 2017
R. mucronata Bark	-	2.352	-	-	-	ROHINI RM*, AMIT KUMAR DAS 2011
Onion	ND	5076	ND	ND	ND	Hertog et al 1992
Lettuce	ND	319.00	ND	ND	ND	Hertog et al 1992
Celery	ND	ND	358	ND	1787	Hertog et al 1992
Spinach	ND	50	ND	30	170	Dehkharghanian et al., 2010
Broccoli	62.5	60	74.5	ND	ND	Miean and Suhaila 2001
Cabbage	147.5	ND	ND	ND	ND	Miean and Suhaila 2001
Black tea	303	1070.00	ND	118.00	ND	Miean and Suhaila 2001
Grape	ND	15.00	ND	<2	ND	Hertog et al 1992
Plum	ND	9.00	ND	<2	ND	Hertog et al 1992

Table 1. Comparison of flavonoids in mangroves with fruits and vegetables

regimes under which the plants were grown, as UV-B irradiation is known to induce the accumulation of flavonoids (Li *et al*., 1993; Lois, 1994; Crozier *et al*., 1997).

4. Comparison of flavonoid agylcons in mangroves with fruits and vegetables

Table 1 shows a comparison of various flavonoids present in the five Rhizhophoraceae mangroves studied by Nebula, 2016 with the flavonoid content reported in various fruits and vegetables by various researchers. It shows that that *Kandelia candel* have the dietary flavonoids in very high concentration than the fruits and vegetables under consideration. When quercetin remains the major flavonoid present in the fruits and vegetables, the mangrove plants shows the presence of different types of flavonoids in single species itself which shows the scope of mangroves as a dietary source of flavonoids.

But most of the mangrove plants are less palatable due to the presence of various chemical compounds like alkaloids and high content of phenolics (Nebula, 2016). Also they possess high fibre content that makes them less palatable. So mangroves can be used as very good source for the extraction of flavonoids like quercetin than using it as a direct food resource.

5. Conclusions

Mangroves contain high amount of antioxidant flavonoids than our routine food stuff which boost our immunity. The variety of flavonoids found in mangroves are more than in fruits and vegetables. K. Candle has a high concentration of the prospective flavonoid Quercetin. Rhizophora mucronata and K. Candle leaves can be used for the extraction of quercetin as well as apigenin. Promote the conservation and protection of mangrove forests through generating awareness about its medicinal values.

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HAWK-EYE TECHNOLOGY- AN OVERVIEW

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Abstract:

In many sports there are many decisions which cannot be determined by human interfaces. So we need to use different types of technologies to determine the decisions perfectly .one of most prominently used technology is HAWK-EYE technology. It is used in sports like cricket, tennis, snookers and in some games. It is a technology where we can determine speed, deviation of ball from actual track etc. Hawk-Eye as the most innovative technology provider in sports broadcasting and is a development that will reinforce the group's presence and influence. It is primarily used by the majority of television networks to track the trajectory of balls in flight. In this article I would like to emphasize on one such technology called "HAWK-EYE" which made modern sports more attractive and errors free. "Hawk-Eye" is one of the most popular technologies used in modern day sports. This technology is being used in many sports like Cricket, Tennis and Golf etc. This technology helps the Umpires, Match Referees in taking the correct decision. In many sports there are many decisions which cannot be determined by human interfaces. So we need to use different types of technologies to determine the decisions perfectly .one of most prominently used technology is HAWK-EYE technology. It is used in sports like cricket, tennis, snookers and in some games. It is a technology where we can determine speed, deviation of ball from actual track etc. Hawk-Eye as the most innovative technology provider in sports broadcasting and is a development that will reinforce the group's presence and influence. It is primarily used by the majority of television networks to track the trajectory of balls in flight.

Keywords: HAWK- EYE, Technology, Cricket

1. Introduction

In the past few decades skepticism about umpiring follies hasn't aIn many sports there are many decisions which cannot be determined by human interfaces. So we need to use different types of technologies to determine the decisions perfectly .one of most prominently used technology is HAWK-EYE technology. It is used in sports like cricket, tennis, snookers and in some games. It is a technology where we can determine speed, deviation of ball from actual track etc. Hawk-Eye as the most innovative technology provider in sports broadcasting and is a development that will reinforce the group's presence and influence. It is primarily used by the majority of television networks to track the trajectory of balls in flight.bated. in the world of sports, where stakes are increasing by every passing minute and an erroneous line call and mean change of fortunes, ther is an increasing resilience on technology to ensure that all arbitrations are unbiased.

Hawk-Eye is a computer system used in cricket, tennis, snookers and other sports to visually track the path of the ball and display a record of its most statistically likely path as a moving image. Hawk-Eye as the most innovative technology provider in sports broadcasting and is a development that will reinforce the group's presence and influence. It is primarily used by the majority of television networks to track the trajectory of balls in flight. It was developed by engineers at Roke Manor Research Limited of UK in 2001. A patent was submitted by Dr Paul Hawkins and David Sherry.

Sport is very important to the public and is also very important from a commercial point of view. As a result sport needs to be as fair as possible and it is important to stop referees from making mistakes. Human error began to play a vital role in decision making at decisive moments.Various sports decided that technology was needed to minimise the chances of human error in such decision making.Sports development coaches were keen to help players to study their past games and improve.

It was developed by engineers at Roke Manor Research Ltd in Romsey, England, in 2001. The patent is held by Paul Hawkins and David Sherry. The system was first used during a Test match between Pakistan and England at Lord's Cricket Ground, on 21 April 2001. It was first used in Tennis in the 2006 US Open.

2. Working of Hawk-eye technology

Hawk eye is the name of a line calling system, which traces a ball's trajectory and sends it to a Virtual reality machine. It is a complex computer system which works via 6 or 7 high performance camera normally positioned in predefined places around the stadium. These cameras track the ball from different angles the video from the cameras is triangulated and combined to create a 3 dimensional representation of the trajectory of the ball. It is accurate within 5mm but is generally trusted as an impartial second opinion in sports.

Cricket is a ball game played within a predetermined area. A system comprising of video cameras mounted at specific angles can be used to take pictures. These pictures are then used to locate the position of the ball. The images are then put together and superimposed on a predetermined model to form a complete visualization of the trajectory of the ball. The model includes, in this case, the pitch, the field, the batsmen and fielders etc. For this to be possible, we need to sample images at a very high rate and thus need efficient algorithms which can process data in real time. Such technologies are widely used today in various sports such as Tennis, Billiards which also fall in the category of ball games played within a restricted area. Our discussion will mostly contain applications which specific to the game of cricket, however in some cases, we will mention how similar techniques are applied in other games.

The flow of hawk eye technology is as shown in Fig 1. It started with the calibration of the cameras. This is required to deal with the problem about the non-uniform distance of the cameras from the playing area due to various sizes of the pitch.

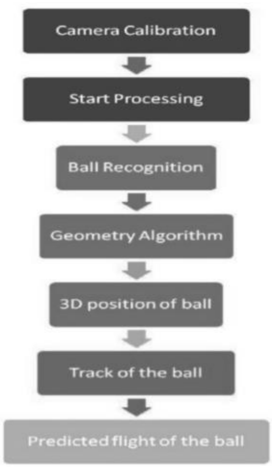

Figure 1. The flow of hawk eye technology

The next step is to start processing the video input which we get from the cameras. In each of the images obtained, the first aim is to find the ball in it. Once this is done, a geometric algorithm is used to look at multiple images (which are 2D) and then combine them cleverly to get the co-ordinates in 3D space. This process is now repeated for multiple times every second (typically at the rate of 100 times per second). Thus, we have the position of the ball in 3D space at many moments in every second. The final step is to process these multiple positions and find a suitable fitting curve which best describes the flight of the ball. As we have sampled the positions of the ball at very short time intervals, the flight of the ball can be very accurately determined. This is the outline of Hawkeye technology.

3. Principle of Hawk eye technology

Triangulation is the process of determining the location of a point by forming triangles to it from known points (Fig 2) . It involves angle measurement instead measuring distances. The point can then be fixed as the third point of a triangle with 1 known side and 2 known angles. Hawkeye takes 2 inputs: A. Video provided by different cameras placed at different places. B. The speed of the ball. The system rapidly processes the video feeds by a high speed video processor. This part of the system can be further divided into major parts:

1) To identify the pixels of the cricket ball in every image taken by the video cameras, an algorithm is used to find the pixels corresponding to the ball in the image obtained. The information which is used in order to achieve this is the size and shape of the ball. After this stage, we have as output the x and y co-ordinates of the ball in each image.

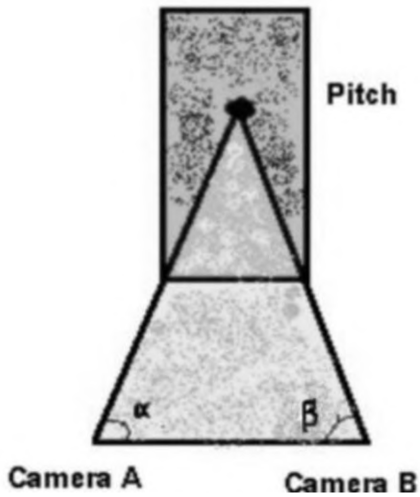

Figure 2. Triangulation

$$l = \frac{d}{\tan\propto} + \frac{d}{tan\beta} \quad \text{----------} (1)$$

$$d = l/\left[\frac{1}{tan\propto} + \frac{1}{tan\beta}\right] \quad \text{-------------} (2)$$

2) Geometric Algorithm: The data of and co-ordinates from each camera is obtained by the Geometric Algorithm. Now, knowing the exact positions of the cameras in space, and the co-ordinates of the ball in more than one of the images, one can determine accurately the position of the ball. Hawkeye incorporates both image analysis and radar technology. It tracks the balls entire trajectory, right from the point where it is released by the bowlers hand, to the point where the batsman hits the ball.

4. Features of hawk eye technology

The main features of hawk eye are:-

- Tracking system.
- Video replay system.

Tracking system – There are 6 high speed vision processing cameras that track the ball from the bowler's hand to batsman.

The system will automatically calculate the following:-

- First it calculates the speed of the ball at the moment it leaves the bowlers hand.
- It then calculates the reaction time of the batsman in response to the ball.
- It also calculates the swing of the ball from the bowler's hand to where the ball pitched.
- Where the ball was bowled from.
- How much the ball bounced?
- How much the ball deviated sideways off the wicket (i.e. seam or spin).
- And finally A prediction of where the ball would have passed the stump.

5. Applications of hawk eye technology

5. 1 Cricket

Hawkeye can accurately figure out the trajectory of the ball and predict the direction of the ball using mathematical calculations. This is used to decide whether a batsman was out. Thus, the system determines the exact point at which the ball struck the batsman. Using the trajectory of the ball up to that point, the system predicts the path the ball would have taken had the batsman not been present in the way. Thus one can know the lateral position of the ball with respect to the stumps as well as the height of the ball at the point when it reaches the line of the stumps.

Figure 3. Application of hawk eye technology in Cricket

5. 2 Tennis

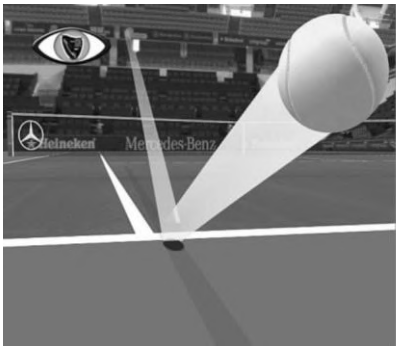

Figure 4. Application of hawk eye technology in tennis

Hawk-eye was first used in tennis in the year 2004(US open tennis). In tennis Hawk-eye generates the impact of the ball whether the ball is "IN" or "OUT" the line of tennis court.

5.3 Football

The much anticipated goal line technology is gradually brought into the foray in the game of football.

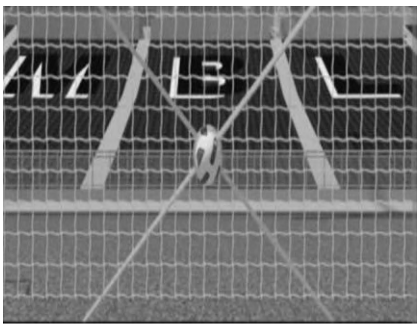

Figure 5. Application of hawk eye technology in football

5.4 Used in strengthening military power

This technology was originally developed for combat by military scientists. Thermal imaging technology has its use in detecting and tracking tanks, fighter jet aircraft, and other warships in the dark or across smoke-covered battle grounds.

5.5 Used in automobile industry

The wheel alignment can be done by use of this technology in automobile industries.

6. Advantages of hawk eye technology

The hawk eye technology gives a prediction as accurate as 99.99 percent. It is a very effective system which works in real time. It minimises the chances of human error in decision making. It helps players to study their past games and improve.

7. Disadvantages of hawk eye technology

As there are many advantages, the system faces many disadvantages also. The system is very expensive. The system needs complex arrangements. Sometimes Hawk-Eye struggles with predicting the trajectory of a cricket ball after it bounces while spinning. Sometimes it challenges umpire's dignity.

8. Conclusions

This technology helps referees and other umpires to make the correct decisions in any kind of game. It is a great tool which can be used by players and coaches to analyse previous games and come up with strategies for future ones.

Hawkeye technology is a great innovation, which puts technology to good use in the field of sports. The accuracy which can be achieved with the use of this system is making the authorities think seriously about reducing the human error component involved in important decisions. As the system runs in real time, there is no extra time required to see the visualizations and graphics. The system is also a great tool which can be used by players, statisticians, tacticians, coaches to analyse previous games and come up with strategies for subsequent ones.

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MATHEMATICS IN MATERIAL SCIENCE

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Abstract

This paper is about the influence of mathematics in the field of Robotics, Astrophysics and Medicine. In the field of medicine, this paper describes the usage of mathematics in Lithotripsy. The paper deals with the usage of differential geometry and harmonic functions in robotics. Also an effort has been taken towards explaining the usage of trigonometry in astrophysics as well as the usage of geometrical shape and properties of ellipse in lithotripsy.

Keywords: Lithotripsy, robotics, differential geometry, trigonometry

1. Introduction

2. Differential geometry in robotics

Robotics deals with the design, construction, operation and use of robots as well as computer systems for their control, sensor feedback and information processing. It is an interdisciplinary branch of engineering and science. These technologies are used to develop machines that can substitute for humans and replicate human actions. Robots are used domestically, commercially and militarily. The word robotics was derived from the word robot. The word comes from the Slavic word „rabota" which means labour / work. The word was introduced to the public by Czech-Slovak writer, Karel Capek in his play, "Rossum"s Universal Robots".

2.1 Riemannian Metric

Let M be a differential manifold of dimension „n". A Riemannian metric on M is a family of (positive definite) inner products, gp : Tp x Tp → R, p є M such that for all differentiable vector fields X, Y on M p → gp (X(p), Y(p)) defines a smooth function M → R. Application: Generally, the configuration space of a robot forms a relatively high dimensional manifold. If a robot consists solely of an arm and hand, the shoulder joint provides 2 degrees of freedom, the elbow 1, the wrist 2, the thumb 2 and each of the rest of the fingers 3. In total that's a 19 dimensional manifold. Now we have the following question: "You start with the robot"s hand raised in the air as if to say "hi" and then have the arm down to shake hands. What is the best path of each joint individually to get it from "hi" to handshaking? "Answer: Mathematically the answer to this path depends on the choice of a Riemannian metric manifold. With this metric we can compute the geodesics which gives the best path between configurations.

2.2 Harmonic functions

Harmonic functions are solutions to Laplace‟s equation. Such functions can be used in effective path planning because they do not exhibit false local extremum. Path derived from harmonic functions are generally smooth and it enables rapid computation. These functions also provide surface normal computation and geometric extrapolation.

3. Astrophysics and Trigonometry

Astrophysics is the branch of astronomy that employs the principle of physics , chemistry and mathematics to ascertain the nature, position or motions of the astronomical objects in space which includes the sun, the other stars , galaxies, extrasolar planets, interstellar medium and the cosmic ray background.

Trigonometry in astrophysics allows us to calculate the distance to nearby stars through parallax. Parallax is the effect whereby the position or direction of an object appears to differ when viewed from different positions. The earth orbits around the sun once a year, this means that at 6 month interval the earth is looking at a star from the two corners of the isosceles triangle. We can observe how far the star appears to move against the background galaxies in that time and find the angle of the triangle from that. With the angle and the length of the base (diameter of earth‟s orbit), we can find the height of the triangle, that is, the distance to the star. Distance between the sun and the earth is 1 AU (1 Astronomical units). Therefore, $\tan \theta = d / 1$ AU $d = \tan \theta$ (1 AU) .

4. Lithotripsy

Lithotripsy is a medical procedure involving the physical destruction of hardened masses like kidney stones or gallstones. The term is derived from the Greek word meaning "breaking (or pulverizing) stones" . The first shockwave lithotripter approved for human use was the Dornier HM3 (human model).

Reflective property of ellipse: A light ray emitted from one focus will reflect off the ellipse and pass through the second focus. This is also true for not only the light rays but also for other forms of energy including shockwaves. Shockwaves generated at one focus will reflect off the ellipse and pass through the second focus. This characteristic, unique to the ellipse has inspired this medical application. The waves are generated at one focus and because of the elliptic shape, the waves are redirected onto the second focus , which is the kidney itself. Hence, these are few mathematical concepts that play a significant role in the above described fields.

5. Conclusions:

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IMPLANTABLE PACEMAKER OVERVIEW

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Abstract:

Implantable pacemaker is a battery operated real time embedded system, which includes software/hardware codesign strategy. As it is placed within the heart by surgery, battery life is an important constraint to extend device lifetime. An artificial pacemaker is real time embedded system with hermetically sealed titanium encapsulation that delivers a synchronized rhythmic electric stimulus to the heart muscle in order to maintain an effective cardiac rhythm for long periods of time. Pacemaker system consists of device and leads. Flexible insulated unipolar/bipolar leads with electrode tip are inserted through vein into the heart. These carry impulses from the pacemaker device to the heart, to stimulate. Similarly information is transferred

from heart to the device. Implanted pacemaker is battery operated real time embedded system which must be smaller in size and less in weight and must operate with low power to increase battery life and surgery period too.

Keywords: Real time embedded system, software/hardware co design strategy, encapsulation, stimulus, battery operated

1. Introduction

The human heart consists of Sinoatrial node (SA); called as the natural pacemaker generates electrical impulses, which are responsible for the contraction and dilation of heart muscles. These electrical impulses take care of heart muscle synchronization and hence blood pumping. Although, all the heart cells possess the ability to generate electrical impulses or action potentials, SA node is responsible for the whole heart's beat. After contraction of the atria, the impulse proceeds to the Atrioventicular (AV) node. The impulse slows at the AV node, which allows time for contraction of the atria. Just below the AV node, the impulse passes quickly through the bundle of His, the right and left bundle branches and the Purkinje fibers and lead to contraction of the ventricles. In case of damaged intrinsic conduction system, an artificial device known as pacemaker is implanted within the heart. Device monitors the heart rate and stimulates heart when it beats too slow or does not beat. Main goal of cardiac pacing is to artificially stimulate a diseased heart to operate at normal rate.

2. Artificial Pacemaker

An artificial pacemaker is real time embedded system with hermetically sealed titanium encapsulation that delivers a synchronized rhythmic electric stimulus to the heart muscle in order to maintain an effective cardiac rhythm for long periods of time. Pacemaker system consists of device and leads. Flexible insulated unipolar/bipolar leads with electrode tip are inserted through vein into the heart. These carry impulses from the pacemaker device to the heart, to stimulate. Similarly information is transferred from heart to the device. Implanted pacemaker is battery operated real time embedded system which must be smaller in size and less in weight and must operate with low power to increase battery life and surgery period too.

Pacemaker works in three operating modes:

(i) Free running (fixed or asynchronous): It is insensitive to any rhythm that may develop in paced chamber (VOO mode).

(ii) Inhibited: It senses cardiac activity and does nothing if this is present, but delivers a stimulus after an elapsed time if no further cardiac activity occurs to inhibit operation.

(iii) Triggered: It senses activity and delivers a stimulus in a desired way.

Pacemaker timing parameter

The pacemaker works on certain time based intervals only. And specifically they are:

Basic pace interval: The basic pace interval is the period of time that pacemaker awaits to apply stimulus to the heart. It is measured in beats/min.

Escape interval: The escape interval is the period of time that the pacemaker awaits after a spontaneous QRS has been generated. It is measured in ms.

Ventricular Refractory period (VRP): The VRP is the amount of time that the sense circuit is turned off. This is done to avoid sensing the pacemaker own stimulus, the paced QRS complex, T wave and after potentials. If the sensing circuit is turned on, then it will generate stimuli to all these events, causing ventricular fibrillation. It is measured in msec.

Pulse width: It is the amount of time the pulse generator will supply the stimulus to the heart. This parameter is important to capture heart. Capture is the action of generating a potential that develop chain reaction throughout the ventricle. The pulse width is measured in msec.

3. Pacemaker System Overview And Design Requirements

Embedded computer system is hardware/software co design with dedicated processor. As most of the embedded portable devices are battery operated, low power design methodology plays a crucial role in design. A large number of embedded computing applications are power critical and power constraints form an important. part of the design specification. Processor is an important computing element in battery operated real time embedded system and consumes most of the battery energy. Even with advanced battery technology, power budget is limited. Appropriate /optimized software design and analysis became a latest trend in modern embedded systems.

Basic blocks of implantable pacemakers are ECG front end circuitry, ultra low power microcontroller, battery and output circuitry to stimulate heart. Heart signal is sensed by electrodes. Main emphasis must be given on size, weight, encapsulating material and increase in life span of battery i.e. up to 10 to 12 years. The front end senses voltage generated by the pumping action of the heart which is small signal with many noise components. This circuit consists of differential amplifier, filter, level shifter, synchronizing circuit etc. To pace abnormal heart with a pulse of 5 to 7.5 volts, multiplier along with switch network is used.

Implantable pacemaker consists of external comparator. Cardiac signal is sensed by unipolar or bipolar electrodes and is amplified by a low noise pre-amplifier, gain amplifier. It is filtered by second order low pass filter to get appropriate ECG. This signal is applied to the comparator. Comparator is used as a threshold detector, to detect the heart beat event executed by the heart and generates a pulse with every heartbeat. External comparator consists of two inputs i.e. ECG and threshold voltage. It generates pulse depending on the threshold voltage level. In the absence of heart signal no pulse is generated. Comparator output (synchronizing pulse) is connected to the 2.0 port of the MSP 430F1611 processor. Output stage called charge pump, consists of voltage multiplier/pulse generator to stimulate heart. A high voltage pulse of 5 to 7.5Volts is delivered to the heart through pacing electrodes. The amplitude and pulse width must be customized for each patient. Supply Voltage Supervisor (SVS) is necessary to monitor battery voltage. The various blocks customized are integrated in MSP 430F1611 ultra low power Micro controller.

VLSI based analog/digital custom processor and interfacing peripherals are used in implantable pacemaker. It increases cost and time to market. Some ultra low power microcontrollers are available today which will be better choice for crucial biomedical applications. Pacemaker is a computer controlled real time system with predefined tasks priority. Microcontroller with optimized software is basic component in it. Microcontroller to be chosen must have low power consumption and required memory space. ARM is very important processor in modern embedded system. It has features like low power consumption, high speed, code size optimization using thumb and ARM mode, Dynamic voltage Scaling (DVS) functionality for energy consumption optimization. In comparison with ARM, MSP430F1611 is a 16 bit RISC processor which has features like ultra low power consumption, speed of 8 MHz lesser than ARM, but suitable to handle heart signal, and various power down modes. It has standby current lesser than that for PIC181f242, and Maxq 2000 processors. Lithium Iodine batteries are standard in modern pacemaker.

4. Working of pacemaker

Placing a pacemaker requires minor surgery. Before the surgery, an intravenous (IV) line will be inserted into one of the patient's veins. He or she will receive medicine through the IV line to help them relax. The doctor will numb the area where he or she will put the pacemaker so that the patient doesn't feel any pain. The doctors might also give the patient antibiotics to prevent infection. First, the doctor will insert a needle into a large vein, usually near the shoulder opposite the dominant hand. The doctor will then use the needle to thread the pacemaker wires into the vein and to correctly place them in the heart. An x-ray "movie" of the wires is recorded as they pass through the vein. Once the wires are in place, the doctor will make a small cut into the skin of the patient's chest or abdomen. He or she will slip the pacemaker's small metal box through the cut, place it just under the skin, and connect it to the wires that lead to the heart. The box contains the pacemaker's battery and generator. Once the pacemaker is in place, your doctor will test it to make sure it works properly. He or she will then sew up the cut. The entire surgery takes a few hours.

A pacemaker consists of a battery, a computerized generator, and wires with sensors at their tips. (The sensors are called electrodes.) The battery powers the generator, and both are surrounded by a thin metal box. The wires connect the generator to the heart.

A pacemaker helps monitor and control the heartbeat. The electrodes detect the heart's electrical activity and send data through the wires to the computer in the generator. If the heart rhythm is abnormal, the computer will direct the generator to send electrical pulses to the heart. The pulses travel through the wires to reach the heart. The pacemaker's computer also records the heart's electrical activity and heart rhythm. Doctors use these recordings to adjust the pacemaker so that it works better. The doctor can program the pacemaker's computer with an external device. He or she doesn't have to use needles or have direct contact with the pacemaker.

Pacemakers have one to three wires that are each placed in different chambers of the heart.

- The wires in a single-chamber pacemaker usually carry pulses from the generator to the right ventricle (the lower right chamber of your heart).
- The wires in a dual-chamber pacemaker carry pulses from the generator to the right atrium (the upper right chamber of your heart) and the right ventricle. The pulses help coordinate the timing of these two chambers' contractions.
- The wires in a biventricular pacemaker carry pulses from the generator to an atrium and both ventricles. The pulses help coordinate electrical signaling between the two ventricles. This type of pacemaker also is called a cardiac resynchronization therapy (CRT) device.

5. Types of Pacemaker Programming

The two main types of programming for pacemakers are demand pacing and rate-responsive pacing.

A demand pacemaker monitors the heart rhythm. It only sends electrical pulses to the heart if your heart is beating too slow or if it misses a beat.

A rate-responsive pacemaker will speed up or slow down the heart rate depending on how active the patient is. To do this, the device monitors sinus node rate, breathing, blood temperature, and other factors to determine the activity level.

6. Risks of Pacemaker Surgery

- Swelling, bleeding, bruising, or infection in the area where the pacemaker was placed
- Blood vessel or nerve damage.
- A collapsed lung.
- A bad reaction to the medicine used during the procedure.
- Wrong or inaccurate programming in the pacemaker has already to led to many medical errors where patients have died also.

7. Conclusions

Pacemakers are the electronic devices that stimulate the heart by generating electrical impulses to restore or maintain the normal rhythm. It controls the pumping action of the heart restoring the communication between the atria and ventricles; Therefore it increases the survival capacity tremendously. It is used to meet the challenge of branchardia, tachyarrhythmia. It has the sensor which itself maintains the level of periodic signal. The pacemaker technology is an active area of research. The field is developing each year, starting from a lab setup of huge pacemaker to the implantable lead pacemaker. There is also some risk or disadvantages. Sometimes the risk factor arises due to high threshold of cardiac excitation, battery failure or electromagnetic interference. Sometimes the air on bubble occurs in the space between lungs and chest wall. The perforation of the heart might also take place. But new researches are in progress to overcome the stated problems regarding artificial pacemaker.

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NANOROBOTICS IN NANOTECHNOLOGY

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Abstract:

The development of technology provides a new way in all areas of living. The recent technology which finds a great leap in all the fields is 'nanotechnology'. The term 'Nano' is

referred to as 'dwarf' (very small) in Greek language. It deals with materials in the size of 0.1 to 100nm. The first level of organisms starts from nano size.

Nanorobotics is an emerging, advanced and multidisciplinary field that calls for scientific and technical expertise of medical, pharmaceutical, bio-medical, engineering as well as other applied and basic scientists. Nanorobots are Nano electromechanical systems designed to perform a specific task with precision at nanoscale dimensions. Its advantage over conventional medicine lies on its size. This is because nanotechnology provides the advantage of transporting large amount of nanorobots in single injection. Their first useful application was in medicine to identify and destroy cancer cells. Nanorobots are used in tuberculosis treatment, in ophthalmology, in surgery, visualization, tissue engineering, antibiotic resistance, immune response. Although, no technology is available to construct artificial nanorobots, it is now possible to create nanorobots by using biological means. The review presents a brief discussion on basic nanorobots and its possible applications in medical, biomedical and pharmaceutical research.

Keywords: Nanotechnology, Nanorobot, Target molecules, Tumor cells

1. Introduction

Nanotechnology is the study of extremely tiny structures. It is the study of Phenomena and fine tuning of materials at atomic, molecular and macro molecular scales in the range of 10^9.The word 'NANO' is a scientific prefix that comes from Greek word meaning 'DWARF'. The concepts that seeded nanotechnology were first discussed in 1959 by renowned Physicist RICHARD FEYNMAN in his talk "THERE'S PLENTY OF ROOM AT THE BOTTOM" in which he described the direct manipulation of atoms. Then inspired by his concept many ideas on nanotechnology started emerging , which later on led to the improvements in microscopy in 1980s that allowed researchers to see single atoms and then manipulate them on a surface.Nanotechnology is being used already in certainmaterials like Self-Cleaning glass, Sunscreens, Lipsticks, Antibacterial Socks and the important one is Smart phones.

2. Nanorobotics

Nanorobotics is the branch of nanotechnology which deals with the study of designing, programming, manufacturing and controlling of robots at nano scale. Carbon will likely be the principle element used in construction of nanorobotsand comprised probably in the form of diamond .The outer shell of nanorobot is likely to be constructed using diamondoid material due to their insert properties, high thermal conductivity and strength .The super smooth surfaces could reduce the chance of triggering the body's immune system. According to Richard Feynman, it was his former graduate student and collaborate Albert Hibbs who originally suggested to him the idea of a medical use for Nano machines. In 1986, K.ERIC DREXLER introduced the idea of injecting the small robots into the HUMAN BODY.These hypothetical nonorobots will be extremely small and would transverse inside the Human body.As these nanorobots would have special SENSOR to detect the target molecules it can be programmed to diagnosis and treat various vitaldiseases. The doctor administering nanorobots can communicate with it by encoding the messages to acoustic signals at wave frequency ranging from 1-100MHz.After the completion of the task, these nanorobots can be retrived through the usual human excretory channels or can also be removed by active Scavenger systems.

SUBSTRUCTURES

- PAYLOAD(holds a small dose of drug or medicine)
- Micro Camera
- ELECTRODES (from the battery using the electrodes in the blood)
- LASERS (burn the harmful materials)
- ULTRASONIC SIGNAL GENERATOR (used when the nanorobots are used to target and destroy kidney stones)
- SWIMMING TAIL

2.1 Wireless pressure sensor

A lot of patients can benefit from continuous blood pressure monitoring, but inflatable arm cuffs are currently the only reliable method to do so. Attempts are currently underway by a number of organizations to use pulse wave transit time obtained through single lead ECG to provide cuffless blood pressure monitoring, but clinical level precision may not be achieved any time soon with this technique. A new solution may come in the form of a tiny wireless implant (Fig 1), only one millimeter on a side and 0.1 mm thick, that's been developed by engineers at Stanford University.

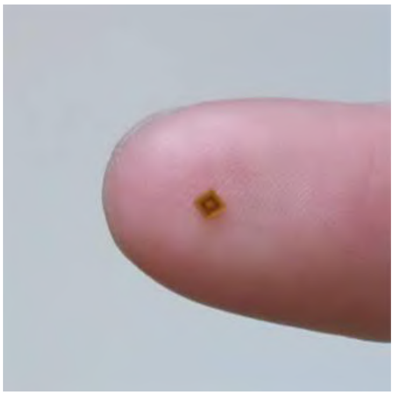

Figure 1. A tiny wireless implant

The device consists of a layer of squish able tiny pyramids sandwiched between two copper coils set on top of a flexible substrate. The coils act as an antenna that can be electrically resonated by an external radio signal. The resonance induced signal that comes back can be measured using the same external device. As the pressure around the implant goes up, the copper coils are pushed closer together, lowering the resonant frequency. This change is detected in real time, providing a reliable indicator of the pressure around the implant. Besides measuring blood pressure, the device has great potential for continuous wireless intracranial pressure monitoring, which the research team demonstrate successfully in the laboratory mice.

2.2 Nano robot surgeon you can swallow

It is a mobile capsule robot which has a camera onboard wireless communication .Then there are small magnets inside this capsule and other one will be with the doctor which helps in navigation inside the stomach. It is made out of self-material which is safe to use. It detects the affected part of the stomach cuts a piece of that diseased part and gives it to the doctor. So that he can analyze what type of disease is that.

Figure 2. A mobile capsule robot

2.3 Nano robotics in India

In 2007, the government launched a 5 year program called Nano Mission with wider objectives and larger funding of USD 250 million. They were launched in two parts of India i.e., Indian institute of Science (Bangalore) Indian institute of Technology(Mumbai).In part few years Indian had published over 23,000 papers. In 2013, India ranked third in the number of papers published. Though people look at nanoscience and technology very positively the amount India spends on research is still just a fraction of the research spending of countries like Japan, USA, France and China. Since Nanotechnology is an emerging thing, India can aim to become a global leader in it. A survey published in 13 Apr 2018 says that researches at IISC Bangalore have developed a method of delivering payloads to specific parts of living cells using nano robots.

3. Applicatons of nano robotics

The implications of nanorobotics are wide-ranging and could include medicine.

3.1 Treatment of cancer

According to report by WHO, there was 8.2 million deaths in the year 2012 by cancer worldwide. In 2015 there was 11,48,692 cases of cancer in India. The present methods for the treatment of cancer are not effective as 99% of CHEMOTEROPHY drugs do not reach cancer cells. However,many companies related with Embedded Chemicals BIOSENSOR can be used to perform detection of tumor cells in early stages of developing inside the patient body.Thescientist has genetically modified SALMONELLA bacteria that are drawn to Tumors by chemical secreted by cells. The bacteria carry microscopic robots about 3 micrometer in size. That automatically releases capsules filled with drugs when the bacteria reach the tumor.By delivering drugs directly to the tumor, while nanorobotsattacts only the tumor,while leaving the healthy cells alone. Sparing the side effects of chemotherophy, nanorobots will actually be able to treat other cancer as well.

3.2 Treatment of diabetes

Glucose carried through the blood stream is the most important role to maintain the human blood metabolisim working for health and its correct level is key issue in the treatment of diabetes. Theprotein hsGLT3 an important influence in maintaining proper gastrointestinal cholinergic nerve and skeletal muscle function activities. This hsGLT3 molecule can serve to define glucose level for diabetes patients. The most interesting aspect of this protein that it serves as a sensor to identify glucose .These nanorobots try to keep the glucose level ranging from 130mg/dl. In medical, nanorobots the significant measured data can be transferred to phone carried by the patient.At any time, the glucose achieves critical levels, the nanorobots emits an alarm through the mobile phone.

3.3 An artificial oxygen carrier

'Respirocyte' is an artificial mechanical red cell an imaginary nanorobots which floats along the blood stream. It is essentially a small pressure TANK that can be pumped full of oxygen (O_2) and carbon dioxide (CO_2) molecules .later on, these gases can be released from the small tank in controlled manner. The Nanorobots passes through the lung capillaries, when O_2 partial pressure is high and partial pressure of CO_2 is low then the onboard computer tells the sorting rotors to loads the tanks with oxygen and dumps the CO_2 .When CO_2 partial pressure is relatively high and O_2 partial pressure is relatively low on board computer commands the sorting rotors to release O_2 and absorb CO_2 . Respirocytes stimulates the action of the natural hemoglobin filled red blood cells,but they can drive 236 times more oxygen per unit volume than a natural red cell.

4. Disadvantages of nano robotics

- The initial design cost is very high.

- The design of the nanorobot is a very complicated one.
- Electrical systems can create stray fields which may active bio-electrical based molecular recognition in biology.
- Electrical nanorobots are susceptible to electrical interface from external source.
- Hard to interface, customize and design complex.
- Nanorobots can cause a brutal risk in the field of terrorism. The terrorism and anti-groups can make use of nanorobots.
- Privacy is another potential risk involved with nanorobots.
- The nanorobots should be very accurate, otherwise harmful effects may occur.

5. Conclusions

Nanorobotics is an upcoming field which is interconnecting various areas of science and technology ,the advantages and applications of nanorobots in medicine and engineering outweigh the challenges and hurdles it presents during the development process.

It is clearly seen from the example of bio-nanorobotics that it is difficult but possible to develop such systems the day may not be far when nanorobotics would enter into the nanomedicine world as a boon for those suffering from various difficult to treat conditions such as cancer and aids..

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GOLD NANOPARTICLES IN CREATING A SAFER ENVIRONMENT IN MEDICINE AND NATURE

John Britton and Venkatesh

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Abstract:

Recent advancements in nanotechnology has given rise to generation of various types of nanoparticles like gold nanoparticles especially used as radiosensitizer and photo thermal sensitizing agents..Functionalised AuNPS are employed in combination with non- ionizing and ionizing radiation to improve the efficacy of cancer treatment and at the same time sparing the normal tissue. Gold nanoparticles moving throughout our body can be tracked at high sensitivity.

Various construction of gold nanoparticles can lead to rational design of Nano medicines to overcome biological obstacles.

Historically, gold has been regarded to be catalytically inert, but in recent times it has been shown that it becomes active when stabilized in the form of nanoparticles on metal oxide supports. These supported Au catalysts show remarkable activity in a variety of structure sensitive reactions such as low-temperature CO oxidation and propylene epoxidation. In industries Nanoparticles of gold plays a important role in providing a safer environment by using it's catalytic properties to replace chemicals that pollute our surrounding. This is not only prevents pollution but more effective than that of other chemicals.

Keywords: *biomedicine, cancer treatment, industries, catalyst, energy production*

1. Introduction

From tumor treatment to pollution remediation, the applications of nanoparticles rely on their ability to absorb and reflect light of a specific color in a surprisingly efficient way. These so-called plasmonic effects result in optical properties that cannot be achieved with metals of larger dimensions, even at the millimeter scale.

These properties can be used for a large number of useful applications that, in many cases, were not possible until now. In medicine, not only the light reflected by these particles can be used to diagnose diseases, but their light absorption properties can also be exploited to induce the release of heat for, for example, the treatment of tumors in a localized way, thus minimizing the usual side effects of current treatments. Plasmonic particles have also found applications in areas such as information technology, energy production, or environmental pollution control, among others. Another novelty of this work is the application of ultrafast lasers to shape the geometry of the particles and refine their properties. two researchers in different parts of the world—Masatake Haruta, now of Tokyo Metropolitan University, and Graham Hutchings, now at Cardiff University—proposed separately the potential use of gold as a catalyst. As it turns out, making gold with ultra-small dimensions changes its physical properties, turning it into a highly effective catalyst for a number of important chemical reactions.

Kiely has been studying gold catalysis for more than 20 years. He works with colleagues around the globe, including Hutchings and Haruta, to explore the use of different forms of nano-gold for various technological applications. "We're getting to the point where we can now precisely control the type of nano-gold that we make," says Kiely. "The gold could be just individual atoms sprinkled over a support, or it could be tiny little clusters of three or four or five atoms, or it could be larger nanoparticles, or it just could be nanoparticles floating around in a liquid. Now we're unraveling which of these forms is good for which reaction."

2. Medicine and gold nanoparticles

2.1 Laser, gold and t-cells

A heat-sensitive gene switch implanted in a sample of T-cells works in an in vitro check. Gentle pulses from a near-infrared laser directed at gold nanoparticles, which are also in the sample with the T-cells, transform into gentle heat and flip the switch on, activating the T-cells.

A remote command could one day send immune cells on a rampage against a malignant tumor. The ability to mobilize, from outside the body, targeted cancer immunotherapy inside the body has taken a step closer to becoming reality.

Bioengineers at the Georgia Institute of Technology have installed a heat-sensitive switch into T-cells that can activate the T-cells when heat turns the switch on. The method, tested in mice and published in a new study, is locally targeted and could someday help turn immunotherapy into a precision instrument in the fight against cancer.In the study, Kwong's team successfully put their remote-control method through initial tests in mice with implanted tumors (so-called tumor phantoms, specially designed for certain experiments). The remote works via three basic components.

First, the researchers modified T-cells, a type of white blood cell, to include a genetic switch that, when switched on, increased the cells' expression of specific proteins by more than 200 times. That ability could be used to guide T-cells' cancer-fighting activities.The T-cells, with the switch off, were introduced into the tumor phantom which was placed into the mice. The tumor phantom also included gold nanorods, just dozens of atoms in size. The researchers shone pulses of a gentle laser in the near-infrared (NIR) range from outside the mouse's body onto the spot where the tumor was located.

The nanorods receiving the light waves turned them into useful, localized mild heat, allowing the researchers to precisely warm the tumor. The elevated heat turned on the T-cells' engineered switch. Bioengineers have been able to do a lot with T-cells already when they're outside of the body." Right now, we're adept at harvesting a patient's own T-cells, modifying to target cancer, growing them outside the body until there are hundreds of millions of them," Kwong said. "But as soon as we inject them back into a patient, we lose control over the T-cells' activity inside the body."Cancer is notoriously wily, and when T-cells crawl into a tumor, the tumor tends to switch off the T-cells' cancer-killing abilities. Researchers have been working to switch them back on.Kwong's remote control has done this in the lab, while also boosting T-cell activity.

Having an off-switch is also important. If T-cells were engineered to be always-on and hyper-activated, as they moved through the body, they could damage healthy tissue."There would be off-target toxicities, so you really want to pinpoint their activation," Kwong said. "Our long-term goal for them is to activate site-specifically, so T-cells can overcome immuno-suppression by the tumor and become better killers there."

When the heat remote is turned off, so are Kwong's engineered T-cells, because customary body temperatures are not high enough to activate their switch.

The switch is a natural safety mechanism in human cells that has evolved to protect against heat shock and turns on when tissue temperatures rise above the body's normal operating range, which centers on 37 degrees Celsius (98.6 F). But the researchers re-fitted T-cells with the switch to make it turn on other functions, and it could be used to hyper-activate the cells.The Georgia Tech bioengineers found that the switch worked in a range of 40 to 42 degrees Celsius (104 -- 107.6 F), high enough to not react to the majority of high fevers and low enough to not damage healthy tissue nor the engineered T-cells.

2.2 Early detection of prostate cancer

A test that uses gold nanoparticles to detect early-stage prostate cancer costs less than $1, returns results in minutes and is more accurate than standard PSA screening, pilot studies show. The new technique leverages the ability of gold nanoparticles to attract cancer biomarkers. holds the promise of earlier detection of one of the deadliest cancers among men. It would also reduce the number of unnecessary and invasive biopsies stemming from the less precise PSA test that's now used. When a few drops of blood serum from a finger prick are mixed with the gold nanoparticles, certain cancer biomarkers cling to the surface of the tiny particles, increasing their size and causing them to clump together. Among researchers, gold nanoparticles are known for their extraordinary efficiency at absorbing and scattering light UCF's NanoScience Technology Center developed a technique known as nanoparticle-enabled dynamic light scattering assay (NanoDLSay) to measure the size of the particles by analyzing the light they throw off. That size reveals whether a patient has prostate cancer and how advanced it may be. And although it uses gold, the test is cheap. A small bottle of nanoparticles suspended in water costs about $250, and contains enough for about 2,500 tests. After lung cancer, prostate cancer is the second-leading killer cancer among men, with more than 240,000 new diagnoses and 28,000 deaths every year. The most commonly used screening tool is the PSA, but it produces so many false-positive results -- leading to painful biopsies and extreme treatments

3. Environment and gold nanoparticles

Gold nanoparticle-based technologies provide solution to some of environmentally great issues, such as greener production methods, pollution control and water purification. Gold is indeed one of the stable metals, and it is resistant to oxidation. This ability of gold nanoparticles provides conditions to make many catalyst containing: Catalysis of CO Oxidation, Catalysis of Hydrogenation of Unsaturated Substrates, Electrochemical Redox Catalysis of CO and CH_3OH Oxidation and O_2 Reduction, Catalysis by Functional Thiolate-Stabilized gold nanoparticles etc.

Mercury control and sensing: Nanotechnology can control and sense mercury using gold nanoparticles. Mercury is one of very toxic material that exists all over the world. Mercury can cause some diseases such as Alzheimer and autism. Almost over 100 tonnes of mercury finds its way into the atmosphere every year, mercury exit from some boilers in the utilities industry. Gold-based catalysts can provide a solution. Gold nanoparticles have considerable promise as mercury oxidation catalysts.

Improving water and air quality: One of the most useful applications of gold nanoparticles is increasing water and air quality, Carbon monoxide is a colorless, odorless gas which is very toxic to humans. Gold nanoparticles provide a simple solution. Gold nanoparticles allow the oxidation of CO to carbon dioxide (CO2) that transforms an acutely dangerous gas to a far less toxic substance. Recent years have seen a sharp rise in the use of noble metal nanoparticles for water purification and contaminant detection. Gold nanoparticles have also been shown to be efficient adsorbents for the removal of significant levels of mercury from drinking water.

3. 1 Catalyst in Industries

Nanoparticles Au catalysts are active under mild conditions, even at ambient temperature or less, andthis makes them unique. They will therefore will be effective in reducing running costs of chemical plants and could increase the selectivity of the reactions involved where applicable. In pollution control applications, such as air cleaning, low light-off auto catalysts, and purification of hydrogen streams used for fuel cells, they have the characteristics to become the catalysts of choice, especially now that their durability and resistance to poisons is being shown to be better than had been anticipated. Use of mixed precious metal catalysts can produce even higher activities than the use of Au alone.

Use of gold as a catalyst in a more environmentally friendly approach to producing vinyl chloride monomer (VCM), a precursor to manufacturing polyvinyl chloride (PVC), a very widely used plastic.VCM is manufactured in large quantities by two main routes, which use either oil or coal as the starting feedstock. A clean process has been developed for the oil-based route. However, when starting from coal, which is the more prevalent feedstock in China, mercury chloride is currently used as a catalyst, which puts mercury, a toxic substance, into the environment. The search for a more environmentally friendly approach has been a priority for some time.

The team used synchrotron-based spectroscopy techniques and advanced electron microscopy to determine that isolated gold ions—that is, individual charged gold atoms dispersed over a carbon support—serve as a catalyst to convert acetylene, a gas derived from coal, to the VCM needed to create PVC, eliminating mercury from the equation. The mercury chloride catalyst is not needed anymore, so hopefully Chinese chemical companies will phase it out and move to this highly effective, cleaner, greener gold-based catalyst.

3.2 Gold nano particles for catalytic removal of nitrates into water and air

Nitrates come mainly from agricultural runoff, which affects farming communities all over the world. Nitrates are both an environmental problem and health problem because they're toxic. There are ion-exchange filters that can remove them from water, but these need to be flushed every few months to reuse them, and when that happens, the flushed water just returns a concentrated dose of nitrates right back into the water supply. Tiny gold spheres dotted with specks of palladium could break apart nitrites, the more toxic chemical cousins of nitrates. Nitrates are molecules that have one nitrogen atom and three oxygen atoms. Nitrates turn into nitrites if they lose an oxygen, but nitrites are even more toxic than nitrates, so you don't want to stop with nitrites. Moreover, nitrates are the more prevalent problem. Ultimately, the best way to remove nitrates is a catalytic process that breaks them completely apart into nitrogen and oxygen, or in our case, nitrogen and water because we add a little hydrogen. Nitrates are toxic to infants and pregnant women and may also be carcinogenic. Nitrate pollution is common in agricultural communities, especially in the U.S. Corn Belt and California's Central Valley, where fertilizers are heavily used, and some studies have shown that nitrate pollution is on the rise due to changing land-use patterns.

3.3 Gold Nanoparticles in Manganese Oxide Cleans VOCs from Air

In addition to nitrogen oxides and sulfur oxides, many volatile organic compounds (VOCs) in air contribute to smog and high ozone levels, as well as potentially damaging human health. Clean-air laws are thus rightly continuing to become stricter. Most modern air-purification systems are based on photocatalysts, adsorbents such as activated charcoal, or ozonolysis. However, these classic systems are not particularly good at breaking down organic pollutants at room temperature. Japanese researchers have now developed a new material that very effectively removes VOCs as well as nitrogen- and sulfur oxides from air at room temperature. As they report in the journal Angewandte Chemie, their system involves a highly porous manganese oxide with gold nanoparticles grown into it. To prove the effectiveness of their new catalyst, the research team headed by Anil K. Sinha at the Toyota Central R&D Labs carried out tests with acetaldehyde, toluene, and hexane. These three major components of organic air pollution play a role indoors as well as out. All three of these pollutants were very effectively removed from air and degraded by the catalyst—significantly better than with conventional catalyst systems.

3.4 Gold Nano particles quickly detects hazardous chemicals

Scientists have developed a system to quickly detect trace amounts of chemicals like pollutants, explosives or illegal drugs. The new system can pick out a single target molecule from 10,000 trillion water molecules within milliseconds, by trapping it on a self-assembling single layer of gold nanoparticles. The technology opens the way to develop devices that are compact, reusable and easy to assemble, and could have a range of uses including detecting illegal drugs, explosives, pollutants in rivers or nerve gases released into the air. The new system can pick out a single target molecule from 10,000 trillion water molecules within milliseconds, by trapping it on a self-assembling single layer of gold nanoparticles. The team of scientists, all from the Department of Chemistry at Imperial, say this technology opens the way to develop devices that are compact, reusable and easy to assemble, and could have a range of uses including detecting illegal drugs, explosives, pollutants in rivers or nerve gases released into the air .In one potential use, such a device could detect tiny traces of explosives or other illegal substances left behind by criminals on the surfaces they touch. The advances made by this team would help law enforcers to identify and deal with such activities involving illegal substances. system could solve a key problem of reliable and portable chemical testing for use in the outside world. It is very sensitive and could well be used to look for very small amounts of a specific molecule even in busy, public areas.

4. Gold for cleaner automobiles

We want to have cleaner or automobiles which run on hydrogen so we have to make this hydrogen fuel somehow. But the hydrogen fuel must be so pure that it doesn't contain the traces of CO which poisons the fuel catalyst. We can make catalyst that can work for few hours, days and gradually die. This catalyst aren't that active to get rid of all the CO contaminating the hydrogen stream.. Again gold was the answer. This in different form raft-like gold nanoparticles on a special type of molybdenum-carbide substrate. The gold catalyst achieved a high level of activity at low temperatures while producing the pure streams of hydrogen necessary to power fuel cells. The researchers achieved their goal by utilizing the water-gas shift

(WGS) reaction, which converts carbon monoxide (CO) and water into hydrogen (H2) and carbon dioxide (CO2). The group was able to purify the hydrogen by using up all available CO, which tends to deactivate fuel-cell catalysts. The WGS reaction, which is typically used to make hydrogen for the manufacture of chemicals like ammonia, is also a critical part of the effort to transition from hydrocarbon-based fuels to hydrogen.

One such reaction is the conversion of carbon-monoxide (CO) to carbon-dioxide (CO2). Nanogold catalyzes this at room temperature and with 100-percent efficiency. A potential application is to aid firefighters, who now wear protective masks containing copper-manganese-oxide. That material's effectiveness at getting rid of CO, however, lasts only 15 minutes, while nanogold protects for several hours.

5. Conclusions

So we have seen how gold plays an important role in our life .it's properties are unique at the atomic level .they have the ability to absorb and reflect light of certain color this make them a stable sensor, detector of other nano particles in the system. Since it's toxic level is very low it's therefore preferred over other nano particles .one day we could create medicines that are most effective and cheap in treatment of different cancer in human body. It is also environment friendly helps to reduce pollution in nature for a safe living.

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ABSTRACTS

AUTOMATIC HEALTH MONITORING SYSTEM USING RASPBERRY PI

Shalini K R & Divya S

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Abstract

In the advancement of Internet technologies all machineries are interred related. Using the technology improvement, we can make many things in high effective and simple for human life. There are several places of Internet of Things (IOT) is used. Such as smart environment, smart home, smart city, smart parking, agriculture fields and medical fields.. In this paper, monitor patient's heart rate, body temperature, Respiration rate and body movements using Raspberry Pi. After connecting Internet to the Raspberry Pi board it act as a server.. If these parameters are goes to abnormal, it will automatically send alert message to the doctor. The data send by Raspberry pi is stored on a server. The detailed information of patients and doctor is registered through website on stored on server. The website can be accessible from anywhere only for patients, it also useful for normal people to check the health status by using wearable devices with sensors. Wireless Sensor Network acquiring the observed patient"s physiological signal.

BRAIN ACTUATED WHEELCHAIR USING BRAIN WAVE SENSOR

Pavithra A V, Aishwarya M & Roshini Haobijam

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Abstract

This project discussed about a brain controlled mobile robot based on brain computer interface (BCI).BCI are systems that can bypass connectional channels of communication (i.e. muscle and thoughts) to provide direct communication and control between the human brain. And physical devices by translating different patterns of brain activity into commands in real time .The intention of the project work is to develop a mobile robot that can assist the work independent on others . Here, we are analyzing the brain wave signals. Human brain consists of millions of interconnected neurons. The patterns of interaction between these neurons are represented as thoughts and emotional state. According to the human thoughts, this emotional state. According to the human thoughts, this pattern will be changing which in turn produce different electrical Waves. A muscle contraction will also generate unique electrical signals. All these electrical Waves will be sensed by the brain wave sensor and it will convert the data into packets and transmit through Bluetooth medium .we can move a robot according to the human thoughts.

Keywords: Brain computer interface, brain wave sensor, EEG, Bluetooth.

SMART GRID COMMUNICATION- SMART METERING

Mamatha Rani.T, Kolli Tanuja

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Abstract

A communication infrastructure is an essential part to the success of the emerging smart grid. A scalable and pervasive communication infrastructure is crucial in both construction and operation of a smart grid. In this paper, we present the background and motivation of communication infrastructures in smart grid systems. We also summarize major requirements that smart grid communications must meet. From the experience of several industrial trials on smart grid with communication infrastructures, we expect that the traditional carbon fuel based power plants can cooperate with emerging distributed renewable energy such as wind, solar, etc., to reduce. The consumers can minimize their expense on energy by adjusting their intelligent home appliance operations to avoid the peak hours and utilize the renewable energy instead. We further explore the challenges for communication infrastructure as the part of a complex smart grid system. Since a smart grid system might have over millions of consumers and devices, the demand of its reliability and security is extremely critical. Through a communication infrastructure, as mart grid can improve power reliability and quality to eliminate electricity blackout. Security is a challenging issue since the on-going smart grid systems facing increasing vulnerabilities ashore and more automation, remote monitoring/controlling and supervision entities are interconnected. Smart metering is a topic that recently has attracted much attention. Smart metering promises many Benet's and projects in Europe, the USA , India and other countries show that smart metering is technically feasible. An advanced metering infrastructure over's the possibility for additional energy related services such as demand side management and realisation of virtual power plants. The future of smart metering will depend heavily on the policy decisiveness of the governmental bodies involved. Energy saving and an increased security of supply will be main drivers and believe in smart metering as a means to reach these goals is indispensable.

Keywords: Smart Grid, Communication, Metering

APPLICATIONS OF GRAPH THEORY IN EVERYDAY LIFE AND TECHNOLOGY

Preethi N.K., Nethravathi R.
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Abstract:

Graph theory is a branch of discrete mathematics. Graph theory is a study of mathematical structure used to model pair wise relations between objects. There are number of applications of graph theory that we use in our daily life. This paper aims to investigate the applications of graph theory in technology. The various aspects of graph theory and types of graph is been explained . The paper gives an overview of applications of graph theory in heterogeneous fields like everyday life , computer science and chemistry. The present work explains the basic mathematical concepts behind online mapping tools, traffic lights, social networks, search engines and how to clear the road blockage. Also it details on the use of graphs and graph theory in data mining, Operational research , Web designing, GSM Mobile phone networks and maps colouring . The review is an effort to bring put the problems in this area which are yet to be examined.

Keywords: Graph theory, Hamiltonian path, Euler path, Vertex

BOOLEAN ALGEBRA

V. Raghava Vigneshwar, S.K. Mohammad Aslam
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Abstract

Computer circuits consist of combinational logic circuits and sequential logic circuits. Computers are implementations of Boolean logic. Boolean functions are completely described by truth tables. Logic gates are small circuits that implement Boolean operator. Computer circuits consist of combinational logic circuits and sequential logic circuits. Combinational circuits produce outputs (almost) immediately when their inputs change. The paper aims to understand the relationship between Boolean Algebra and Logic Gates. The present work explains how to design simple logic circuits and help to understand how digital circuits work together in day today life. The paper aims to explain the concepts of Boolean algebra from basics to applications.

Keywords: Discrete algebra, Boolean algebra, Logic gates

PAPER BATTERY

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Abstract

The paper battery is designed to use a paper thin sheet of cellulose infused with aligned carbon nanotubes. These battery will currently provide a low steady power output, as well as a supercars it's quick burst of energy. While a conventional battery contains a number of separable components, paper battery integrates all of the battery components in a single structure, making it more energy efficient and higher.Non-toxic, flexible paper batteries have the potential to power the next generation of electronics , medical devices and hybrid vehicles allowing for radical new designs and medical technologies. The life of battery is an important parameter which decides the area of application of battery. Paper battery plays an impact role to avoid the maximum interrupted power supply in our world. High storage of energy leads to decrease charging time . Thus the energy can be saved. These paper batteries can further reduce the weight of the electronic gadgets. The present review paper identifies it as a a glimpse into the future of power storage and explains construction, working and applications of paper battery.

Keywords: Paper battery, carbon nanotubes, power, electronic gadget

COMMUNICATION THROUGH ADVANCED TECHNOLOGY

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Abstract

Researchers are developing micron sized LED . 1000 micron sized LED can fit into area required by 1sq. mm large single LED. A 1 sq.mm sized array of micron sized LED's could therefore communicate 1000×1000 (i.e. a million) times as much information as a single 1mm LED. Li-Fi consortium believes it is possible to achieve more than 10Gbps, theoretically allowing a high definition film to be downloaded in 30 seconds. Light Fidelity (Li-Fi) technology can be used in sensitive areas such as aircraft for data transmission without causing interference. It can be used in places where it is difficult to lay optical fibres like operation theaters . In traffic scenario, Li-Fi can be used to communicate with the LED lights of cars and might alert drivers when other vehicles are too close so accident numbers can be decreased. It will improve conditions for those working in underwater oil rigs where radio waves can't propagate. Thousands of street lamps can be used as Li-Fi lamps to transfer data . Also it can be used in petroleum and chemical plants where other transmission frequencies could be hazardous. The present review looks into the challenges and future applications of LI-Fi with a comparison with Wi-Fi.

Keywords: Li-Fi, Wi-Fi, LED

BRAIN CHIPS

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Abstract

Brain chips are often referred to as neural implants or technological device that connects directly to biologically subjected brain. A chip in the Brain Gate system is of 100 hair thin electrodes. The Brain Gate helps the patients who cannot perform even simple actions without the help of another person. Such patients are able to do things like checking e-mails, turn the TV on or off, and control a prosthetic arm with his thoughts. The present work complies various aspects of brain chips from its history. The review paper explains the principle, components, applications, benefits and disadvantages of this technological innovation. It also discuss the future of brain chips

Keywords: network, brain gate, signals

GREEN COMMUNICATION

Vaishnavi Jori & Sandeep Kumar
III sem BSc (MEC), ST. Francis de Sales College, Hebbagodi, Bangalore

Abstract

The use of technology in such a manner that it shouldl not affect the environment so that they should be environment friendly is called as Green communication which is also referred as "Clean technology". At present green technology can be considered to be in the initial stage of development. Reducing their dominance in the global energy system will be key for climate stability. Rebuilding the global energy system will require large initial investments but in the long run it will be more economical than continuing on the current path. A low-carbon economy would create thousands of new businesses and millions of jobs. A form of development that meets the needs of the present without compromising the ability of future generation to meet their own needs is very much required today. The present review based study focuses on the development of sustainable environment through green and clean communication technology . It also summarise the Indian scenario of renewable energy sytems and government policies towards the implementation of the same.

Keywords: Climate change, Sustainability, Renewable energy

GRAPHS AND IT'S APPLICATIONS

Bhavana

Isem BSc (MEC), ST. Francis De Sales College, Hebbagodi, Bangalore

Abstract

Matrix theory is widely used in a variety of areas including applied maths, computer science, economics, engineering, operations research, statistics and others. Modem work in matrix theory is not confmed to either linear or algebraic technologies. This field has a great deal of interactions with combinatorics, group theory, graph theory, operator theory, and other mathematical disciplines. Matrix theory is still one of the richest branches of mathematics. In matrix theory there are various parameters like idempotent, involutary, nilpotent matrices, projection matrices tridiagonal matrices, circular matrices and many others. In this chapteIn this paper effort have been made to introduce such and similar parameters in graph theory and applications of graph theory various disciplines.

Keywords: Graphs, Vertices, edges

DEPARTMENT OF COMMERCE

ZEAL 2018

CONTEMPORARY ISSUES OF GLOBAL TRADE

About the Department of Commerce

The Department of Commerce is the biggest department in st Francis de sales college, Filled with enthusiasm and spirit, the department grows both in number as well as in talent every year. The commerce department is highly acclaimed as the best in the city of Bangalore because of the various add on programs that it offers. These programs are highly industry integrated which equips students very well for their future. SAP, Diploma in Advanced Excel, Certified course Stock & Commodity Market, Business Analytics etc. are few of the courses offered by the department.

About the Seminar - ZEAL' 2018

Trade issues occasionally dominate and are a continuing theme of the international scene: the global market, sweatshops, child labour, trade deficits, the euro, sanctions, tariffs, embargoes, and the EU, NAFTA, WTO – the seemingly endless alphabet of interest groups, treaties, organizations, and trade agreements. As a classroom topic, international trade has the great advantage of providing ready-made material for teachers wanting to engage student interest in current events. On the other hand, the complexity of the issues surrounding trade is daunting. While economic reasoning doesn't guarantee resolution of the issues, it is a powerful tool of critical thinking that brings clarity to the discussion of current events. The ability to determine comparative advantage through opportunity cost, the ability to identify incentives and predict resulting behaviour, and the ability to use supply and demand analysis of particular labour and resource markets, help students to set aside the emotion of international trade issues and cut through the rhetoric of media reports. This program will offer students a new regime of global trade and stimulate to think in new prospects and also it will build a strong foundation to frame their opinions

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SuminPillai and Sreeparna.

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Sunitha C and Kavya J S

DIGITALISATION IN INDIAN RAILWAYS - A STUDY

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ABSTRACT

Today we are in the knowledge society/era. Changes taking place in the society are in rapid pace. One of the path breaking devices of rapid growth/ changes in the economy/society is that of digitalization. In these days of increasingly globalized competitive world, digitalization in the service sector is omni-present. The Indian Railways is catering to the transport needs, both short and long distances, in the country in a big way. We have been observing rapid changes taking place in the railways sector over the years. Digitalization in the Indian Railways is being found an important feature of functioning of the railways in India, which is expected to contribute much to the Digital India Mission of the Government of India.

Based on secondary information drawn from different dependable sources, the paper analyzes, descriptively, the efforts of digitalization of services in Indian Railways ever since its adoption in the system. The paper also spells out the merits and demerits of digitalization as well, along with its challenges in the system.

KEYWORDS : Digitalization, Indian Railways, Service Sector.

INTRODUCTION

Today, we cannot imagine our life without technology. In the twenty first century, one the most important technologies is the power of the digitalization. This system allows individuals to communicate globally. Digital India is a programme to transform India into a digitally empowered society and knowledge economy. The Mission was launched on 2nd July 2015 to ensure that government services are made available to citizens electronically by improving online infrastructure and byincreasing internet connectivity or by making the country digitally empowered in the filed of technology.

Digitalization consists of three core components as follows:

Creation of digital infrastructure

Delivering services digitally

Digital literacy

Digital India is an umbrella programme which covers many departments. This initiative will ensure that all government services and information are available anywhere, anytime on any device that are user-friendly and secured. With Digital India Project, the government is ready for the big programme by connecting every service with e- power. Indian Railways is an indispensable part of the country's infrastructure and transportation. It is also the financial backbone of transport industry which generates a total revenue of approximately ₹ 1630.50 million per annum. Apart from carrying of passengers and generating revenue receipts of ₹ 450 crore per day, Indian Railways deals in freight services and other facilities like the parcel, carriage etc., which fetches substantial returns used for economic development of the country.

From decades the Indian Railways has witnessed an expansion and advancements making it the fourth longest rail network in the world with an operating route of 65,000 km. Indian Railways at present has adopted the evolving growth of internet and computerization.

"The Digital India Programme is a flagship programme of the government of India with a vision to transform India into a digitally empowered society and knowledge economy, which is the very purpose of the Digitalization Programme.

DIGITAL INDIA : THE CONCEPT

Digital India is a programme to prepare India for a knowledge future. Hon'ble Shri Narendra Modi, the Prime Minister of India has laid emphasis on national e- governance plan and has got approval for Digital India, a programme to transform India on modern lines.

Review of Literature

Many studies have been made related with Digitalization. For want of time and resources, and as well keeping the size of the paper in view, a few studies are briefly reviewed in the following passages.

Kalaiselvi*et. al.* (2017) in their paper on ***"Passengers Satisfaction Towards Railways Services with Reference to Coimbatore Junction",*** observed that the empirical study is really a contribution to identify the factor that determine passenger satisfaction in rail with service and quality of services provided by the southern Railways.

In an article entitled ***"Improving Service Quality Through Digital Banking -Issues and Challenges",***Mathangi*et. al*. (2017) analyzed that India was emerging a strong digital economy with penetration of internet. Andhra Pradesh is the pioneering state in putting to use new technologies like internet of things cloud computing and data analytics.

A paper entitled ***"Digital India : Unleashing Prosperity"*** by Onkar Singh (2016) states that, Digital India is power to empower which transforms manual system of government into electronic system.

Shamim (2016) in his research paper entitled ***"Digital India - Scope, Impact and Challenges"*** concludes that policy makers agree for several years that digitization has the potential for dramatic economic, social and political improvement.

An article of Rahul Midha (2016) on ***"Digital India - Barriers and Remedies",*** says that the Digital India program is a flagship programme of the government of India to shape India right by connectivity and technological opportunity. It is a vision to transform India into a digitally empowered society and knowledge economy to develop India on par with global standards.

An article of SaimaKhem*et. al.* (2016) on ***"Digitization and Its Impact on Economy",***analyzed the economy related issues of the process of digitalization which is mainly realized through the ways that involves in creation, preservation, digitalization, dissemination and use of digital information.

Research Gap

There are a number of other research papers related to Digitalization in various sectors. However, there is no particular study related to Digitalization in Indian Railways. Hence this study is attempted.

Objectives of the Study

The present study was undertaken with the following objectives:

- To study the digitalization services in Indian Railways,
- To know the Merits and Demerits of Digitalization services in Indian Railways, and
- To know the challenges of Digitalization of services in Indian Railways.

Paper Scheme

The paper is based on secondary data drawn from journal articles, newspaper and periodicals and relevant websites. Keeping the size of the paper in view, as well as resources at the researchers disposal, the scope of the paper is restricted. No statistical methods are used/applied in the paper.

Analysis and Interpretation

The forms of digitalization of services in Indian Railways can be identified as follows:

➢ Online facilities provided by Indian Railway Caterings Tourism Corporation Ltd. (IRCTC)

The Indian Railways, for quite sometime, has adopted the evolving growth of internet and computerization. The IRCTC is now online and has adopted digitalization through which the passengers can avail of infinite facilities comfortably from home.

➢ Online Ticket Booking

The IRCTC has transformed the Passenger Reservation Systems (PRS) and now everyone can book the railways travel tickets online with different payment modes.

➢ Online Tatkal Ticket Booking

The process of Tatkal booking is almost the same. The difference is only of the limited timings (10 am to 12 pm) with a valid ID proof number like Aadhar Card, PAN Card, Driving Licence while booking which avoids the crowd at the railway stations. Thus 'Go Digital' is the order of the day.

➢ Helpline Telephone Number 139

The Indian Railways has launched a helpline telephone number of 139. One can just dial 139 for any quarry one has and the representatives on the other side will answer the quarries related to the Railways. The users can also SMS for queries on 139 and get an instant reply.

➢ Catering Services

Today, various catering companies have partnered with IRCTC to delivery hot and fresh food in trains. The food of one's choice is being served at the passenger's seat within few clicks irrespective of the route of the users' travel.

➢ Railway Restro : We Care for People from the Tastebuds

From the varieties of the vegetarian dishes to non-vegetarian dishes and special vegetarian /non-vegetarian platters, Rail Restro delivers everything on the seat. One can call on 8102-888-111 or visit the website for online food ordering in the trains.

➢ Twitter - A Game of 140 Characters

Social media is one of the platforms for expressing ones views. The passenger/ user can just tweet with his/her Passenger Reservation Enquiry (PRE) and contact details directly to the Minister of Railways regarding any complaints and get a speedy response as well.

➢ Bedrolls Online

At present, the passengers/users can book bedrolls online @ irctctourism.com. The bedrolls are provided without extra charges in AC first class, 2 Tier and 3 Tier compartments. A minimum fee ₹ 25 is being charged for the Garibrath trains during the booking procedure.

➢ Other Helpline Numbers

The following are some of the helpline telephone numbers for the convenience of traveling public:

1800-111-322 and catering complaints

138-coach maintenance and catering complaints

1800-111-139 and 1800-111-321 for any grievances on catering, overcharging price, suggestions, quality complaints

Dial 8102-888-111 for fresh food in trains

Website railrestro.com for exciting offers

➢ Wi-Fi Facilities

In lines with the agreement signed between Google and RailTel, high quality Wi-Fi access network at 400 major railway stations across the country is now available. The Railways has recently sought suggestion from the CEO of Google, regarding the use of IT Application for the benefit of its passengers as well as freight users. Railways is planning to increase its IT applications including launching of increased apps (Applications).

Major Developments - Post Digitalization

With digitalization playing a pivotal role and the way Indian Railways has extended scalability accessibility and performance to manage passenger demands, the following developments can be visualized:

- **Passengers' Freedom**

Privatization of catering in trains has allowed passengers enjoy per-booked food at their favourite food joints enroute.

- **Super Fast Trains**

The services of Rajdhanis and Durontos, being super fast, save passengers' travel time considerably. Also, plans are being set for introduction of Semi-Bullet Trains and Talgos.

- **Easy Buying of Travel Tickets**

The operation augment service at stations to bring down the maximum time taken for buying a ticket at counters to five minutes.

- **Online Reservation**

Real Time Online Reservation System and Real - Time Train Tracking System have been launched for web and mobile platforms.

- **Improved Communication**

With upcoming contribution in Telecommunication, optical fibers cables have been laid all across the country for improved communication /multimedia network for significant improvement in operational, passenger amenities and additional revenue to the Railways.

- **Internet Facilities**

Google and the Indian Railways have joined hands and come up with Project Niligiri, which aims to set up Wi-Fi hotspots at around 400 railways stations in India.

- **Mobile Applications**

Mobile Apps were being launched for online reservation and real time train running status.

- **Freight Operations**

Freight Operations Information System (FOIL) and Rake Management System (RMS) have been implemented for computerization of freight operations by the railways.

- ## Networking

'Rail Net' - The Intra rail networking system has been implemented for connecting Railway Board, Zonal Head Quarters, Divisional Head Quarters, Production Units Training Centers etc.

If implemented and maintained properly, Digital India Programme would, for certain, go a long way.

Merits and Demerits of Digitalization Service in Indian Railways

Many merits of the programme may be listed as below:

Merits

- **Transformation**

With its digitalization, in the Indian Railways there has been a transformation in customer Experience, right from pre/post booking enquiry, travel ticket reservation online food service, on track wheel chair / cab / retiring room booking to sharing any feed backs and complaints.

- ## Increased Revenue

With significant improvisation in online ticketing system from web- based service to mobile apps, the result has been a major shift in online purchasing from 50% of tickets sold to 65%, boosting revenue generated from E-ticket sales to ₹ 600 million a day.

- ## Increased Sale of Travel Tickets

Due to poor performance in online travel ticketing system, the Indian Railways was selling about 2000 online travel tickets per day. However with improvisation and digitalization in ticketing system it surges in sales of more then 10,000 per minute especially in the eve of major festivals /holidays in India.

- ## Enhanced Role of Social Media

The social media (Face book, twitter) has been playing a pivotal role, there is a transparency system created for accessing and sharing information, press releases, developed customer feedbacks, complaints and refunds are also being provided.

➢ Managerial Improvement

With Information Technology playing as a back bone for streamlining various developments, the Indian Railways is now using Integrated Coaching Management System, Crew Management System, Signaling Maintenance System and Track Management System.

Demerits

Despite increased digitalization aimed at improved global communication, there are a few demerits identified which are mentioned below:

Poor internet connectivity,

Traditional way of Thinking,

Expensive E-facilities/Affordability,

Lack of awareness among the rural people,

Implementation / Adaptation snags ……

Challenges of Digitalization Services in Indian Railways

There are a few challenges as well which can be identified as:

Problems of uneducated in the using of Digital services in Indian Railways,

Rural background of the country/hinterlands,

Expensive Services,

Problem of Investment,

Maintenance of the services being offered,

Broad Band / High Speed - How for a reality?

Promotion of use of services by differently enabled persons ……

Suggestions

Based on the above the following suggestions may be made.

The government should take action for effective implementation of the programme even at the railway stations in the villages across the country.

Catering services should be effectively provided to all railway passengers across the country.

Railways should use the social media in a large scale for the publicity of railways Programmes.

Provision for free help line number to the railway passengers may be welcome.

The Government need to impart proper training on the uses of digital services of the railways to its employees.

The Railways may also extend the Wi-Fi services at all the railway stations across the country.

Conclusion

Digitalization is most important for the development of railway services in modern days in India, because compared to other countries, the performance/use of Digital service is poor in India. Therefore, both the government and the railway employees should have knowledge about Digitalization of services. People's participation and cooperation with the service providers would go a long way in implementation of any programme in India, including the Digital India Mission. Let us all hope for the best.

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EMPLOYEE RETENTION IN A HIGHER EDUCATION INSTITUTION: AN ORGANISATIONAL DEVELOPMENT PERSPECTIVE

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ABSTRACT

Retention of employees is an important function of the Human Resource Management. Unless there is a deliberate and serious effort from the management towards this direction, the competitors in the industry are likely to attract snatch the talent already nurtured in the company over a period of time. Careful strategies for crafting and implementing employee retention strategies are a skill and should be given top priority by the management. Retention of the employee is a major challenge faced by the organization globally, it can be maintained a competitive advantage and whether operations which run smoothly and efficiently. if the best workers are not retained, an organization can be negatively affected from the operational to the strategic level. Unless there is deliberate and serious effort from the management towards these directions, the competitors in the industry are likely to attract the strategies towards the retention of the employee towards the organization of the employee welfare towards organizational tools and strategies. the researcher in this has made on attempt to study about the various strategies and tools for employee retention and its effectiveness in the organization.

Keywords : Tools and strategies of the employee retention towards employees.

INTRODUCTION

"Our assets walk out of the door each evening. We have to make sure that they come back the next morning" - Narayan A. Murthy Founder President Infosys.

Employee retention, especially of crucial employees is a key challenge in every organization on either business or Education system. Every resignation saved is every rupee earned. It is the faculty who adds values & shapes to the future of the nation by developing students. As mentors, they are the role models for students. Employee retention simply means encouraging employees so that they remain in the organization and perform their duties successfully to gives best results to employer as well as employee.

In an Indian higher education system, retaining intellectual and talented employees is a major challenge. "Talent" is a word that has become jaded now days; however, in relation with academics it is very crucial because it is not only related with organization or society but with whole human civilization Through this research paper we are trying to Highlight the need of faculty retention in higher education system and have suggested some major solutions with which we can do it.

OBJECTIVE

Objective of this review paper is to identify the best practices and methods adopted by various organizations across industries to help enhance commitment and employee retention.

EMPLOYEE RETENTION IN HIGHER EDUCATION SYSTEM

Good faculty members are valuable assets to any good educational organization. In today's world, talented candidates have plenty of opportunities available and are ready to switch jobs if they are not satisfied with work culture and work environment. All the leading higher educational institutes including ITT and IIM are maintaining their standard and quality for the reason that they have well qualified and highly intelligent faculty members, whom they have managed to retain for years. Good quality teachers impart quality education and stability to the education system which will help to the overall development of the students

BASE OF THE STUDY

A survey was undertaken for which we have designed questionnaire and was circulated in the colleges. The response we received states the following facts:

- The study observed the fact that intellectual and talented people used educational institutes as parking lot and as they get opportunity they fly to industry and corporate sector.
- Profit oriented academic strategy is a major problem now a days. Today, education is not for the sake of education but is more oriented towards profit and loss. It has become edu-business. Instead of retaining Well-qualified employee, management manages two or three people in the same salary.
- Syllabus prescribed by the universities and current trends in the market are not synchronized with each other. So teachers are not in touch with the new development in their respective fields.
- Academic institutes are concerned a lot about development of students and pay a lot for it but they are less successful in helping their faculty and staff in improving their skills.

CAUSES OF EMPLOYEE TURNOVER

➢ Lack of Consideration

Consideration and recognition is the basic expectation of every human being. Everyone wants to be recognized and rewarded for a job well done. It is part of our nature. Recognition does not have to be monetary. The most effective recognition is sincere appreciation. Recognizing employees is not simply a good thing to do but an effective way to communicate appreciation for positive effort, while it also reinforces those actions and behaviors. If the employee feels neglected and not worth considered for his achievement, he/she feels alighted

➢ Attractive Salary/Compensation Package

All the leading higher educational institutes including ITT and IIM are maintaining their standard and quality for the reason that they have well qualified and highly intelligent faculty members, whom they have managed to retain for years. Good quality teachers impart quality education and stability to the education system which will help to the overall development of the students Attractive compensation package plays a crucial role in retaining the employees. Compensation constitutes the largest part of the employee retention process. The employees always have high expectations regarding their compensation packages. These packages include salary, bonus, benefits and vacations. Providing incentive to extra work done other than teaching increases the morale of faculty. Work done other than teaching increases the morale of faculty. Salary and monitory incentives is one of the prominent reasons of employee turnover in the education sector. As compared to corporate world, they are paid less and therefore, they switch immediately when they get an opportunity.

- Lack of Challenges

Employee satisfaction is essential for the success of any business. A high rate of employee contentedness is directly related to a lower turnover rate. Lack of challenges in the job profile also tempts employees to resign from the job as their urge for creativity and facing challenges is not satisfied. position in which he or she begins in a job, may initially put. An employee who has no interest in his or her field, or the forth his or her best effort. However, this employee will often become bored with the work because there is no intrinsic motivation to succeed. Finding the daily job mundane reduces the individual's desire to show up to work and to do the job well. In this case, the employee may continue to come to work, but his or her efforts will be minimal.

- Overload of Clerical Work Than Creative Work

Creativity is the thing that makes life interesting and worthy of living. When a person is involved in a creative work he gives his best efforts which results in desired success. Every human being longs for innovative and creative things and if it is missing the person loses interest. In India, teachers at higher education level are forced to do a lot of clerical work for maintaining documents and proofs and hence faculty get less or no time for creative and innovative things. This tempts them to switch to the field of their own interest which will satisfy their urge for creativity and innovation.

- Lack of Job Rotation

Indian scenario of higher education is theory-oriented rather than practical-oriented. Even though practical knowledge is given in the institute premises, students are not exposed to industry. The syllabus prescribed by the University is not revised for minimum five years. Faculty members are forced to teach same texts for a long time. This monotonous activity along with the lack of job rotation becomes boring and faculty members tend to resign or switch

- Work Culture and Environment

Work environment is also the main cause for faculty turnover. Every employee would want to work in the environment that he is comfortable in. This is one such of the reasons why employees jump from one organization to another in a just a couple of months. Rotten, unfavorable work culture and work environment creates stress and unwanted pressure on the employees. They are not concentrated towards work but worried about other factors which results in employee turnover. Lack of cooperative colleagues also disturbs the environment.

- Favoritism/Nepotism

Favoritism is exactly what it sounds like: favoring someone not because he or she is doing a great job, but for reasons outside of the job performance. Oftentimes, favoritism occurs when a HOD or Principal and an employee have developed a friendship beyond the workplace. Perhaps they worked together previously and have a shared history, or maybe they have bonded over common outside interests, like sports or music. Unnecessary favoritism creates negative impact. When either favoritism or nepotism takes place in the workplace, the effect is usually the same. It leads to a number of negative results, such aslower morale of efficient employees, resentment, stunted growth etc. The loyal and faithful employees feel neglected and alienated which results in faculty turnover.

- Family Conditions

Family is an integral part of anyone's life and especially in case of women employee family conditions plays an important role in retaining these employees. Job profile and transfers of spouse is one of the reasons of faculty turnover in case of female candidates. If their husbands are working somewhere else and get transferred they have to shift with the family and this causes employee turnover. Medical conditions also add to it as pregnancy, weakness force female employees to leave the job.

- Work-Life Imbalance

Work life imbalance is another reason of employee turnover. If the person is not satisfied and disturbed it automatically results in faculty turnover. Location of the organization is another factor that adds to employee turnover because if the basic amenities like transportation facilities, hygiene facilities, and canteen facility are not available, then employees think of switching the job.

- Lack of Academic Leadership

Another prominent reason of employee turnover is lack of academic leadership. The academic leaders are mainly concerned with profits and won't pay attention to motivating the employees and contributing towards their development. Academic leader should work as a mentor for faculty members who will ignite their minds to give their best efforts. Academic leader either HOD or principal should support the faculty members in their problems and praise them for their deeds. Faculty members in many organizations are effectively committed and connected with their respective leaders rather than to the organization as a whole.

- Students

Student is an integral part of education system. It is with student that everything in education sector depends and relates. Good students motivate faculty members to learn new things and to explain them, at the same time give mental satisfaction to the faculty member. Lack of enthusiasm and contribution on the part of students can be a reason for employee turnover. If students are not interested in the process of learning, faculty member will not get that satisfaction and will tend to leave the organization. Every good organization maintains its position only due to quality, students and faculty members.

- Lack of The Sense of Belongingness

Employee's attitude towards the organization and workplace is very important in the growth of the organization. When employees have intelligence but rotten attitude they turn out to be perverted persons in the organization. To trace this, we can take reference of Life positions from Transactional analysis. Transactional analysis theory has four life positions such as:

I am not ok, You are ok
I am not ok, You are not ok
I am ok, You are not ok
I am ok, You are ok

First life position represents submissiveness, and is of inferiority complex. Second position reflects both have inferiority complex. The third position reflects aggressiveness and superiority complex. The fourth position represents assertiveness and it is ideal position. Many employees tend to adopt first three life positions and hence it prevents them from developing right attitude and creating sense of belongingness. Thus it can be a reason for employee turnover.

IMPACT OF EMPLOYEE TURNOVER

As any other sector, higher education also has its own impacts of employee turnover. If it is not taken into proper consideration, it can affect the quality of education. These impacts are as follows:

- Impact on Students and Academics

Employability is a major issue in today's world. If organization retains excellent faculty members it will help the students for their overall development and placement. If faculty is not permanent then it hampers the overall development of students. Due to faculty turnover, academic and students growth gets hampered. Students need to start from the beginning while adjusting with methods of a new faculty member. It wastes the time of students and they may develop negative attitude towards the subject.

- Cost Involved in The Process of Recruitment

During the process of recruitment, employer needs to publish advertisement and conduct several rounds of interviews. This is a lengthy process and consumes a lot of time and at the same time it is expensive. Organization unnecessarily needs to engage its manpower to conduct and carry out these activities effectively. To avoid this employers can encourage internal sources for recruitment, this will save time, energy and money.

- Risk of Employing Inexperienced and New Candidates

Faculty turnover increases the risk of recruiting people who are less or no experienced. This leads to recruitment of adjunct or part time faculty members, visiting or freelancing faculty members which is not good from student's point of view as by implementing these means they will not get quality education and will not be competent to face the competition in the market.

- **Cost Involved in Training A Candidate**

As one faculty member leaves the organization it is but obvious that organization have to employ new faculty member. The new joiner needs time to adjust with the environment, to understand policies, to mix with the work culture. Along with this the employee needs training and organization needs time and money to spend on the training. This causes waste of time and money.

Great Employee Retention Strategies

"Recognition, flexible work arrangements, work-life balance, employee engagement, health and safety, communication, workplace diversity, formal wellness programs, inclusion and employee development are some examples of approaches that can become a part of the mix when developing retention strategies."

To keep your employees working for you, consider following these seven recommendations:

- ## Hire The Best & Forget The Rest

Employee retention begins during the job interview process. We're not talking about making a good first impression (though that's part of it). No. No matter how much you want to keep an employee on and no matter how much you do to influence their decision to stay, ultimately the employee is the one who decides to stay or go. It's a bit of balancing act and the only time you can directly influence the employee's side of the equation is when you hire them. After that, it's too late. So, do as Kyle Lagunas of TLNT says and hire retainable employees.

- ## Give Your Employees The Metrics They Need

As Entrepreneur says "study after study confirms that people have a deep desire to feel they're succeeding and that their talents and capabilities are being used in a way that makes a difference to the business. When people sense their actions are fulfilling this desire, they begin to develop a sense of belonging and a feeling that your company is their company."

It's not enough for you to give vague (if well-intentioned) feedback. Your employees actually want to see the results of their work. They want to have that concrete object that they can rest their pride on. They need to see the results with their own two eyes.

- ## Recognize a Healthy Work/Life Balance

You can't expect your employees to function like robots. In order to keep them operating at their most efficient level and keep them from harboring ill will against you or the company, you have to help them realize a healthy work/life balance. This can be harder than it sounds. Of course, using time clock software is a key component to keeping track of hours, but sometimes you have to help employees realize they're overworking themselves. Some people are simply "hardwired" to work. As the boss, it's your responsibility to ensure that your workers get enough time to recharge their batteries. It could be a week off every six months or it could be a long weekend every now and then, but finding that balance point will keep your employees happy, productive, and help them strengthen their personal bond with your company.

➢ Be The Best

Of course you want your business to be at the top of its game all of the time—especially when compared to your competition. And so do your employees. People want to work for the winner. Not only does this ensure employment longevity, it also instills a sense of pride. The first step is understanding your company's competitive advantage—the thing that sets you above (not just apart) from the rest. Take the time to define it. Whether it's customer service, a top-tier product, the use of scheduling software and other employee productivity tools, or the fact that you're locally owned and operated, make sure your customers and employees know about it.

➢ Give Your Employees Options

On-the-job training opportunities are great but you should be helping your employees to grow and expand, not simply get better at what they already do. If your training centers completely on increasing performance in a current role, you're not doing all you can for your employees. Consider cross-training and mentorship programs. Create a leadership ladder that can help individuals earn the skills they need to move up. Good employees (the ones who are dedicated to your company—the ones you really want to keep) want the opportunity to advance, not just maintain momentum.

➢ Don't Hide Behind The Open Door

As Elizabeth Skronski of Canada One says, "an open door policy is one thing. Being fully engaged with your employees is another." It's not enough to simply invite criticism and feedback. Often time people feel they can't really express themselves for fear of embarrassment or reprisal—even with open door policies in place. Instead, managers and employers need to actively create an open rapport with employees. You don't have to become best friends but taking the time to be friendly and engaged with your employees will pay off in spades.

➢ Keep a Close Eye on Management

"Employees don't quit jobs," says Steve Miranda, Managing Director of the Center for Advanced

Human Resource studies at Cornell University. "They quit managers." Miranda bases this idiom on bundles of research that shows a direct correlation between the impression a manager gives and an employee's job satisfaction. Miranda estimates up to 80% of employee turnover is caused directly by ineffective or overtly hostile management. So, while you're taking the time to train your manager to deal with the technical aspects of their positions, it's in your best interest to include some "soft skills" as well.

STRATEGIES TO RETAIN FACULTY MEMBERS

"Get the right people on the bus and the wrong people off the bus" -Jim Collins

It is rightly said that good people help to foster the growth of the organization and hence we have to keep those good people in the bus for betterment of our organization. Here are some strategies which will definitely help every employer to retain good employees.

- Give Job Rotation

Job rotation, sometimes called cross training, is one of the many forms of on-the-job training. Job rotation is all about settling employees at the right place where they can deliver the maximum results. The concerned head should give subjects to the faculty members in rotation which will help to retain his/ her interest in the subject, will try to learn new things, will study new things and which will help to retain the interest in the subject and it will not become a routine. Job rotation is important and helpful from various points of views as it helps individuals to explore their interests, to identify employees' skills, knowledge and interests, it helps the seniors to explore the hidden talent etc.

- Salary

Organizations should offer the salary and monetary rewards in remarkable amounts, to fulfill the needs of a person which will attract the person towards the job. It has been observed that corporate packages tempts academicians a lot and one of the prominent reasons of faculty turnover. The excellent work done by the faculty member which will motivate others also to give their best.

- Sabbaticals

Organizations should offer the facility of sabbaticals and study leaves to the faculty members, which will help the organization to retain the talent. The academic leaders should support and encourage their faculty members for research work, encourage and motivate them to attend workshops, seminars, publish and present research papers etc. which will help for their self-development.

- Flexible Work Hours

Like the corporate world, academic institutes should observe performance in terms of target and achievements and should provide flexible work hours which will help employees to maintain work life balance. The leader should do the allotment of work as per the interest of the faculty members which will help in faculty retention. When work-life balance is structured properly, both employee and employer come out ahead. Encouraging employees to set work-life goals, such as spending more time with their children, communicates that you really want them to have a life outside of work and achieve a healthy work –life balance.

- Make Employees Feel Valued

Employees will go extra mile if they feel responsible for the results of their work. Employees should be rewarded at high level to motivate even higher performance. These rewards have terrific motivational power. Some gifts should be given to the employees from time to time during festive season, so that they will feel good and will understand that management is concerned about them and by this means it will help them to build sense of belongingness towards the employer and the organization.

- Maternity and Paternity Leave

Academic institutes should start the implementation of paid leaves like maternity leave and paternity leave. The organizations can start daycares for the kids of its employees and this will relieve the employee from unwanted family stress and that person will stay with the organization for long time.

- Provide Job Security

Stability and job security is the foremost concern of every employee. Each employee tries to find out safe and secure job so all the academic institutes should provide job security to its employees, if a person is worried about his/her job every now and then then he/she will definitely try to switch.

- Project Development for Students

The academic leaders can encourage and motivate the faculty members to undertake new research projects in their field for the students. It will help students for better understanding of the concepts and actual working of the instruments Academic leaders can also encourage the faculty members and students for in-house lab developments all these activities will help to satisfy their urge for creativity and will help to retain them for long.

- Exposure to Industry and New Technology

Academic institutes should expose their faculty members to new technologies and trends through seminars, workshops and Industry-Institute interaction. Industry-Institute interaction is very crucial because through this programme, faculty members can visit the industries and take knowledge of new things. It will also prove beneficial for students' placement. This can also help them to develop their skills which will automatically result in updated quality education.

- Foster Trust and Confidence in Senior Leaders

It is important to develop strong relationships with employees from the start to build the trust. Employees have to believe that upper management is competent and that the organization will be successful. Employers need to engage and inspire employees by enacting policies that show they trust them, such as getting rid of authoritarian style of management.

- Facility of Health Insurance

Health insurance is a great benefit to the employees. It saves employees money as well as gives peace of mind that they have somebody to take care of them in bad times. There is no such provision for health insurance in education sector. If an organization provides this facility it will attract employees and will help to retain existing faculty members.

- Relationships and Communication

Sometimes cordial relationship between leaders and employees helps for faculty retention. Management can involve senior faculty members in policy making and decision making activities so that issues of faculty members will be voiced out and they will feel valued as their opinions and suggestions were taken into consideration. Management can take feedback from faculty members on regular intervals after implementation of new policies, strategies which will help to maintain healthy cooperative environment.

BENEFITS OF EMPLOYEE RETENTION

Every organization in education sector should understand that people are their best commodity. Without qualified people who are good at what they do, any institute would be in serious trouble. In the long run, the retention of existing employees saves the organizations money and reputation in the market. Employee retention is of vital importance in education as it reflects its results in the society. Employee retention helps to maintain quality of education, employers money and time in recruitment process, reflects in students achievements, gives satisfaction to employees etc.

CONCLUSION

Talent management and retention of talented employees is a double edged sword. If used prudently it could give very rich dividend, otherwise could spoil a rising star. Intelligent employers always realize the importance of retaining best employees. Proper retention strategies are important in order to retain employees. These strategies include listening to employees, respecting their opinions, basing rewards on performances and concerns to assisting them with their career advancement.

Employees need to feel valued and appreciated, should be given feedback of their work, they have to be given work-life balance options and provide them with growth opportunities. All these retention strategies are beneficial when an employer wants to keep employees within the organization.

IMPACT OF GST ON RETAILER

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ABSTRACT

GST also known as the Goods and Services Tax is defined as the giant indirect tax structure, designed to support and enhance the economic growth of a country. More than 150 countries have implemented GST so far. However, the idea of GST in India was mooted by Vajpayee government in 2000. But later with various amendments it was launched on 1st July 2017. The expectation from GST was to create a business-friendly environment, as cost price and henceforth, rate of inflation would fall over a period of time as a uniform tax rate would be applicable.

After the period of more than a year of an implementation of GST, this research is an attempt made to study the impact of GST on small and mid-size retailers. There have been various instances where the retailers have opposed the GST system. But, what is the quantum of those retailers and the reason behind it, would also be focused in this report.

Keywords: GST, Impact of GST on retailer, Benefits, Challenges.

Introduction

The goods and services tax (GST) launched on 1st July 2017 in India has more or less impacted every major and minor business sector in the country. While some industries are seeing growth as a result of decreased some others are facing a decrease in sales because of increased taxes.

Retail is one of the major industries in India and also one of the largest in the world. The Indian retail industry is expected to reach 1.3 trillion USD bIn y 2020 at a compound annual growth rate of 16.7%. GST is, as usual, applicable to almost every retail supply, affecting the cost for the end consumers. Let's find out the details about the GST on retailers.

LITERATURE REVIEW

Poddar and Ahmad (2009) presented a working paper on GST reforms and intergovernmental considerations in India: Concluded that GST is a next logical step towards detailed indirect tax reforms in the country and suggested that a lot of challenges lie ahead in such a design. Countries that already experienced it, proved that it is a win – win tax structure for all stakeholders.

Vasanthagopal (2011) in the article GST in India: A Big Leap in the Indirect Taxation System assessed the positive impact of GST on different sectors of the economy. He concluded his study by saying that only a rational and neutral design of GST will be able to show positive effect.

IMPACT OF GST ON RETAILER

- **Input Tax Credit:** Unlike the previous tax regime, GST has the provision of input tax credit, in which a retailer can claim credits for the tax previously paid by him on the purchase of inputs. This not only saves tax but also it reduces the cascading effect of taxes.
- **Reduced Complications**: The less number of taxes means less complexity. Also, GST is a completely digital tax system that means retailer can plan and file the returns online without having to manage a lot of physical documents, accounts, etc.
- **New Promotional Strategies**: The new GST tax regime has forced retailers to replan and implement a completely new promotional strategy in sharp contrast to the erstwhile strategy of promotional gifts and items. This is primarily because under GST all supply channels are accountable and accordingly attract some tax.
- **Ideal for Startups:** The Government has already announced tax rebates for entrepreneurs and startups. With GST getting rid of the complications associated with the retail sector, it is inevitable that budding startups would tap into this opportunity.

OBJECTIVE OF STUDY

- To analyse concept of GST for retailers.
- Impact of GST on retail sector.

HYPOTHESIS:

- H_1 - Implementation of GST has made a positive impact on retailers
- H_0 - Implementation of GST has made a negative impact on retailers

METHODOLOGY:

Collection of a primary data

- Sample size - 30
- Sample Unit - Retailers
- Sampling Technique - Convenience sampling
- Sampling Frame - Bommasandra, Bangalore
- Collection of Data - Schedule
- Analysis of Data - Pie-chats, Bar graph

Title:Has GST increased the burden of compliance?

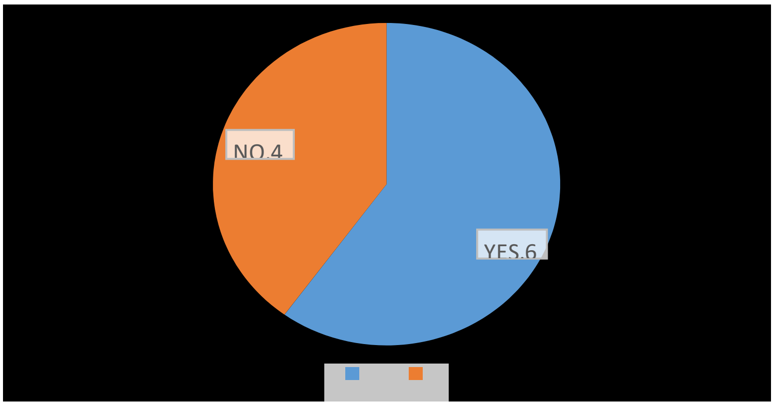


Fig 1. 60% of respondents agreed that GST has increased the burden of compliance where as 40% didn't agreed to it.

Title: Has GST impact your procurement (purchases of product)?

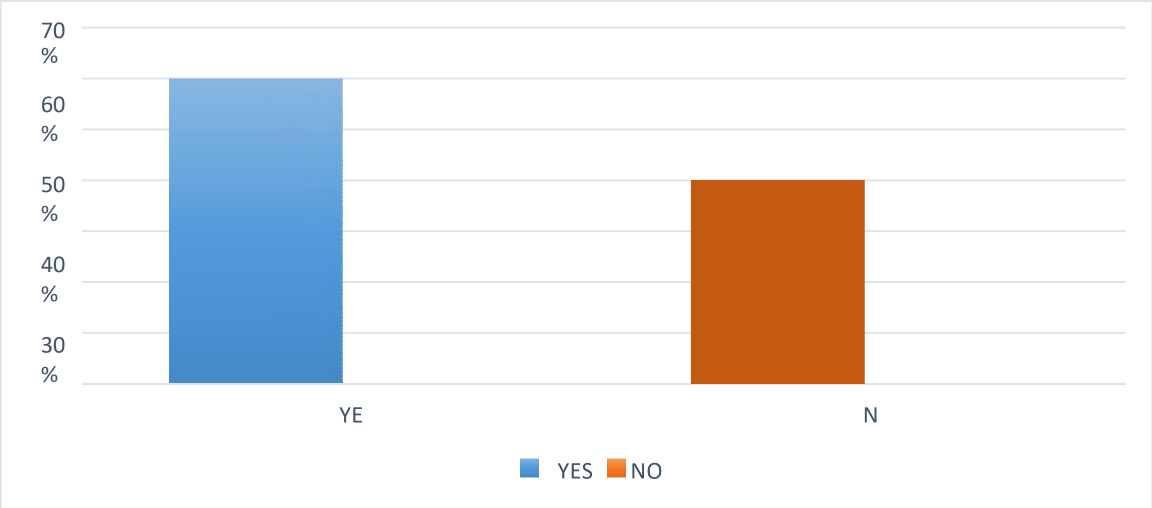


Fig 2. 60% retailers were of the opinion that it affected their procurement of materials.

Title: Has GST improved your sales/ distribution supply chain?

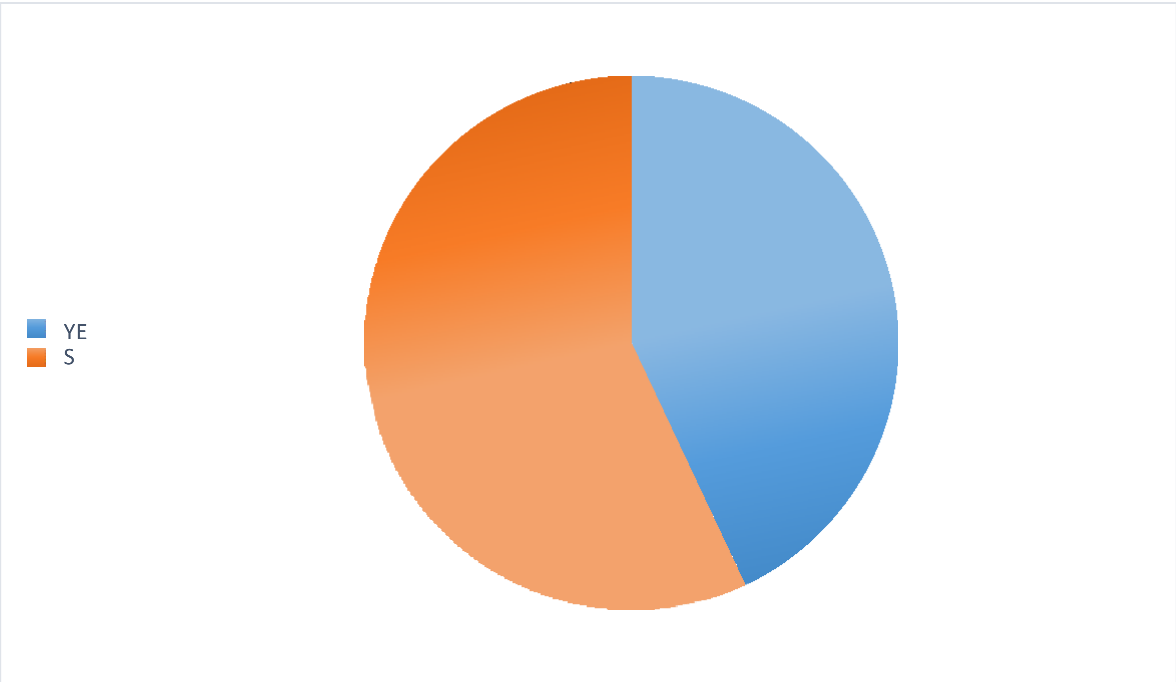


Fig.3 There was mixed reaction of retailers on improvement of sales due to GST. 57% agreed to it where as 43% said that GST did not improved their sales

Title: Are you satisfied with the deadlines given for GST compliance?

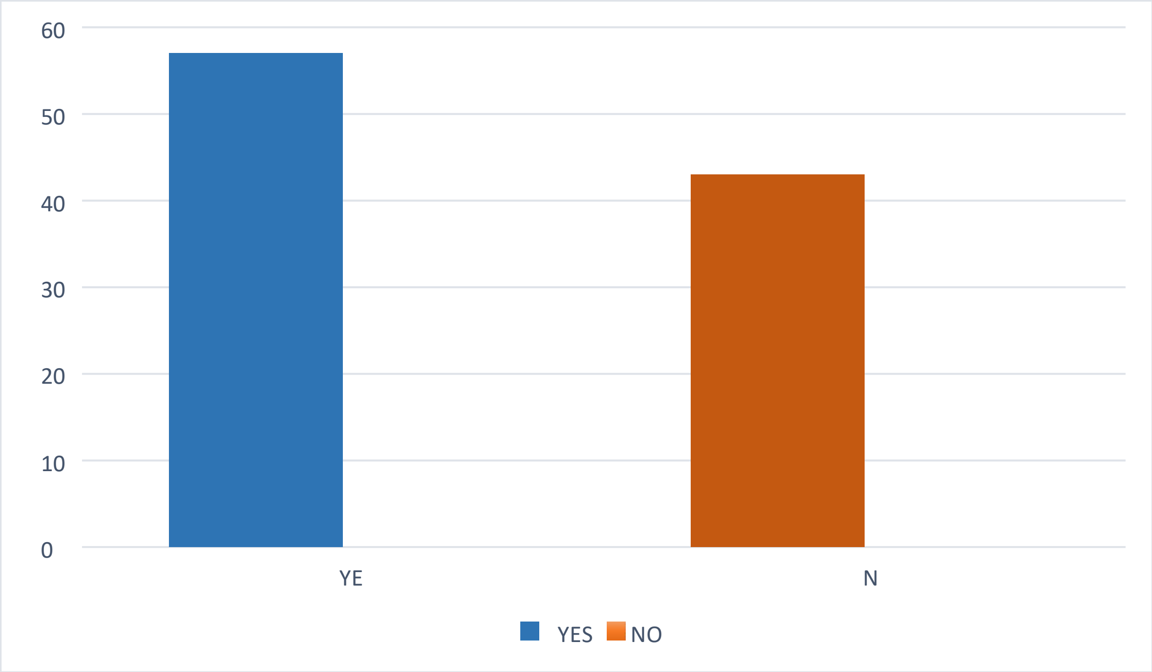
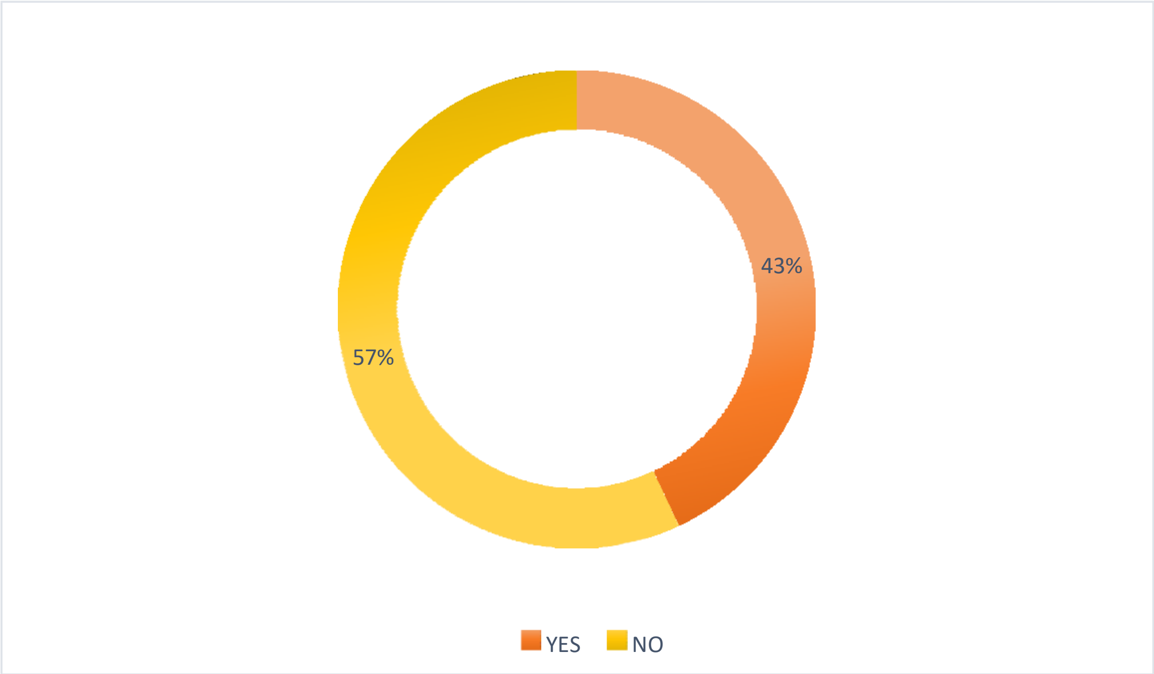


Fig 4. 57% were not satisfied with the deadlines given for GST compliance.

Title:Do you think there is any impact on your business on account of increase in the rate of GST?



Fir 5. 57% were of the opinion that increase in GST has impacted their business in negative manner.

Title: Do you believe that introduction of GST will result in better input tax credits for your business resulting in better profitability?

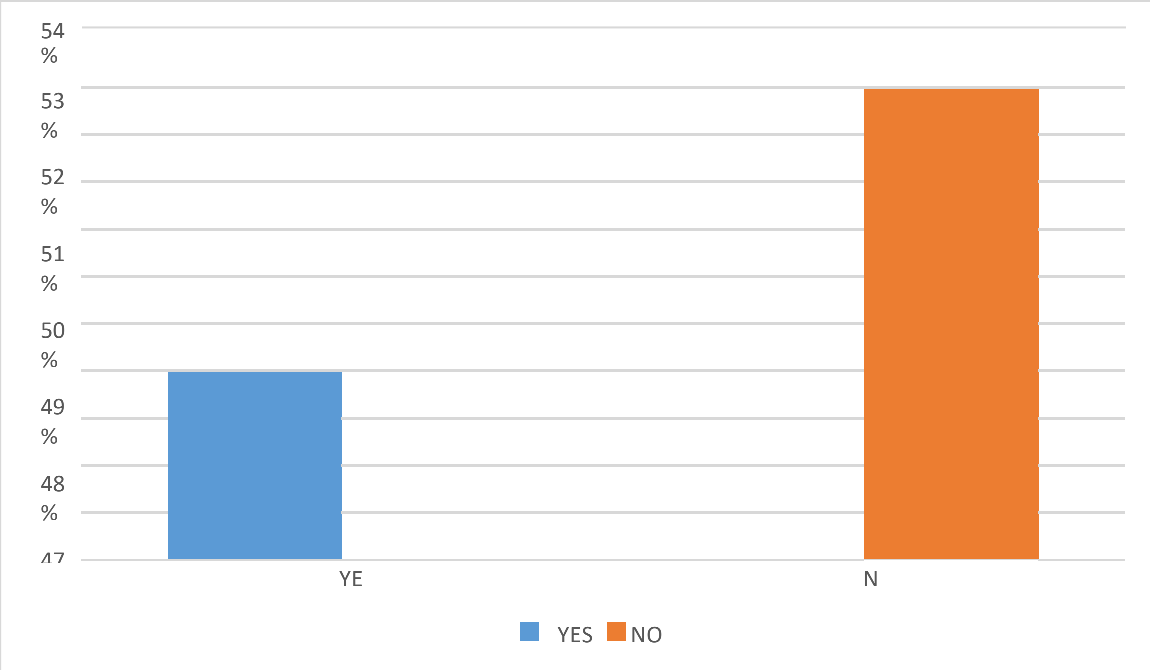


Fig 6. A mixed reaction was found when asked about impact of GST on profitability. Only 53% respondents are in opinion that there will be no increase in profitability.

Title: Do you think GST will require revision in prices of your goods or services?

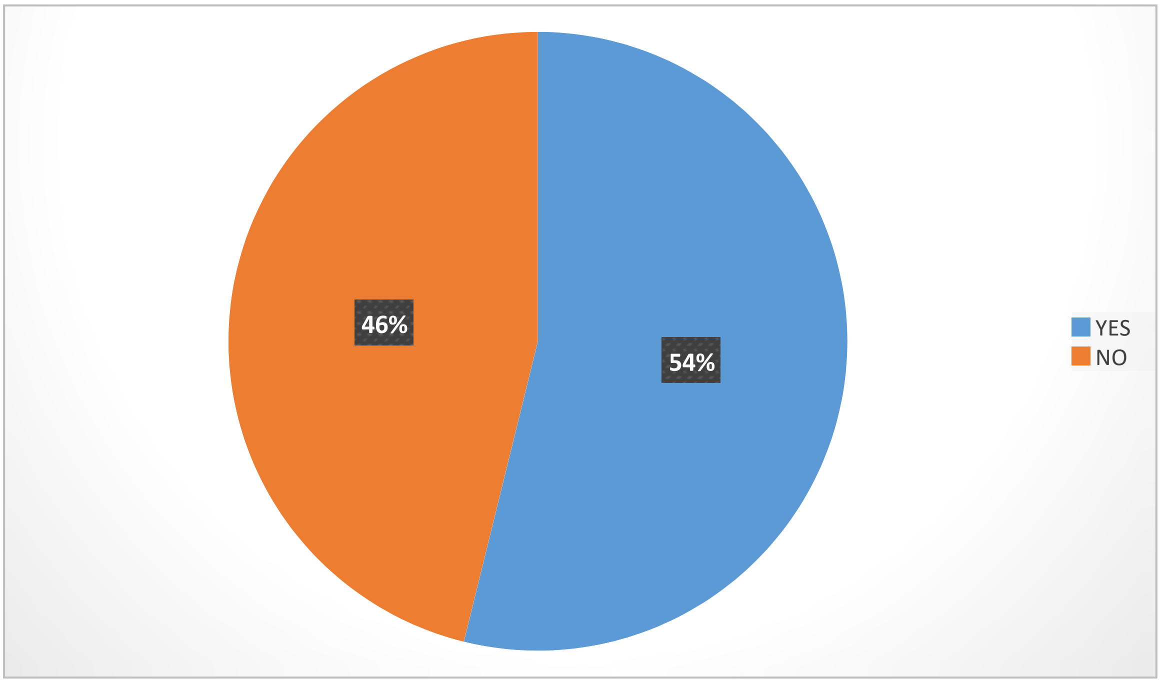


Fig 7. Majority were of the opinion that GST rates does require revision.

Title: Do you support GST?

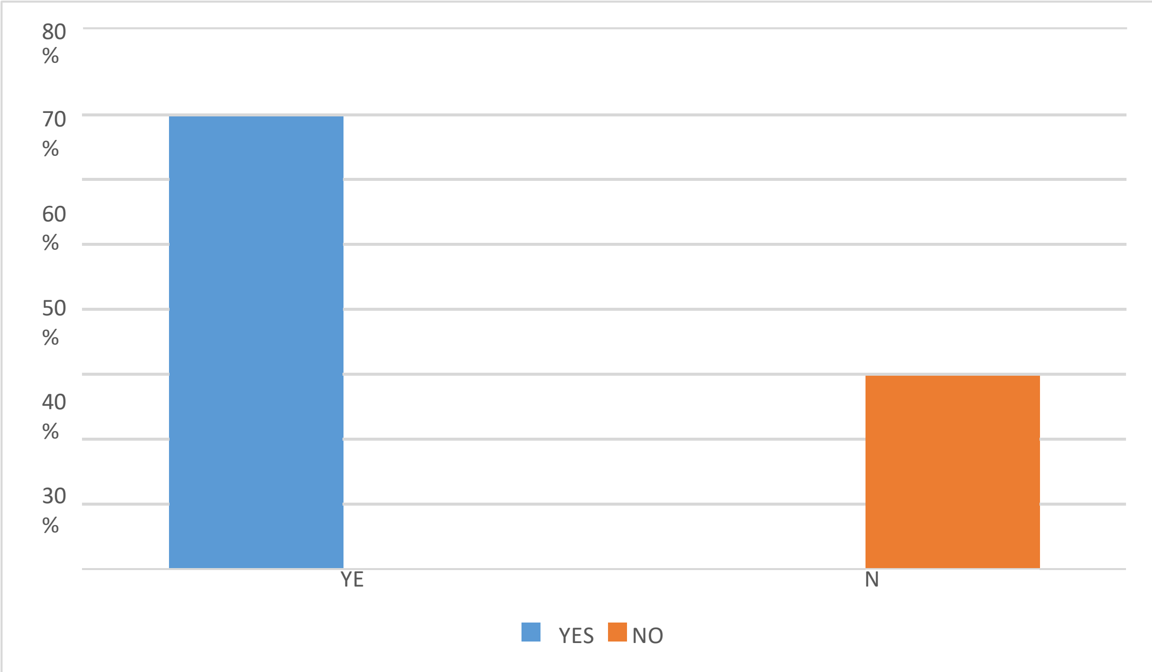


Fig.8 Despite of some criticisms, 70% of the respondents supported GST.

Title:Do you think GST will burden the people/ consumer?

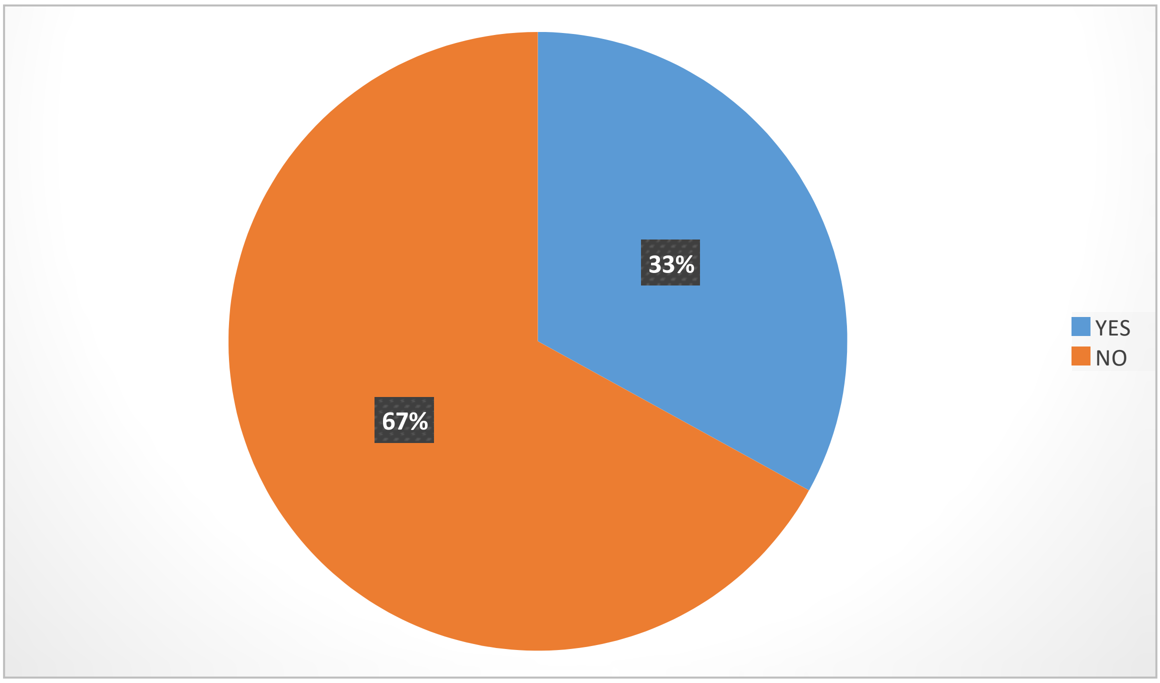


Fig.9 67% of the retailers do not think that GST will burden the costumers.

Title: On an overall basis, do you think that GST is likely to have a positive impact on India?

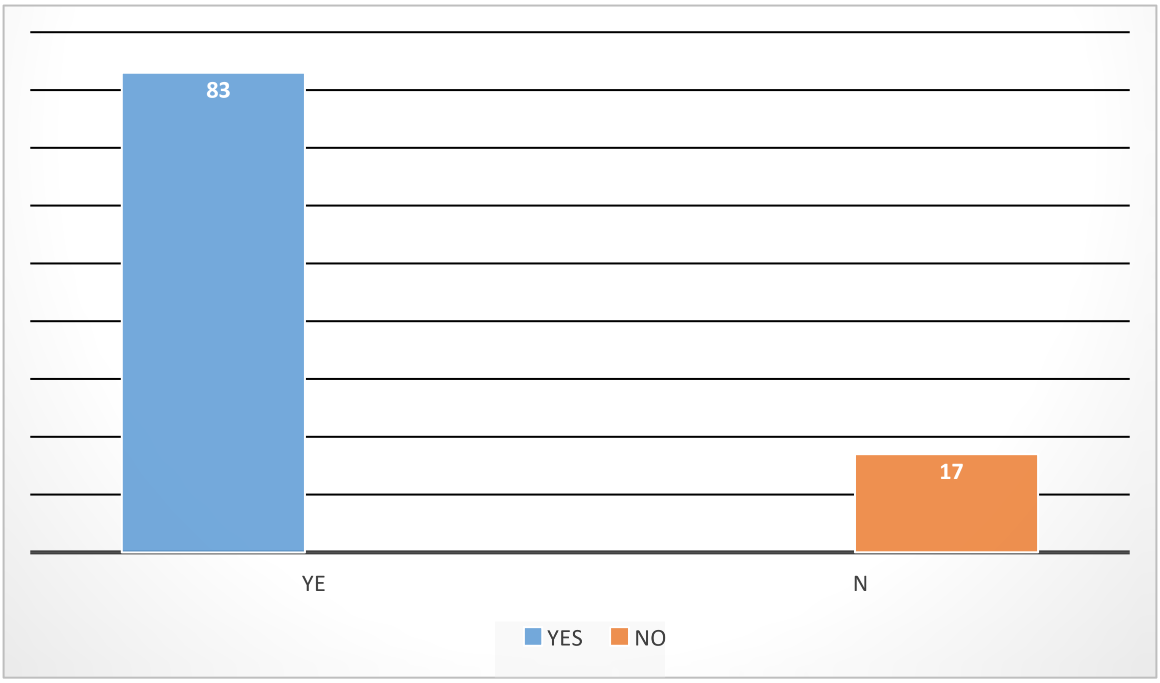


Fig 10. At last, on an overall basis 83% respondents think that GST will have a positive impact on India.

CHALLENGES

- **Lack of Awareness among Rural People**: Due to lack of awareness, people living in rural areas find it difficult to understand even basic structure of GST. They fear that GST will ruin their income sources as they will have to record each and every transaction and have to pay tax otherwise they will have to face penalty.
- **Low of Literacy Rate**: Due to low literacy rate in rural India, it is difficult and confusing for common man especially those living in rural areas to understand its complicacies.
- **Lack of Strong and Power IT Network in Rural areas:** IT network for GST registration, return filling etc, is required in each and every state for the successful implementation of GST in India.

FINDINGS

- In a survey done across the area, majority of the respondents were of an opinion that, their burden of compliance has increased and there should be some revision of GST rates which were impacting their business in a negative manner.
- Overall in a long run, it will have a positive impact on India and will not be a burden for consumers.

SUGGESTIONS

- The respondents needed a better understanding of GST filing procedures and lower compliance of GST returns.
- The deadlines given for GST compliance were also not satisfying the retailers and hence should be amended.
- The GST rates on few products still needs revision and same should be revised in order to increase the profitability.

CONCLUSION

The retailers were of the opinion that they were not fully satisfied with the present frame work of GST and suggested the changes expected by them for the growth of retail industry in India.

Even though there were few voices of negative views on GST, the majority of them were of the opinion that GST will not over burden the consumers and on an overall basis it will have positive impact on India in the long run.

FORENSIC ACCOUNTING:

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ABSTRACT

The Study focuses on forensic accounting and its types. It also tells about the procedures involved in it and also about forensic accountants. After going through various websites and referring various books of famous authors based on the topic, the research paper was prepared. The purpose of this Research papers is to educate about those topics of forensic accounting that have received little or no attention in the forensic accounting research that has been published in forensic accounting research journals. This is a descriptive research study that explores the topics and methods used in forensic accounting.

INTRODUCTION

Forensic accounting, forensic accountancy or financial forensics is the specialty practice area of accounting that describes engagements that result from actual or anticipated disputes or litigation. The integration of accounting, auditing and investigative skills yields the speciality known as Forensic Accounting. "Forensic", according to the Webster's Dictionary means, "Belonging to, used in or suitable to courts of judicature or to public discussion and debate."

"Forensic accounting", provides an accounting analysis that is suitable to the court which will form the basis for discussion, debate and ultimately dispute resolution. Forensic Accounting encompasses both *Litigation Support and Investigative Accounting. Forensic accounting* integrates an understanding of accounting principles with investigative techniques to determine whether the actions behind financial records and statements are suspicious.

OBJECTIVES OF THE STUDY

- To highlight about forensic accounting and its various types.
- To estimate various procedures involved in forensic accounting.
- To highlight importance of it in today's accounting world
- To highlight the scope and nature of forensic accounting and also the career opportunities.

COMPONENTS

Forensic accounting has two major components: litigation support and investigative accounting. Forensic accountants can be involved in either one or both of these areas.

- **Litigation support**

Forensic accountants act as expert witnesses or consultants for parties involved in a lawsuit. Litigation support often involves determining financial damages or valuing businesses or assets. Both sides in a lawsuit may retain forensic accountants to testify as expert witnesses.

➢ Investigative Accounting

Investigative accounting involves using auditing, quantitative methods, and related skills to reconstruct financial records and determine if fraud or other illegal financial activities have occurred. Investigative accountants are sometimes called fraud auditors or fraud examiners. For example, an investigative accountant might reconstruct a business's financial records, as in the Madoff case, or a business might call in an investigative accountant if it suspects an employee is embezzling money. Investigative accountants also work for law enforcement during fraud investigations.

➢ Computer forensics

Computer forensics is also a large part of forensic accounting. With the aid of technology, it has become a lot easier to perpetrate and hide fraud. However, forensic accounting has brought about innovative technology that can detect even the most encrypted fraud, ensuring that every dollar that companies earn is accounted for.

AIM

Forensic accounting aims to determine the probability and/or extent of the occurrence of fraud. By analyzing definite financial and non-financial information, checking public records, and administering fact-finding and admission-seeking questioning and evaluation, suspicions or accusations will be resolved and refuted.

IMPORTANCE

Forensic accounting is very importance not only because they have special skill and trained in investigation, andexpertise in accounting records, but also because of the evidence that found are play the very importance role in judge decision making. This job is quite different from auditor and cannot substitute by them. As we know, auditor performs their testing in the accounting records against accounting standard like US GAAP or IFRS. Their responsibility is not investigating and quantifying the fraud that happen in the company and also the evidence found in by auditor might not use by court. However, the evidence that found by forensic accounting could be used by court as expertise evidence. For example, FBI also has forensic accounting team to working for them in investigating any mater related to accounting.

➢ Forensic accounting procedures

Forensic Accounting Procedures are not too much different from audit procedures. Those procedures include analytical reviews, inquiries, observations, recalculations, and inspection etc.

➢ Inquires

It is the importance in Forensic Accounting Procedures. Sometime Forensic Accountant requires the officers or personnel who being investigated to be vacant temporary. This procedure has its own purpose. For example, one the officer being investigate is on leave, and then his daily job is done by someone else. During this time, Forensic accountant could be able to notify if there any opportunity that the fraud could have happen. Yet, this procedure does require the corporation from top management of the company.

➢ Analytical Procedures

For analytical procedure, Forensic Accountant should always pay very strong caution which to make sure that the data they use for analysis is accurate. However, sometime the analytical review may not be used for gather data since the result from analytical review is based on the best projection and estimate.

➢ Recalculations, and Inspection

Inspection of data and records is the most popular procedure to be used in gathering evident regarding to Forensic Accountant's job. It just simply mean collecting the sample of original invoices, receipts, and others importance documents. Then, figure out how much the lost should be or figure out the amount of which item, in this procedure.

➢ Observations

Before perform some specific testing, of cause, it is require understanding some specific procure or function and to do so they need to perform actual observations. It is the very importance part of FA accountant's job or FA auditor's jobs.

Other importance things are, they might need some specific information from the person who involve in specific procure like payroll account the one who involve with calculating salary. Moreover, Forensic Accountant might inquire information from the low level of staff to the top level or from external party if required like banks, suppliers or investors.

In summary, the Forensic Accounting Procedures is similar to audit procedure, but the evident need to be more specific and realistic. It also involve in planning, detail testing, and conclusion, but the conclusion need to be more specific like how much the fraud or loss.

Of cause, the Forensic Accounting also need to issue the report, but this report going to be used legal purpose or dispute resolutions. This report is different from the audit report.

Forensic Accountants

Forensic accountants, investigative accountants or expert accountants may be involved in recovering proceeds of serious crime and in relation to confiscation proceedings concerning actual or assumed proceeds of crime or money laundering. In India there is a separate breed of forensic accountants called Certified Forensic Accounting Professionals. In India there is a separate breed of forensic accountants called Certified Forensic Accounting Professionals. Forensic accountants utilize an understanding of economic theories, business information, financial reporting systems, accounting and auditing standards and procedures, data management & electronic discovery, data analysis techniques for fraud detection, evidence gathering and investigative techniques, and litigation processes and procedures to perform their work. Forensic accountants are also increasingly playing more proactive risk reduction roles by designing and performing extended procedures as part of the statutory audit, acting as advisers to audit committees, deterrence engagements, and assisting in investment analyst research.

CONCLUSION

Forensic accounting is growing rapidly in the world of accounting and also in India. Companies like CIME holding etc. are currently using it for decreasing frauds. It has a huge scope in future and will soon become a prominent part of it.

A STUDY ON MARKETING STRATEGIES OF SMALL SCALE ENTERPRISES IN INDIA

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ABSTRACT

Little undertakings have been the foundation of the Indian economy. The real preferred standpoint of the segment is its business potential at low capital cost the great part first. Utilizing near 40% of India's workforce and contributing 45% to India's assembling yield, Small undertakings assume a basic job in creating a huge number of occupations, particularly at the low-aptitude level. The nation's 1.3 million Small undertakings represent 40% of India's aggregate fares. The terrible thing is that Small scale endeavors in India, due poor reception of innovation and promoting hones have prompted extremely poor profitability. Despite the fact that they utilize 40% of India's workforce, they just contribute 17% to the Indian GDP. Presently Small ventures have understood the significance of different promoting hones as now they are using different showcasing apparatuses like web stage, advanced publicizing E-advertising, versatile applications for clients, CRM and numerous increasingly The exploration expects to know different inventive promoting rehearses at Small undertakings , patterns, challenges and other related issues.

Keyword : Marketing Strategies, Innovation, E-marketing, Relationship Marketing, Marketing Communications, CRM. Digital advertising.

INTRODUCTION

Modern client gives more recognizable to quality and after deals benefit contrasted with the shoppers. The mechanical purchasers search forward for long haul relations with the providers and their purchasing procedure is perplexing. The business purchasers are very much educated and they do inquire about before putting in any request to their providers.

The purchasing focus individuals assume a transcendent job in modern purchasing choice; this requires all encompassing promoting approach by Small scale ventures in the contemporary mechanical market. In modern showcasing, needs of the client can be met just through offering best quality item in time and inevitably. The item advancement is urgent as most of the modern items are modified and not institutionalized. There is no extension for any mistake what so ever in modern showcasing on the grounds that the mechanical item purchasers are constrained and Computation among the advertisers is tremendous. The inventive advertising methods can help the businesses in building a specialty for them in the market and remain early. Miniaturized scale and Small scale undertakings are the real players in mechanical generation as they contribute 45 percent of the India's aggregate assembling yield and there development point of view looks more splendid. The Small scale ventures have customarily looked local market as their primary center region and now times are transforming they are likewise anticipating get into universal business. The 35 for every Cent of the aggregate direct fare is contributed by them and to accomplish that e-business and e- promoting has an awesome task to carry out. The cutting edge days mechanical clients can be spellbound by imaginative advertising hones like computerized media, inventive item position, mark consistency, web as limited time instrument to give some examples.

REVIEW OF LITERATURE

Dr. Abdul Ghafoor Awan (2014)

Exact examinations demonstrate that little firms are more effective and imaginative in their task, item advancement and showcasing techniques. The target of this examination contemplate is to break down advertising hones (procedures) of Small Size Enterprises running business visionaries in Multan. This examination is subjective in nature in which we have considered the significant attributes of chosen Small Size Enterprises. Essential Data was gathered through an organized survey by having interviews with the business people. No less than thirteen Small Size Enterprises working in Multan District were chosen as an example of study and a formal survey was readied. A field overview technique was connected and looked to confronted interviews were recorded to dissect the showcasing methodologies of Small scale endeavors. The confirmations demonstrate that Small scale ventures under examination made progress and built up their names and brands through developments. Their advancements were in the state of exceptional outlines that not just address the issue of clients. Their administrations are imaginative it could be said that they fulfill the clients. In this way our steady with past investigations which pinpoint that little venture are imaginative and more proficient than expansive firms.

Promoting assumes a vital job in the accomplishment of any business association. Little scale undertakings segments contribute towards development the economy by making Employments and efficiency one of the run of the mill issue looked by new companies are discovering buyer for their products and administration. In spite of the fact that we realize that advertising begins before the creation of good s and benefits and doesn't end with the offer of the merchandise. Promoting is a constant procedure centered towards recognizing, making and fulfilling the clients. The assignment of the advertising is to limiting the separation among makers and shopper with the goal that both can set up a trade relationship. In India a large portion of the Micro and little undertakings units are begun due to the endowment and motivations of the legislature. They start to confront issue identifying with advancement their units when the units end up operational. This paper endeavors to assess the current promoting framework and diverse showcasing issues looked by the Small scale undertakings divisions.

Parthajeet Das (2017)

Little and medium ventures establish the foundation of an economy in keeping up an acknowledge development rate and in producing work openings. This segment has been viewed as motor of financial development and social advancement in many created and creating nations. Commitment of Small scale ventures to the Indian economy in term of work age, containing territorial incongruities, encouraging evenhanded monetary development and upgrading send out capability of the nation has been very marvelous

.Despite some infrastructural insufficiencies and difficulties like stream of institutional credit and lacking business sector linkages, this area has enlisted makeable accomplishment with respect to increment in number, quantum of speculation, size of creation and in general commitment to national GDP. The examination makes an endeavor to concentrated on the gigantic development potential and openings accessible in India for improvement of Small scale ventures segment to recognize vital issues and difficulties and offer Suggestions to address the same.

DEFINITION

Micro, Small Enterprises are generally defined in terms of the investment in the plant, machinery and/or equipment, the number of people employed and annual turnover. In India the small enterprises are defined just according to the amount of investment ceiling for Plant, Machinery or Equipment.

Reasoning:

All the above mentioned literature focuses on marketing strategies in both product offerings and promoting the goods. The Small scale enterprises are not well equipped themselves to involve in R and D related activities. In case Small scale enterprises come out with innovative product; the competitive advantage cannot be retained for a long because of imitation from the counter parts. On the other hand Small scale enterprises can look forward for innovative marketing techniques by focusing on their core-competencies.

Objectives of the Research

1 .To know the various marketing practices applicable to Small scale Enterprises.

1 To know the response of digital marketing in Small scale Enterprises

Research Design

The exploratory research is led to improve the information on inventive showcasing rehearses by little endeavors the essential information is gathered from 15 administrators of little ventures in Bangalore through close to home meeting. The important auxiliary information were gathered from distributed diaries, magazines and books.

Marketing practices

The Small scale undertakings can't create income by pitching same past items to a similar old market in a similar old manner. The showcasing hones in the wake of being not able discover one organization that offered a completely coordinated business to business advertising arrangement; there is huge probability of changing promoting rehearses. All respondents were of the feeling that they are cruising in very unstable market and confronting ferocious rivalry. A couple among them finding imaginative promoting is the response to this issue. To make imaginative promoting method to work, it needs appropriate arranging and above all else responsibility from every one of the general population in the association. The general population at the basic leadership level need to consider different inventive promoting apparatuses and receive few or numerous based on their usefulness.

The business foundation was dropped in light of the fact that the work patterns continue evolving occasionally; subsequently it is hard to construct the definition with respect to them. Additionally, order as indicated by number of individuals utilized gives proprietors the motivation to restrict work to stay inside Small Enterprises. Another explanation behind dropping this rule is the conceivable separation between work serious and techno modernity (Dr. P. Uma, 2013). Yet, the Indian definition does not consider yearly turnover or variable costs as well and constructs the definition exclusively with respect to settled expenses. This infers a miniaturized scale undertaking that at first contributed 20 lakh however had a turnover of 10 crore and expanded its number of representatives by half will remain a small scale venture in the event that it decides not to reinvest in the plant and hardware. These demonstrations a downside of the Indian meaning of little ventures. 'The top on plant and apparatus to classify the units as little ventures does not urge Indian MSEs to climb the esteem chain. With such low level of speculation roof, Indian MSEs are either growing along the side or drawing in themselves in low-tech/low-esteem items. Since the assembling activities are capital escalated, venture roof for treatment of medium endeavors might be brought at any rate up in the capital concentrated areas, benchmarking with such roof on interest in other nations' (EXIM Bank, Strategic Development of MSEs, 2012).

Responses to digital advertising

Digital Marketing and direct reaction showcasing are both key ideas in the present publicizing world – however they aren't exactly a similar thing. Time after time, entrepreneurs feel that they don't require coordinate reaction advertising since they as of now have advanced promoting. Truly immediate reaction advertising is a more extensive classification than advanced promoting – and, in addition, there's a whole other world to computerized showcasing than coordinate reaction! A decent advertising procedure will make utilization of both of these distinctive ideas.

Some portion of the disarray between these two terms comes from the way that such a large amount of computerized advertising is additionally immediate reaction showcasing. Computerized publicizing incorporates the majority of the promoting done on the web, PCs, and cell phones. What's more, when we consider advanced promotions, we tend to think about things that we can tap on: pennant advertisements, for example, or pop-ups guiding us to new sites or approaching us to agree to accept email mailing records.

Those standard promotions and pop-ups are immediate reaction showcasing, on the grounds that they incite an immediate and quantifiable reaction – they're requesting clicks, and the publicists know whether we click or not. However, there are different kinds of advanced showcasing that are not immediate reaction.

Marketing Tools

There are many innovative marketing strategies, which can be considered by the managers for their enterprises. The most popular and usable tools for the Small scale enterprises for their industrial product marketing are given below:

Promotional Tool : Most recent two decades has demonstrated the Indian business houses that, what an effect a web can make it to their business. Creating own site and advancing your items and administrations on globe is currently practical. All the respondents advised to have their organization's site and they are frequently refreshing. As the site ought to have easy to use fates and brimming with data. About 80 for every penny of the respondents not designate a particular spending plan for the up degree of their organization's site and just about 50 for each penny of the respondents don't take the paid administrations of web crawler specialist co-op viz., Google,

Ask and so forth. This demonstrates association doesn't have confidence in working of web as strong instrument for their whole promoting exercises.

Customer Relationship Management (CRM) : The Importance of CRM is well established actuality to every last venture. As now every one of the business visionaries realize that 80 percent of their business originates from their 20 percent steadfast clients. So it is productive to contribute few measure of CRM, when we got some information about it, they additionally praised the idea. Then again 35 for every penny of the respondents disclosed to us that they are not taking uncommon consideration and measure to continue Existing clients glad separated from their business duties. The senior directors routinely accomplish different Personality improvement programs; however down the staff, for example, deals official are not given a similar chance. The Small endeavors ought to give extraordinary preparing to their business group to acquire excitement and duty for the work with new thoughts and development.

Digital Advertising : There is an expansive number of methods for promoting on the web and it is normal that publicizing will develop exponentially in this association. The organizations initiates can be video recorded and transferred in the web, which understudy will assist the potential modern purchasers with understanding the working of the Small ventures without making production line visit.

Mobile applications as a Service tool: Mobile applications can be used as the service tool, the regular updating of payments, receipts, and other business related information will help the Customers in meeting their commitments without overlooking at them.

Reach your best qualified prospects: A great alternative to B2B marketers targeting specific industries or individuals is to take the list of prospects from the institutions, which are providing their mail, address and other details; then sending an attractive sales letter or e- mail at least three or four times to catch their attention. The other fact came from the respondents is that majority of their sales executives have stopped prospecting and they are involved only in servicing the present customers

Improving feedback mechanism: Marketing function totally depends on your customer information. Small scale enterprises should know exactly who are our end users, why do they purchase our products, when do they purchase in a year, how we can motivate them to do repeat purchase. They need to redouble their efforts at dialogue through social media, internet (Website) and get direct feedback from customers or clients through salespeople.

Following up leads and convert it in sales: Keep Tracking and follow up lead or prospects are complex task. The person who takes care of inbound calls should ask each and every lead or prospect about how they hear about company. The person in charge must ensure where the leads generated from. He has to keep a track on impact of online, print and broad cast advertising. He also must ensure that lead is followed-up within 24 hours of the enquiry by the potential customer.

Customer Relationship Management (CRM): The importance of CRM is known fact to each and every Enterprise. As now all the entrepreneurs know that 80 percent of their business comes from their 20 percent loyal customers. So it is fruitful to invest few amount of CRM, when we asked our respondents to comment about it, they also applauded the concept. On the other hand 35 per cent of the respondents told us that they are not taking special care and measure to keep existing customers happy apart from their business commitments. The senior managers regularly attain various personality development programmes; but down the staff such as sales executive are not given the same opportunity. The Small enterprises should provide special training to their sales team to bring in enthusiasm and commitment for the work with new ideas and innovation2.

Digital Advertising: There is a large number of ways of advertising on the internet and it is expected that advertising will grow exponentially in this connection. The companies activates can be video recorded and uploaded in the internet, which intern will help the potential industrial buyers to understand the functioning of the Small scale enterprises without making factory visit.

Mobile applications as a Service tool: Mobile applications can be used as the service tool, the regular updating of payments, receipts, and other business related information will help the customers in meeting their commitments without overlooking at them.

Reach your best qualified prospects: A great alternative to B2B marketers targeting specific industries or individuals is to take the list of prospects from the institutions, which are providing their mail, address and other details; then sending an attractive sales letter or e- mail at least three or four times to catch their attention. The other fact came from the respondents is that majority of their sales executives have stopped prospecting and they are involved only in servicing the present customers.

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Limitations Of the study:

- The study is limited to the city of Bangalore
- The study is limited to the marketing Strategies.
- Study is focuses on small scale enterprises only.

DISCUSSION OF FINDINGS

- The study reveals that there is a significant relationship between the product quality strategy and the profitability of Small enterprises conducted by (Dr.AbdulGhafoor Awan 2014)

- This finding is consumer for their goods and service. Though we know that marketing starts before the production of good s and services and doesn't end with the sell of the goods. Marketing is a continuous process focused towards identifying, creating and satisfying the customers by (Pathasanathi Senapathi (2014) which states that product influences and total quality management could serve as marketing strategy which impacts on business performance.

- The Small enterprises agreed that product quality factors responsible for the increase in market share of their businesses includes reliability of the product, warranties and guaranties issued to customers and a situation where the price is commensurate with the quality of the product.

- The findings of this study also reveals that marketing communication strategy does not have a significant impact on the growth of small scale enterprises in Bangalore. In a study conducted by (Parthajeet Das 2017) this was confirmed as their study revealed that makes an attempt to focused on the huge growth potential and opportunities available in India for development of Small scale enterprises sector to identify important issues and challenges and offer Suggestions to address the same. Consumers may also perceive that heavier promotions also mean that the products are sold at higher prices, which will turn-off consumers who are in the low- cost segment of the consumer market

CONCLUSION

The advertising can work adequately just when the responsibility from the administration and individuals in the Organization comes. The Small scale undertakings can undoubtedly get the creative showcasing rehearses as they don't have layers between the leaders and the general population who actualize these choices. The Small scale ventures need to figure their objectives plainly and afterward assess the different inventive promoting options based on their abilities and assets. Little scale undertakings inventive showcasing system can work, in the event that it depends on obviously defined advertising project to achieve the potential and existing clients. The 80-20 standard should be viewed as By the Small scale undertakings before figuring CRM methodology. The fruitful working of any association insignificant of its size of activity relies upon the general population working there. In the event that individuals are content with the workplace and work then their efficiency will improve. Along these lines Small scale ventures must guarantee of giving favorable workplace to the general population, where they can cooperate excitedly and blissfully for the achievement of the association and their individual objectives.

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A STUDY ON PERCEPTION OF CULTURE DIVERSITY IN WORK PLACE

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Abstract

The acceptance and management of culture diversity is a effective tool to prevent group dynamics in the workplace. The proliferation of Trade lead to the cultural diversity .The last 2 decades have lacked to sufficiently present the challenges inherent in the management of cultural diversity .The research aims to bring about the perception of employee's against the culture difference in the work place. The culture-diversity largely occurs through the aspects of gender, age, ethnicity and sexual orientation. The analysis made is through the collection of qualitative and quantitative method of open-ended questionnaire's and face -face interviews' conducted in the workplace. The paper emphasis on building effective tool to manage cultural difference through sensitive or diversity training for the employee's to receive and respect the culture and practice of the others ,to ensure a good co-ordination and create a healthy working environment.

Key words: Cultural Diversity, Perception, Ethnicity, Acceptance, Respect.

Introduction

Difference from the majorities leads to diversity .The aspects of minority and majority exists in everywhere in the human space. But being an organisation, where humans are considered as an asset it's a largely required for the firm to have a better co -ordination amongst their employee s irrespective of any age, gender or ethnic group. Thus the requirement of crafting management is essential in shaping, moulding and re-defining the job that creates job satisfaction. This paper reviews on "culture literature "and makes an attempt to compile the research findings on the effect of culture perception in the work place

Understanding on culture diversity in workplace

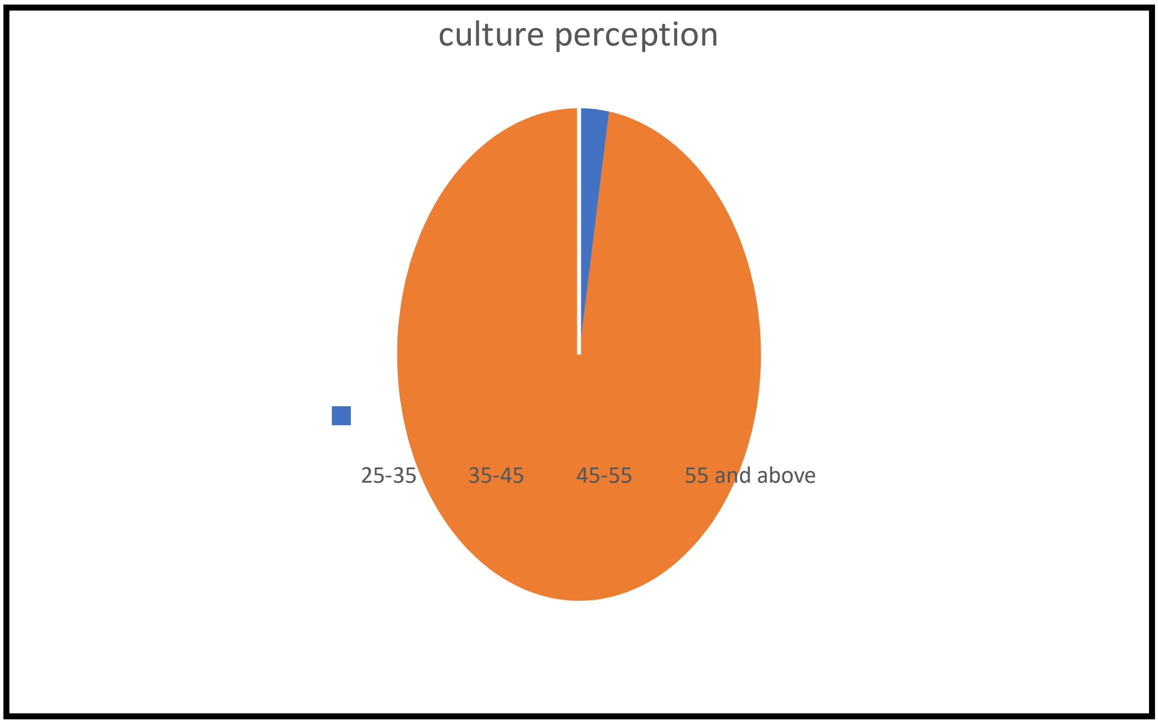
The word " culture" itself holds a numerous meaning within , culture infact is thought, belief, value, practice, tradition ,knowledge of ones own ethnic group that is been derived or observed by an individual which he or she is forced to continue irrespective of his likes or dislikes .Since the word culture is giving diverse meaning the 'culture diversity" prevails a vital understanding and the chances of difference are larger .The culture diversity is termed to be the existence of different ethnic group in the society, that stress the need for respecting the culture of others. Organisation thus have moved from mono -culture to multi-culture making an attempt to create oneness in the workplace by making a strong moral place to work for best productivity and increased efficiency.

Understanding on perception

The perception is a multi faceted cognitive process and varies from individual to the other, is also termed to be the way or the process that a person receives, organises and interprets his thoughts, understanding idea to provide a meaning to their environment. Positive perception is always encouraged than having biases that affects the perception like frame of reference, stereotypes, interests, expectations, projections, selective exposures. The management of perception is equally important by having a sense of empathy, high level of self awareness, diversity management programmes, avoidness of inappropriate attribution above all knowing yourself.

Culture and perception of people

The values, beliefs, attitudes, interpretation, understanding of culture varies from every individual to the other leading to diverse opinions and thoughts about different culture .For instance ,the people in North America expect a distance from the other communicator during the process of conversation which, is not directly asked but observed. Sometimes the diverse culture leads to culture shock as well specially for the expatriates. Here the gesture's, the body language , the way of receiving a person and greeting him leads a person to shock as his culture vastly varies from the culture he experience in his workplace. Not just the aspect of inter-culture is considered but also the intra-culture that is people from same religion have a different culture. Thus to organisation that focuses to make the work place a healthy atmosphere the culture diversity is big challenge. James Lynch gives the "inter-culture" study, where every child is learnt to receive and accept the culture of others. The survey conducted in the workplace of Adeco across various age sectors that assisted in the analysis of cultural perception .The survey was face-face interview for duration of 3-4minutes with the employees



in the Adecco Group.

Title : Culture Perception

Fig 1.

The pie-chart represents the people perception towards culture diversity that clearly illustrates despite the Adecco group is made efforts in the workplace that diversity is positive factor, still the employees face certain barriers in accepting the diversity and their perception towards culture diversity still ranges on higher end that nearly 73% from the age group of 35-45 face the challenge of "Receiving and Respecting the culture of others". The paper has developed the hypothesis on the basis of survey conducted.

Changing perception towards Culture Diversity

The attempt of the modification in the behaviour and attitude of employees by the Adecco Group have made a tremendous changes in the perception of employees towards culture diversity .As the organisation behavior itself embers the quality of modification the aspects is based on the "law and the effect" that describes a basic phenomenon that like hood that the behavior repeats on the consequences alone. Thus , if the behavior creates a pleasant experience ,then the tendency of repeating the consequence occurs ,if not that is vice-versa leads in creating unpleasant or no experience ,the chances of the occurrence of the consequences stands nil. Adecco is made efforts in reducing the barriers of acceptance of diversity and resulted in creating a strong ethical and moral workplace by implementing the global model of identifying the culture diversity by Greet Hofstede's Model.

1. Power distance-reducing the unequal distribution of power

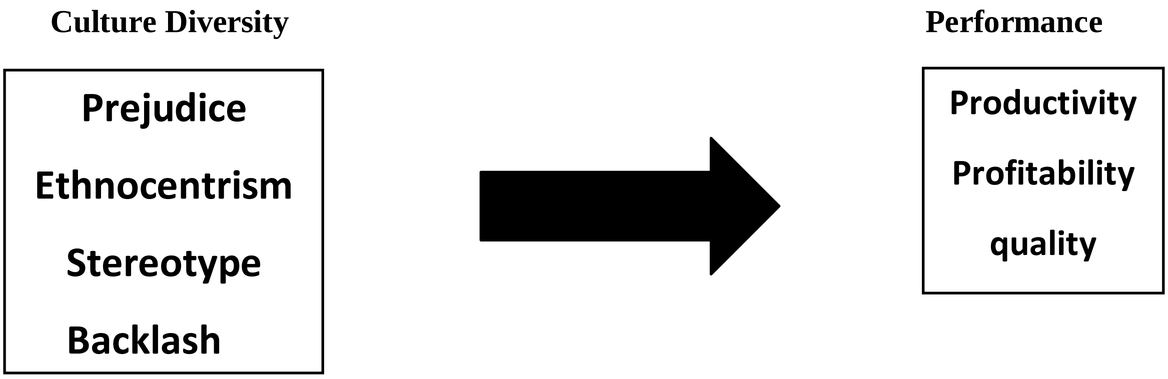
2. Individualism and collectvism -sense of "We " and not "I"

The Adecco Group is also implemented the Anthropology (Discipline of Organisation Behaviour) that is the process of intergration of the individual culture with the organization culture and other ethinc groups.Lead to change in understanding,beliefs ,attitude, receiving of the culture .Thus, Adecco stood successful in changing the perception towards culture diversity.

Findings and Discussions

The paper has reviewed literature on the concepts of the culture diversity and the workplace that is infact resulted as a challenging weapon in the organization. Further the paper aims at creating diversity management to assist a better decision making process, leading to accomplishment of both individual and organisation targets. The review of the paper highlights the positive relationship between the culture diversity in the workplace and the organisation behaviour. However, certain unexplored questions still remained unanswered, lead to the stress on further studies and research between the positive and negative relationship with effect to the culture diversity.

Proposed Conceptual Framework



The paper provides the following hypotheses as the description of the proposed conceptual framework:

The Adecco Group lacks a significant relationship between the culture diversity and the workplace that directly affects the productivity. Through the analysis made on the data collected the employees faces the issue in accepting diversity that largely includes the aspects of prejudice that created a harm or an unjustified action towards the other based on this membership with the other ethnic groups, Ethnocentrism largely existed where an employee is subjected to create a superiority of his own religion, race, region and ethnic group that resulted the other to experience a sense of inferiority.

Despite in the modest era, it sounds heart-rendering that the concept of stereotype thinking still prevail even in the well-equipped workplace where an employee is subjected to be judged by the region of his /her origin and the other culture diversity that is identified is the backlash, a negative reaction in order to acquire a power.

Result of the study

The result of the survey conducted by open ended questionnaires and the face -face interview in the Adecco Group interprets that the employee despite face various barriers to accept diversity but still the survey explains that each employee possess the sense of respecting the difference in culture and realise that every other culture is as vital as their own culture. The knowledge of other’s culture helps to understand the sensitivity of their beliefs, customs and tradition. Thus, this created a healthy and strong moral atmosphere in the work place of Adecco Group.

The research laid emphasis on the different perception towards culture diversity. The employees ensured that their knowledge of other culture lead to reduced conflict and the employees were in spirit took an initiative to eliminate the different perception that existed in the work place by making a self -actualization that echoed “ Culture is the richness “ of every region that has to be accepted in the given social environment.

Culture is part of learning that is been observed from our external environment that include our social beings. Thus, despite considering the fact that each individual has a different origin but still having a positive perception towards the culture diversity in the work place of the Adecco Group was embedded.

Discussion of the result

India being the land of rich culture, tradition, practices. India is infact termed to be as "Vasudeva Kutumbakam ". The fundamental rights gives the right for every individual his right to freedom of religion, right to belief and his freedom of speech. Excluding the wordings of law it's a civic sense of every individual to receive and respect the culture of other rather to have negative perception towards the culture practice .Even in the workplace the sensitive issues like these cultural difference should not harm the functioning of the firm rather invade the personal space of any individual

The survey highlighted that every employee holds the quality of not interacting against any culture rather they make an effort to understand the culture of others. The research resulted positively concluded by ensuring that employee realise the importance of culture. Every country is required to have a sense of culture-diversity and ensure a positive perception towards the culture -diversity for stability and peace.

Conclusions and Recommendations

The objective of the paper was to determine the perception towards to the culture diversity. It is clear that the demographics that include mental/physical abilities and characteristics, race, ethnic heritage, age but in large the prejudice, ethnocentrism, stereotypes and backlash that affected the performance (productivity, profitability and quality).So as to improve the knowledge ,interaction in organisational culture it is required to manage the diversity effectively. Managing diversity holds a priority irrespective of its scale of operations.

From the literature review, the paper recommends efficient diversity management that includes in order to understand the people's attitudes, behaviours and experience its required for every organization to present awareness programmes that strives to eliminate different perception of diverse manager ,sub ordinates, co- workers. Educating the mangers, co-workers and the employees in the organization as to how and why people differ in the way of communicating, approach, issues and situations that build's healthy respect for diversity and also facilitate mutual understanding by increasing diversity skills. The change starts with "I".

Thus, the employees are required to build certain strategies' to help the organisation to manage culture diversity and develop a strong moral and a positive perception. This include a very tiny steps like having a peer group of other ethnic group, having a urge of learning the other language , since language is an art to communicate his /her thoughts. Simultaneously the organisation is required to arrange a sensitive training for the employees, ensure that the training facilitates the employees in learning and interacting with other ethnic group efficiently and effectively. Another major challenge for the Adecco Group is that managing gender diversity, at times the gender leads to the ability of understanding the other in certain situations. Thus, a mutual learning from both the genders to sharp their knowledge and skill is essential. Thinking of people in stereotype perspective should be eliminated. Therefore, instead of looking for the average difference, it's essential to manage the diversity and create a positive perception towards the culture diversity.

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LACK OF PATENT LAWS IN SHENZEN

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Abstract

Forensic accounting utilizes accounting, auditing and investigative skills to conduct an examination into a company's financial statement. It deals all about infringements whether its patent infringement, copyright infringement, trademark infringement or trade secret misappropriation, we provide litigation consulting services to assist in making sure you get what you've worked for. Here is a patent infringement. Patent is a license of an organization which no other organization or startups should copy ,if any organization copies it or tries to copy it then it's a crime and the owner can file a case against the person who is responsible for it. The same issues have been occurred in Shenzhen which is a part of city in china. It is a place where no patents have been issued. This may be an advantage as well as disadvantage for the startups.

This paper focuses on the merits and demerits, effects and causes due to the lack of patent laws in Shenzhen. To run any company, we need to have a patent. Lack of patent may cause many issues and one of the issues is about the recent case of Shenzhen. The role of patent is very important for an organization.

Key words: Investigation, Audit, Infringement

Introduction

We all know about Forensic Accounting not much but at-least something for our knowledge. Every human individual is different from each one not just by behavior even by their thinking ability, communication. He carries a lot of feelings with him which any other animal don't do such as lust of money, cheating upon others, etc. From the time of history we can hear stories of betrayal by the workers to the owners in many aspects of business, including forgery, murder, fraud in accounting, frauds in exchange of goods. But people got smart overtime, they started doing online frauds and forgery of accounts and researching these accounts are called as forensic accounting.

Forensic accounting deals with infringements such as, copyright infringement, patent infringement, trademark infringement or trade secret misappropriation. Here we are going to talk about patent infringement. Patent is a license or an agreement which is signed for some years, if anyone copies or tries to copy then it’s a crime and the owner of the company can put a case on the person who has done this crime. Her we are going talk about patent issues in Shenzhen. In Shenzhen there is no patent law. If any company launches a new product they copy it and sell that in a very low cost. In this page we are going to explain the lack of patent issues in Shenzhen.

Research Design

Here we are researching about the patents in Shenzhen. According to the research there are no patents in Shenzhen. These are the copy cats in business world. If you launch a new product in your company which is unique these people in Shenzhen copy the same design with same features and sell that a very low prize which can put your company into loss.

Objectives

- To know about the Patent Laws.
- To know the Advantages and Disadvantages of having patent.
- To study the Opportunities to license or steal inventions of every other company.
- To analyse the Profit making by coping the innovations of other companies.
- To make a study on the elimination of Patent Duplication.

Motives

Patent issues has been a major problem in the present world. This has to be brought into light so that no companies fall into loses and our motive in this paper is that each individual should get to know about the current scenario and take a right step further before they launch any of the product.

Literary

The Israeli entrepreneur had spent one year designing the product that would make him rich, a smartphone case that unfolds into a selfie stick. He had drawn up prototypes, secured some minimal funds from his family, and launched a crowdfunding campaign. He even shot a professional promo video, showing a couple taking the perfect selfie in front of the Eiffel Tower.

But one week after his product hit Kickstarter in December 2015, Sherman was shocked to see it for sale on AliExpress, Alibaba's English language wholesale site. Vendors across China were selling identical smartphone case selfie-stick, using the same design Sherman came up with himself. Some of them were selling for as low as $10 a piece, well below Sherman's expected retail prize of $47.41. Amazingly, some of these vendors stole the name of Sherman's product.

Sherman had become a victim of china's lightning-fast copycats. Before he had even found a factory to make his new product, manufacturers in china had spied his idea online, and beaten him to the punch. When his Kickstarter backers caught on, they were furious. "You are charging double the prize for what the copycats are charging, yet I seriously doubt the final product will be any better than the copycats," one person commented.

Years ago, experts in the hardware industry would have had more sympathy for Sherman. Now, no one does, not even Sherman himself. While discussions of intellectual property in China's manufacturing centers once focused on how brands and inventors could protect their designs from China's rapacious copycats, things have changed. Startups and foreign manufacturers are embracing a new reality, someone in china is going to make a knockoff of your unique inventions, almost immediately. All any company or entrepreneurs can do is prepare for it.

Data Analysis

According to this paper, every newly invented product should have a patent. The above case shows how people in Shenzhen copy each and every features and design of the product and make profit out of which the person who had invented those products get into loss. There are probably 100s of small factories who might see a product on internet and think 'I can do this'. There are probably few products which have not been copied. People in Shenzhen copy only those products which are made of plastics. But all companies and small scale industries cannot afford things such as marble coating, and so on.

Conclusion

Patents are issued for every product but are still being copied by these copy cats.

People and researchers are still finding solutions for this but still are silent with no answers. This paper shows the awareness against the product which are fake and cheap. Products may be in India in majority are exported from China, so this is an awareness for all the people who buy products in cheaper rate to be careful of those products which look branded but are fake or duplicate.

Disclaimer

The above paper is not to discriminate any of the companies nor any country. The inform I have got is purely from google (Wikipedia). It is just based on the awareness and globalization of unwanted trade in this world.

CONTEMPORARY ISSUES OF GLOBAL TRADE GLOBAL ACCOUNTING AND TAXATION

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Abstract

The world is getting smaller and smaller, globalization has made it possible to accept the world as one market. For better understanding of the business reporting and consistency in accounting policies, there was an urgent need to align to one global accounting language. As a impact of globalization, the stakeholders investors are all across the world. The organization communicates its financial position using financial statement and reports. The field of accounting has been undergoing radical changes recently. According to accounting couch GAAP standards are outdated. At this point, it is oblivious to everyone that there is need for one universal set of accounting practices. However what those practices should be and how to implement them is still a work-in-progress. This paper gives a brief outlook with regard to IFRS a global accounting standard developed by IASB. It's implementation in the global economy towards creating a global business where stakeholders across the world.

Keywords: Global Accounting, IASB, IFRS, Taxation

Introduction

The field of accounting has been undergoing radical changes recently. Many critics believe that Generally Accepted Accounting Principles (GAAP) standards are outdated, according to Accounting Coach. Global accounting is a specialty in the field of accounting that is rapidly becoming more important in a setting where companies have international locations all over the world. American companies with locations in other countries face unique challenges when trying to adhere to required accounting principles that are not uniform across the world. Global accounting is a field that is developing to address these issues. Following is an explanation of what global accounting entails and how it has developed in the recent past.

The stock market crash of 1929 gave rise to the Securities and Exchange Commission (SEC). The SEC recognized the need for established uniform accounting practices. In 1973 the Federal Accounting Standards Board (FASB) was established. FASB has been the major policymaking board for accounting since that time. They were instrumental in establishing Generally Accepted Accounting Principles (GAAP). GAAP policies are basically a standard set of rules that every company has to follow so that their reported earnings and financial health is objective and investors can trust the information these companies are publishing. GAAP standards came at a critical time when our financial system desperately needed a set of common rules for accounting practices.

As the way American companies do business began to change, it became apparent that GAAP policies are no longer as useful as they once were. During this period of global marketing and manufacturing, many corporations have branches in other countries. This makes it extremely difficult to adhere to U.S. based GAAP policies across the board. The globalization of business has given rise to the need for a more global accounting system. In 2002 FASB began working with the International Accounting Standards Board (IASB) to develop a new system of international accounting standards.

This has proven to be an extremely difficult process. Changing GAAP standards can potentially have a huge impact on the U.S. banking system, the stock market, and the way companies and corporations account for revenue and expenses. Setting up a “one-size-fits-all” set of accounting rules for companies that are global players in the business world might sound good in theory, but it has proven to be almost impossible in practice.

At this point, it is obvious to everyone that there is a need for one universal set of accounting practices. However, what those practices should be and how to implement them is still a work in progress. In addition the process of switching over to new accounting practices could prove to be confusing to investors and subject to manipulation by unscrupulous corporations determined to manipulate their financial statements.

The recent accounting scandals have exposed the weaknesses in the way American countries account for profits and expenses. In addition, as more and more companies blur the boundaries between countries the need for some type of international accounting standards becomes more apparent. FASB has vowed to continue to work with IASB to align their standards. The one certainty is that global accounting is on its way.

Objectives of global accounting standards

- To bring uniformity
- Eliminate the non-comparability of financial statement
- Stability in accounting standards
- Increase in confidence level of users by giving structural framework
- It provides harmonization
- To maintain consistency
- To provide reliable information and relevant information to the users
- To make the users understandable
- To maintain fairness, consistency and transparency in accounting practices

INTERNATIONAL FINANCIAL REPORTING STANDARDS

International Financial Reporting Standards (IFRS) are a set of international accounting standards stating how particular types of transactions and other events should be reported in financial statements. IFRS are issued by the International Accounting Standards Board (IASB), and they specify exactly how accountants must maintain and report their accounts. IFRS were established in order to have a common accounting language, so business and accounts can be understood from company to company and country to country.

History of IFRS

IFRS originated in the European Union, with the intention of making business affairs and accounts accessible across the continent. The idea quickly spread globally, as a common language allowed greater communication worldwide. Although only a portion of the world uses IFRS, participating countries are spread all over the world, rather than being confined to one geographic region. The United States has not yet adopted IFRS, as the GAAP is viewed as the "gold standard".

Currently, about 120 countries use IFRS in some way, and 90 of those require them to fully conform to IFRS regulations.

IFRS is maintained by the IFRS Foundation. The mission of the IFRS Foundation is to "bring transparency, accountability and efficiency to financial markets around the world." Not only does the IFRS Foundation supply and monitor these standards, but it also provides suggestions and advice to those who deviate from the practice guidelines.

The goal with IFRS is to make international comparisons as easy as possible. This is difficult because, to a large extent, each country has its own set of rules. For example, U.S. GAAP is different from Canadian GAAP. Synchronizing accounting standards across the globe is an ongoing process in the international accounting community.

Breakdown of IFRS

The point of IFRS is to maintain stability and transparency throughout the financial world. This allows businesses and individual investors to make educated financial decisions, as they are able to see exactly what has been happening with a company in which they wish to invest.

IFRS are standard in many parts of the world, including the European Union (EU) and many countries in Asia and South America, but not in the United States. The Securities and Exchange Commission (SEC) won't switch to International Financial Reporting Standards in the near term, but will continue reviewing a proposal to allow IFRS information to supplement US financial filings. Countries that benefit the most from the standards are those that do a lot of international business and investing. Advocates suggest that a global adoption of IFRS would save money on alternative comparison costs and individual investigations, while also allowing information to flow more freely.

In the countries that have adopted IFRS, both companies and investors benefit from using the system since investors are more likely to put money into a company if the company's business practices are transparent. Also, the cost of investments is usually lower. Companies that do a lot of international business benefit the most from IFRS.

IFRS are sometimes confused with International Accounting Standards (IAS), which are the older standards that IFRS replaced. IAS was issued from 1973 to 2000, and the International Accounting Standards Board (IASB) replaced the International Accounting Standards Committee (IASC) in 2001.

Standard IFRS Requirements

IFRS covers a wide range of accounting activities. There are certain aspects of business practice for which IFRS set mandatory rules.

- Statement of Financial Position: This is also known as a balance sheet. IFRS influences the ways in which the components of a balance sheet are reported.
- Statement of Comprehensive Income: This can take the form of one statement, or it can be separated into a profit and loss statement and a statement of other income, including property and equipment.
- Statement of Changes in Equity: Also known as a statement of retained earnings, this documents the company's change in earnings or profit for the given financial period.
- Statement of Cash Flow: This report summarizes the company's financial transactions in the given period, separating cash flow into Operations, Investing, and Financing.

In addition to these basic reports, a company must also give a summary of its accounting policies. The full report is often seen side by side with the previous report, to show the changes in profit and loss. A parent company must create separate account reports for each of its subsidiary companies.

IFRS vs. American Standards

Differences exist between IFRS and other countries' Generally Accepted Accounting Principles (GAAP) that affect the way a financial ratio is calculated. For example, IFRS is not as strict on defining revenue and allow companies to report revenue sooner, so consequently, a balance sheet under this system might show a higher stream of revenue than GAAP's. IFRS also has different requirements for expenses; for example, if a company is spending money on development or an investment for the future, it doesn't necessarily have to be reported as an expense (it can be capitalized).

Another difference between IFRS and GAAP is the specification of the way inventory is accounted for. There are two ways to keep track of this, first in first out (FIFO) and last in first out (LIFO). FIFO means that the most recent inventory is left unsold until older inventory is sold; LIFO means that the most recent inventory is the first to be sold. IFRS prohibits LIFO, while American standards and others allow participants to freely use either.

Differences between IFRS and GAAP

International Financial Reporting Standards (IFRS) is the accounting method that's used in many countries across the world. It has some key differences from the Generally Accepted Accounting Principles (GAAP) implemented in the United States.

As an accounting professional or business owner, it's vital to know the variations of these accounting methods, in order to successfully manage your company globally, as well as domestically. Here are the top 10 differences between IFRS and GAAP accounting:

➢ Locally vs. Globally

As mentioned, the IFRS is a globally accepted standard for accounting, and is used in more than 110 countries. On the other hand, GAAP is exclusively used within the United States and has a different set of rules for accounting than most of the world. This can make it more complicated when doing business internationally.

- Rules vs. Principles

A major difference between IFRS and GAAP accounting is the methodology used to assess the accounting process. GAAP focuses on research and is rule-based, whereas IFRS looks at the overall patterns and is based on principle.

With GAAP accounting, there's little room for exceptions or interpretation, as all transactions must abide by a specific set of rules. With a principle-based accounting method, such as the IFRS, there's potential for different interpretations of the same tax-related situations.

- Inventory Methods

Under GAAP, a company is allowed to use the Last In, First Out (LIFO) method for inventory estimates. However, under IFRS, the LIFO method for inventory is not allowed. The Last In, First Out valuation for inventory does not reflect an accurate flow of inventory in most cases, and thus results in reports of unusually low income levels.

- Inventory Reversal

In addition to having different methods for tracking inventory, IFRS and GAAP accounting also differ when it comes to inventory write-down reversals. GAAP specifies that if the market value of the asset increases, the amount of the write-down cannot be reversed. Under IFRS, however, in this same situation, the amount of the write-down can be reversed. In other words, GAAP is overly cautious of inventory reversal and does not reflect any positive changes in the marketplace.

- Development Costs

A company's development costs can be capitalized under IFRS, as long as certain criteria are met. This allows a business to leverage depreciation on fixed assets. With GAAP, development costs must be expensed the year they occur and are not allowed to be capitalized.

- Intangible Assets

When it comes to intangible assets, such as research and development or advertising costs, IFRS accounting really shines as a principle-based method. It takes into account whether an asset will have a future economic benefit as a way of assessing the value. Intangible assets measured under GAAP are recognized at the fair market value and nothing more.

- Income Statements

Under IFRS, extraordinary or unusual items are included in the income statement and not segregated. Meanwhile, under GAAP, they are separated and shown below the net income portion of the income statement.

- Classification of Liabilities

The classification of debts under GAAP is split between current liabilities, where a company expects to settle a debt within 12 months, and noncurrent liabilities, which are debts that will not be repaid within 12 months. With IFRS, there is no differentiation made between the classifications of liabilities, as all debts are considered noncurrent on the balance sheet.

- Fixed Assets

When it comes to fixed assets, such as property, furniture and equipment, companies using GAAP accounting must value these assets using the cost model. The cost model takes into account the historical value of an asset minus any accumulated depreciation. IFRS allows a different model for fixed assets called the revaluation model, which is based on the fair value at the current date minus any accumulated depreciation and impairment losses.

- Quality Characteristics

Finally, one of the main differentiating factors between IFRS and GAAP is the qualitative characteristics to how the accounting methods function. GAAP works within a hierarchy of characteristics, such as relevance, reliability, comparability and understandability, to make informed decisions based on user-specific circumstances. IFRS also works with the same characteristics, with the exception that decisions cannot be made on the specific circumstances of an individual.

It's important to understand these top differences between IFRS and GAAP accounting, so that your company can accurately do business internationally. U.S.-based companies must abide by specific accounting regulations, even if they plan to do business internationally.

The implementation process of IFRS in India

The International Accounting Standards Board (IASB) is hopeful that India would in the next five-six years achieve "full convergence" with International Financial Reporting Standards (IFRS).

IFRS, a set of globally accepted standards issued by IASB, are designed as a common global language for business affairs so that company accounts are comparable across international boundaries.

Appreciating the leadership shown by NACAS and the CA Institute in bringing India forward in accounting, Hans Hoogervorst, Chairman, IASB, said that adoption of Ind-AS (Indian Accounting Standards) — if not fully IFRS — is a huge step forward and has been done in a transparent way.

"There is lot of progress (towards full convergence). There is also lot of issues, but they are transparent. The glass is much more than half full", Hoogervorst said at an ICAI- IFRS Foundation Trustees joint stakeholders' meet in the Capital.

Hoogervorst also said that another reason for optimism that India would fully converge in coming years is that there are only seven carve-outs, basically deviations between Indian accounting standards and IFRS.

From April 1 this year, India has implemented a new framework of accounting standards (Ind-AS) that seeks to converge with IFRS and not fully adopt them. For banks, Ind-AS implementation will begin from April 1, 2018.

Leasing, revenue recognition, foreign currency convertible bonds, current vs noncurrent liabilities, bargain purchases are among the areas where India has deviated from IFRS.

“It’s crystal clear to us where there are differences between IFRS and Ind AS. That is helpful as we can talk to each other about it and see how we can iron them out in the future”, Hoogervorst said.

Amarjit Chopra, Chairman of National Advisory Committee on Accounting Standards (NACAS), highlighted that India has been setting accounting standards since 1978 and that carve outs undertaken for convergence with IFRS were discussed and very well explained.

“Over the years, we know that those carve outs will have to be taken care of. We may have to get into a situation where there will be no carve outs. That will be welcome in next five years, who knows... we may be in a situation to say that we have virtually adopted IFRS. For that we have to get the help of regulators”, Chopra said.

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Chopra, who as CA Institute President in 2010-11, played a key role in development of Ind-AS, said that industry has now wholeheartedly accepted Ind-AS implementation (from April 1, 2016) and that’s remarkable development.

Conclusion

The concept of the 4th EU Directive as a common basis for all national GAAP within the European Union has preserved national accounting traditions. The Directive is a compromise between Anglo-Saxon and Continental European accounting traditions and with the introduction of International Accounting Standards, a shift to the Anglo-Saxon accounting tradition takes place, with the result that national GAAP with Continental European accounting traditions will probably face more problems during a transition process than those national GAAP with an Anglo-Saxon background. Statutory audit procedures include a number of standard audit tests which simultaneously address accounting problems during a transition process and it has been demonstrated that for all IFRS Level I statements standard audit procedures are available. This allows an integrated approach of a transition and an audit process. The application of audit theory facilitates the transition process. It is not necessary to develop a new transition theory.

Although IFRS statements show a more heterogeneous structure and sometimes include confusing wording and definitions, it has been possible to develop decision structures for all IFRS statements under review and, furthermore, structure complex accounting requirements, for example fair value methods. These decision structures in connection with standard audit procedures are able to serve as a model for developing software routine procedures allowing an integration into existing audit software programmes. This streamlined process, compared to a manual transition process, will reduce the cost of any transition process and is a condition for supporting the efforts of the group of small and medium-sized companies in a transition process. With the growing importance of International Accounting Standards for SMEs the need for software-based solutions will increase and the results of this work offer software programmers, who are not usually experts in financial reporting, an opportunity to develop programme routines according to the elaborated decision structures. It has been demonstrated that an integration of the presented research results from the standpoint of financial reporting with the needs of software programming is possible and a technical solution suitable for companies within the European Union seems to be a logical consequence.

DIGITAL ECONOMY AND FOREIGN TRADE IN INDIA

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ABSTRACT

The digital economy in India will continue to expand and diversify. The world will move into a cashless society. Digitalization will help the companies to deal all their transactions with a complete picture of their market and understand more clearly about the market opportunities. Some experts regard that the digital economy is the new productivity platform and it is the third industrial revolution. It is also known as 'The Internet Economy' or internet of everything (IoE), which is expected to generate new market, jobs, growth opportunities and become the biggest business opportunity of mankind in the next 30 to 40 years. Prime minister Narendra Modi's vision for the Digital India is a deliberate call to embrace the opportunity for India as one of the leaders in the third revolution, and the use of information and Communication Technologies (ICTs) that has never been greater.

In the latest IMD World Competitiveness Rankings, out of 63, India has ranked 45th in overall economic competitiveness, was ranked 60th on overall infrastructure and dead last on critical sub-factors of health, environment and education infrastructure. Digital interruption will not absolve India of its infrastructure afflictions. The incorporation of the domestic economy through the identical channels of trade and capital flows has accelerated in the past two decades which in turn led to the Indian economy growing from Rs 32 trillion (US $ 474.37 billion) in 2004 to about RS 153 trillion (US $ 2.3 trillion) by 2016. Foreign Trade Policy (FTP) governs all export and import related activities. Incorporation of right foreign trade policy and using digital economy will develop the Indian economy in more effective and efficient

manner.

KEYWORDS: GDP, GSTN (Goods and Services Network), WTO (World Trade Organization), FTA (Free Trade Agreement), Digitization

INTRODUCTION

India is known as one of the most important players in the global economic landscape. Its government reforms, trade policies and inherent economic strengths have attributed to its standing as one of the most exclusive destinations for foreign investments in the world. Outstanding the government's expectations to make India USD 1-trillion digital economy by 2022, IT companies has supposed that India has the potential to grow up to USD 4-trillion during the period. Customers with new habits and global threats will initiate opportunities and threats for businesses in different sectors. Foreign Trade plays a major role in digital economy of India. Foreign Trade in India is administered by Ministry of Commerce and Industry. In the year 2015, Foreign Trade was accounted as 48.8% of India's GDP rate. Digitization of economies generally means that access to and use of data has economic effects. Globalization of the internet and the ability to move data across borders is also modifying the nature of foreign trade in India. IAMAI- IMRB report says Urban India with an estimated population of 444 million already has
269 million (60%) using the Internet. Approximately 50% of all traded services are enabled by information and communication technologies. Cross-border trade in today's economy in both physical and virtual goods is supported by global data flows.

Unorganized data and information are drivers of digital products, services and innovation and their role is growing as the broader economy digitizes. Digital economy is dependent on lucrative access to the equipment and devices which helps e-commerce to work, trade rules and policies that promote innovation and remove trade barriers in the entire global digital ecosystem. As India's growth rate is been decelerated to a 3-year low of 5.7%, analysts, business leaders and casual observers have started raising some alarm over the long- run state of the economy. Demonetization and GST rollout are being proposed to develop the foreign trade and economic growth of India. The GSTN has signed a MOU with the Director General of Foreign Trade, to share the realized foreign exchange and import-export code data, process export transactions of taxpayers under GST more efficiently, increase transparency and reduce human interface. Use of internet and data transforms the economy into digital economy where such technology expands across all sectors. The WTO and FTAs include disciplines on such behind the border non-tariff measures. Thus, in our present research we try prove that how digital economy improves the foreign trade of India.

LITERATURE REVIEW

Cross-border trade in today's economy in both physical and virtual goods is supported by global data flows. Policy and regulatory environments impact both the development and the deployment of digital technologies that can enhance trade. Needless burdens or unjustified restrictions on such technologies can significantly limit the potential of these technologies to deliver economic and social benefit. Similarly, a lack of trust in these technologies and related services, in particular how personal data is handled, can limit their adoption. Thus, policymakers must be aware of the need to remove barriers as well as create trusted environments for trade in the digital economy to reach its potential. – (Trade in the Digital Economy, ICC Commission on Trade and Investment Policy)

The Digital Economy is an economy based on electronic goods and services traded through electronic commerce (e-commerce). Because the digital economy is dependent on cost- effective access to the equipment and devices that make e-commerce possible, trade rules intended to promote the digital economy need to focus on policies that promote innovation and remove trade barriers in the entire global digital ecosystem. Thus, to increase the growth of the digital economy, we believe that it is essential for Congress and the Administration to advocate for innovation-oriented policies with other governments whenever possible. - (International Trade in the Digital Economy, Intel Corporation, Subcommittee on Finance)

The digital economy is the new productivity platform that some experts regard as the third industrial revolution. Digital revolution, also known as 'The Internet Economy' or Internet of Everything (IoE), is expected to generate new market growth opportunities, jobs and become the biggest opportunity of mankind in the next 30 to 40 years. – (Opportunities for India in the Digital Economy: V C Gopalratnam, CIO, Cisco)

STATEMENT OF PROBLEM

The expansion and diversification of digital global economy will continue in India. But customer with new habits and global threats will open opportunities and threats for businesses in different sectors. In the next decades, Blockchain technologies will combine the different and innovative uses increasing transparency and decentralization of information. New models will challenge the way of organization store and manage data transactions and enable internet-based companies to develop new financial products and services. Specially Europe, the second version of Payments Service Directive (PSD2) and the General Data Protective Directive aim to change the financial industry and stimulate competition in the financial sector and provide more security against fraud. Country like India, which has more competitors, diversified and open market, companies will struggle to offer services at lower rates. Current digital challenges will be tackled differently by Millennials and native digital generations. Citizen will spend less time working and increase their capacity of consumption. There are chances of expecting a new phase of privacy and individual users will count on newer resources to exploit their personal data, such as personal data lockers. Atomized stage of fintech are expected to enter into the financial market, and large competitors will challenge the conventional industries and form digital banks. The government adopts restrictions on internet use and cross-border data flows for a range of reasons. The set of regulations implemented for digital trade and equivalent range of regulatory goals, to identify the wide range of restrictions on digital trade. Cross-border data flows are restricted because it increases the cost for business to use a digital platform for export, cost of digitally-intense services imports and reduces the productivity and competitiveness of business.

OBJECTIVES:

- Digitization of economy is favorable to foreign trade.
- Amending the rules and regulation of cross-border data flow.

ANALYSIS AND INTERPRETATION : The rapid emergence of business models in India's digital space promises a unique transition. E-commerce, widely defined as the trading of goods and services, and the transferring of funds or data over electronic platforms, has grown rapidly. A current study predicts that India's e-commerce revenues will grow from
$30 billion in 2016 to $120 billion by 2020. India's business world was trading fast and loose indictments of capital dumping was drawn in the year 2016. The global internet and cross-border data flows provides a particular opportunity for SMEs to be engaged in the international economy. The Indian government is working on the developing the infrastructure of the country to adopt digital economy.

METHODOLOGY

This is a conceptual research paper presented on Digital economy and foreign trade to analyze how successful will the digital economy will work in foreign trade in India.

FINDINGS:

In the year 2016, India has shipped US $ 261 billion worth of products around the globe which was roughly 1.6% of overall global exports estimated at $16.326 trillion in the previous year 2015. Digital economy broadly means that access to and use of data has economic effects. Global value chain is particularly important in countries such as China, Japan as well as the United States. On an average country which participate in GVC has 2 percent higher per capita economic growth than those outside of GVC. Global value chain relies on cross-border data flows, for which developing the digital economy is required for the country. The world merchandise trade of $16 trillion divide into two baskets small and large. The products that contain in small basket account for 30 percent or $4.8 trillion worth of world trade. India's 70 percent of export earnings come from the small basket products. The present transition to a digital economy rapidly takes two advantages, evolving technological advances and the enhanced capabilities of data analytics in India. Many start- ups in the digital economy offer products and services for free, or at minimal cost, to end users and vendors. Nurturing an innovation friendly space is different from protecting individual players or business models in the digital space, and there is no better time than now for India to keep this in mind.

SUGGESTIONS:

- The digital economy is a part of wider knowledge-based economy; realizing this it is critical to build on current interest from both investors and innovation leaders in developing India as an Innovation hub.

- The structure of the industries must be altered by innovation driven competition which is currently initiated in the India by the Indian digital payments industry among the explosion of innovation supported by RBI.

- India needs to overcome the lack of efficiency at various level which has kept out from GVC.

- India must target the stages of product life cycle in the GVC, from conceptualization, development of a prototype, to manufacturing, to after sales service.

- Need to setup a National Trade Network (NTN) to enable all export-import related compliance online.

CONCLUSIONS :

The scores of startups are getting into digital analytics in India. In India the digital economy, with its ultra-low start-up costs, immediate access to a massive consumer market, and ability to test and fail cheaply has allowed firms to evade the hurdles that traditional businesses have faced. Many start-ups in the digital economy offer products and services for free, or at minimal cost, to end users and vendors in India. Network effects are especially valuable for growth and switching costs are typically minimal in the digital space. Indian digital economy offers tremendous potential for growth if appropriate policies are adopted by the country.

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MAN TO MACHINE, MACHINE TO MACHINE

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ABSTRACT

The paper reviews on the burgeoning of Artificial intelligence and Internet of things in the present evolving digital ERA. The impetus of the paper is to peruse the Artificial intelligence with a notion of embedded intelligence as being conjoined between perception, reasoning and actuation which is preferred by authorization of humans. AI with the assistance of human it is recreating the human thought process in physical robotic structures and the anatomization of robots Clearance Based Test. Further the implicationsthis report also tells us about the machine to machine communication without human beings where data is shared neither by wireless or wired Mode We also will be talking about the applications of internet of things which tells how Different applications work on Internet of things and also how this applications uses internet of things all these above mentioned things will be mentioned in the research paper.

We are going to have an analysis on how The artificial intelligence have happened in different countries and also an analysis on the countries which have completely dependent on artificial intelligence and also what are the reasons for those countries in order to adopt artificial intelligence and also what are the advantages for that country to adopt internet of things which is in the Path of emerging situation , our reports recommendation and findings are in such a way that, what will be the impact on internet of things which will be emerging in future and the report also emphasis on the problems , positivity And negativity Of internet of things and also about the impact of artificial intelligence in future or in the upcoming days.

Keywords: Artificial Intelligence, Machine Communication and Digital Era

INTRODUCTION

Creativity is a fundamental feature of human intelligence, and a challenge for AI. AI techniques can be used to create new ideas in three ways: by producing novel combinations of familiar ideas; by exploring the potential of conceptual spaces; and by making transformations that enable the generation of previously impossible ideas.

OBJECTIVES OF THE RESERCH

In this paper, we propose a probabilistic framework for memory-based reasoning (MBR). The framework allows us to clarify the technical merits and limitations of MBR methods. The proposed computational framework consists of three components: a specification language to define an adaptive notion of relevant context for a query; mechanisms for retrieving this context; and local learning procedures that are used to induce the desired action from this context.

The core objective of the research is to understand the relevance of Artificial intelligence and Internet of things in the present digital ERA.

RESERCH DESIGN

The founders of AI envisioned the notion of embedded intelligence as being conjoined between perception, reasoning and actuation. Yet over the years the fields of AI and Robotics drifted apart. Practitioners of AI focused on problems and algorithms abstracted from the real world. Roboticists, generally with a background in mechanical and electrical engineering, concentrated on sensor-motor functions. That divergence is slowly being bridged with the maturity of both fields and with the growing interest in autonomous systems. This special issue brings together the state of the art and practice of the emergent field of integrated AI and Robotics, and highlights the key areas along which this current evolution of machine intelligence is heading.

IT is Technological branch which controls the operation of the robots , we carryout a behavior mechanism analysis about the robots. A.I is one among the sub discipline of robotics.A.I aims to recreate human thought process.

Robots Are Given Clearance Based Upon Test.

Turing Test: It is a test based on captcha code, the robots should not enter the captcha code.

Coffee Test: The machine needs to be allowed to prepare a coffee.

Interview Test: Set of instruction will be given & it should oblige with the test.

Assembling Test: Machine is asked to assemble a furniture for decision making.

Practical Implications of A.I

Reactive Machines (D-blue): A robot which does not have storage capacity for future reference which is developed by IBM for playing chess.

Limited Memory: Information will be stored for a future reference. These types of machines are used for driverless car system in the industry.

Theory of Mind: It is type of humanoid ROBO machine. They are two major types:

> **Android ROBOT -** It is has cognitive thinking like human beings.
> **Ganoid ROBOT** – It can understand the feelings of human beings but will not react.

Self-Awareness: It can able to react to the human beings feelings.

Illustration: Sophia humanoid robot developed by Hong Kong based company Hanson Robotics. It is the First robot to get UN certification as innovativechampion. It is the first Non-human to have this kind of award.

IOT (INTERNET OF THINGS)

IOT is an integrated infrastructure which has presence of electronic components and sensors to be integrated together and the data is getting shared either by using wireless mode or by using wired mode.

Simply it is called as Machine to machine communication. Presence of human beings is not required.

Applications of Internet of Things

- Households: Alarms with coffee machine.
- Air conditioners: Thermostat sensors – Automatic On& Off.
- Agriculture: Moisture Sensor pumps will be stopped once moisture is increasing.
- Health: Used in diagnostics.
- Refrigeration: Automatic communication of between milk vendor and refrigerator.
- Automobiles: Autonomous vehicle.

FINDINGS AND RECOMMENDATIONS

- Naming &organizing the devices: More number of users will lead to tedious job of finding names.
- Human beings will become lazy.
- Communication with the cloud source: Interoperability is not possible.
- Measuring the performance: Tools to see the performance are not available and it is influenced by the network connections.
- Teaching & Monitoring: It is possible only when it is operated at a optimal level.
- Security& Privacy Safeguards: Instruction can be interchanged from one object to other which will dysfunction on the other products.
- Maintenancein charge for the devices: no maintenance incharge for the devices.

ACKNOWLEDGEMENT

This material is based upon the recent development of AI and IOT, Any opinions, findings, and conclusions or recommendations expressed in this material are and do not necessarily reflect the views of the National Science Foundation, it is solely my views and thoughts on the development of the current system of AI and IOT.

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CHINA

Artificial intelligence is also an other area for the Chinese which they consider it is very important. According to research in the period between 2011 to 2015 china published around 41000 papers on artificial intelligence which is almost twice the US number. The Chinese government stands as a strong backbone behind artificial intelligence in order to adopt it, in the year 2017 they announced the intention to become a world center for artificial intelligence innovation by 2030.

AMERICA

US ranks as one of the top countries with most artificial intelligence companies with almost around 1000 companies which are working on it and it has US$10 billion in venture capital which is a very big amount , the US is striving to become and also has a chance to become a superpower country in artificial intelligence , most of the famous companies like IBM, Microsoft , Google , facebook and Amazon which are US based companies which publishes papers but not only they help in publishing they even help in investing heavily in artificial intelligence.

JAPAN

Since most of the people in Japan are hard working people and also their tendency is to work hard if they do not work hard they do not get satisfied so even in this
county artificial intelligence plays a very important role, in Japan the present 55% of work

activities could be automated , with the current technology what they have and also because they are hard workers its manufacturing sector has 71%
automation capacity where as US has only 60% automation capacity and when it
comes to administration work Japan has overtaken US by 16% , so here Japan has overtaken US in both the sectors , so it has more chances of becoming a fast growing artificial intelligence country.

UK

UK as according to the published papers on artificial intelligence between the year 2011 to 2015, UK has 10100 papers which is comparatively less when compared to Japan, but even though they are comparatively behind we can not underestimate them because when we see the previous incidence for example when Google's famous deepmind defeated Go's grandmasters last year it was it not shocking? Deepmind was founded in Great Britain in the year 2010 but within 5 years it became the world leader in artificial intelligence because it had 250 employee researchers including mathematicians and neuroscientists

GERMANY

Germany's company max Planck society and 2 technical universities and also its leading exporting states are combining their artificial intelligence with Germany's famous automobile company Porsche, Daimler and worlds' leading multinational electronics and engineering company Bosch and also Germany has support from Amazon where the company is planning to open a lab there Like Japan even Germany has a decline in working population likewise it even has a high automation potential which is about 48.9% which is a bit compromising with the working population.

IMPACT OF FORENSIC ACCOUNTING IN GLOBAL TRADE

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Abstract

Forensic Accounting may be a special field of accounting that utilizes Accounting, auditing, and inquiring skills to spot and resolve legal Issues. Rhetorical accounting involves trying on the far side the numbers, it is more than accounting work or police investigation. The target of the research is to investigate the part measurable book keeping can play in the battle against debasement by means of the use of investigative aptitudes, in expansion to arrangement of suit bolster administrations, documentation, and announcing. The paper prescribes among others that bookkeeping experts ought to be dependably act proactively with the end goal that individuals are stayed up to date with developing advances, particularly in the zone of criminological book keeping and lawmaking body should make sure that the officials allow full self-rule to the specialists of government that are accused of implementing responsibility and that the workplace of the Auditor-General of the Organization, the Economic and Financial Crime Commission, Independent Corrupt Practices Commission, and Code of Conduct Bureau ought to be completely autonomous substances allowed to do their work without undue intruding and impedance. Legitimate accounting isn't generally another field, yet starting late the extended number of fakes and the shortcoming of the authorities to fight them have gained the Forensic Accounting. The spotlight scientific bookkeepers assume a part in case bolster benefits in general society segment and division is pertinent in documentation, revealing and significant in detailing.

Keywords: Forensic Accounting, Conduct Bureau, Corrupt Practices, auditing, legitimate

accounting, bolster.

INTRODUCTION

This paper begins with characterizing scientific bookkeeping and portraying contrasts amongst it and conventional bookkeeping and evaluating. The paper at that point clarifies the part of measurable bookkeepers. Scientific bookkeepers' chances are depicted alongside the associations that help their work. Scientific bookkeepers are seen as a mix of a reviewer and private agent. Information and abilities incorporate the accompanying: examination aptitudes, look into, law, quantitative strategies, fund, evaluating, bookkeeping and law authorization officer bits of knowledge. Examination abilities will be canvassed later in the paper. Authoritative conduct and connected brain science learning and aptitudes are basic. Measurable bookkeepers have been utilized by the Federal Bureau of Investigation (FBI), Central Intelligence Agency (CIA), Internal Revenue Service (IRS), Governmental Accountability Office (GAO) and other government offices. The emphasis is on what is alluded to as clerical wrongdoing. This is the reason monetary and different abilities are required. Here is the rundown of key associations that help scientific bookkeepers work alongside the URL to get to them: Association of Certified Fraud Examiners (http://acfe.com); American College of Forensic Examiners (www.acfei.com); Association of Certified Fraud Specialists (www.acfsnet.org); National Litigation Support Services Association (www.nlssa.com); National Association of Certified Valuation Analysts (www.nacva.com); American Institute of Certified Public Accountants (www.aicpa.org); and The Institute of Business Appraisers (www.go-iba.org) . Criminological bookkeeping measures advance from official courtrooms. Budgetary bookkeeping principles are set by the Securities and Exchange Commission (SEC) for partnerships whose securities, for example, regular stock are traded on United States (US) stock trades, for example, the New York Stock Exchange. The SEC delegates a significant part of the budgetary bookkeeping standard setting procedure to the Financial Accounting Standards Board (FASB). Money related bookkeeping gauges are not laws. Criminological bookkeepers and inspectors share a few objectives like conventional bookkeepers and examiners. They have distinctive parts, information and abilities. Scientific bookkeeper examinations incorporate recognizable proof of misrepresentation. This is not quite the same as Certified Public Accountant (CPA) examinations that are not in charge of recognizing extortion. Scientific bookkeeping examinations incorporate suit administrations identified with an assortment of circumstances including the accompanying: business buys, valuation of separation resources, property harm, lost benefits because of theft and other illicit acts, tax avoidance, and tax evasion plans. One of the focal results of extortion is money related misfortune. In this way, in the psyches of the contributing open, the bookkeeping and inspecting calling is inseparably connected with extortion prevention, misrepresentation location, and misrepresentation examination.

AUDIT REPORTS

The dialect of the review report is unmistakable. It tends to befuddle people who are not learned of the dialect of business, which is bookkeeping. For instance, an inadequate review report is

attractive. Inadequate sounds like an awful assessment. A man who is inadequate is thought of as not having the required capabilities for something. A review report that is inadequate is great. It implies that there are no capabilities that were not met. Sounds like a lawyer talking in twofold negatives. Lawyers assumed a part in the improvement of the review report dialect. It is excessively solid of an announcement, making it impossible to state that the majority of the capabilities were met. It may seem like the same to a great many people, yet it is a legitimate issue. The review report does not guarantee that everything is immaculate when an inadequate report is issued. It simply expresses that no material blemish was found. At the point when a review report is qualified it is regularly because of the association utilizing bookkeeping standards other than the GAAP or the extent of the review was restricted. Degree alludes to whether the examiner was permitted to accumulate the required proof. More regrettable than a qualified report is an unfriendly report where there are material issues with the money related explanations. The third kind of report is the disclaimer report where the examiner does not express a conclusion on the money related articulations.

AUDIT ASSERTIONS

An affirmation is an announcement. Review declaration alludes to the association's administration's announcements. The key characteristics of how the announcements are exhibited and unveiled are the accompanying: event and rights and commitments; fulfillment; characterization and understandability; and exactness and valuation. Conventional and scientific bookkeepers and inspectors accumulate prove with respect to the association's attestations

What is fraud?

By and large, all demonstrations of misrepresentation can be refined into four fundamental components:

2 A bogus portrayal of a material sort

3 Scienter—learning that the portrayal is false, or careless negligence for reality

4 Dependence—the individual getting the portrayal sensibly and reasonably depended on it

5 Harms—budgetary harms coming about because of the majority of the above

FRAUD SYMPTOMS

Extortion side effects are abnormal and unforeseen changes. An unpracticed individual probably won't have information or consciousness of what is regular or expected or what comprises change. The extortion side effects are generally budgetary record or individual related. Extortion manifestations are examined by investigating reports and archive related things for budgetary record side effects. Individual related side effects incorporate identity and way of life changes. On the off chance that individuals are living past their earned wage level, at that point there might be purposes behind their conduct disconnected to extortion. Such reasons may incorporate accepting a legacy or being somewhere down in the red. Conduct changes, for example, being pretty much contentious may have nothing to do with submitting extortion; however these progressions have been connected to misrepresentation movement in past cases. Report examination has developed into a science for paper records. Penmanship and ink examination are two illustrations. PC created archives that don't get printed out give a chance to creating distinctive scientific strategies. Confirmation sources that are useful to the measurable bookkeeper incorporate land records, court records, accepted name files, Uniform Commercial Code filings and other open records as kept up by a district assistant. Confined sources can be gotten to by specific individuals. A measurable inspector may need to get assistance from individuals, for example, law authorization or government work force. These people can get to governmentally limited databases Particular review procedures that can be connected in instances of suspected or real misrepresentation incorporate administering, court orders, observation, source and use of assets, and tips like unknown grievances. Regulating incorporates watching, physically inspecting and archiving proof. As noted before in this exercise, contrasting expected with genuine is critical to this procedure. Court orders are issued by endless supply of the suitable application. The judge chooses if reasonable justification exists so an inquiry is justified. Observation incorporates viewing and once in a while experiencing the speculator's waste. The best procedure is from unknown grumblings or tips. Association's advantage from having a procedure where clients and workers can give data without uncovering their personality.

ROOT CAUSES OF FRAUD

As society has developed from trade based economies to web based business, so has extortion advanced into complex structures—Hammurabi's worry about dependable shepherds was only the start. Until only a couple of years prior, organizations headquartered in the created world took the view that their business hazard was most noteworthy in rising or Third World locales, where outside business societies and less-created administrative situations were accepted to produce more noteworthy risk.18 Picking up advertise get to and working in rising or less-created markets appeared to be frequently enough to welcome business rehearses that were entirely unsatisfactory at home. Sharing this view, the administrations of major modern nations ordered enactment to battle the potential for defilement. The United States ordered the Foreign Corrupt Practices Act (FCPA); nations cooperating in the Organization for Economic Cooperation and Development (OECD) ordered the Convention on Combating Bribery of Foreign Public Officials in International Business Transactions (known as the OECD Convention); and Canada ordered the Corruption of Foreign Public Officials Act. In any case, along these lines of reasoning about hazard and advertises and of battling debasement also, misrepresentation is not any more sufficient. The new worldview for comprehension hazard proposes that extortion chance components are borderless and various. Misrepresentation is currently comprehended to be driven by worries over corporate execution, financing weights counting access to financing, the opposition to enter and command markets, lawful necessities and introduction, and individual needs and agendas.19 The requirement for this new worldview has turned out to be progressively clear in the previous two years, at the point when the most serious hazard to financial specialists has had all the earmarks of being support in the apparently all around controlled and settled U.S. markets. All the more as of late, occasions at a few noteworthy European multinationals have demonstrated that the danger of enormous extortion knows no outskirts. The ongoing spate of bookkeeping and money related embarrassments has shown that substantial scale corporate mistakes can and do happen in modern markets; they are in no way, shape or form the restrictive area of "outside" or "remote" markets. Capital market get to and the related want of recorded organizations to help income development, through whatever methods essential, are main considerations adding to corporate misbehavior around the world.

Table 1. Types of Frauds

Variable	High Fraud Potential	Low Fraud Potential
Management style	Autocratic	Participative
Management orientation	➢ Low trust ➢ Power driven	➢ High trust ➢ Achievement driven
Distribution of authority	Centralized, reserved by top management	Decentralized, Dispersed to all levels, delegated
Planning	Centralized Short range	Decentralized Long range

7. Management strategy	a. Management by crisis	a. Management by objective
8. Reporting	a. Reporting by routine	a. Reporting by exception
9. Policies and rules	a. Rigid and inflexible, strongly policed	a. Reasonable, enforced fairly
10. Primary management concern	a. Capital assets	a. Human, then capital and technological assets
11. Reward system	1 Punitive 2 Penurious 3 Politically administered	✓ Generous ✓ Reinforcing ✓ Administered fairly
12. Feedback on performance	a. Critical b. Negative	a. Positive b. Stroking
13. Interaction mode	a. Issues and personal differences skirted or repressed	a. Issues and personal differences confronted and addressed openly
14. Payoffs for good behavior	a. Mainly monetary	a. Recognition, promotion, added responsibility, choice assignments, plus

		money
15.Business ethics	a. Ambivalent, rides the tide	a. Clearly defined and regularly followed
16.Internal relationships	a. Highly competitive, hostile	a. Friendly, competitive, supportive
17.Values and beliefs	a. Economic, political, self-centered	a. Social, spiritual, group centered
18.Success formula	a. Works harder	a. Works smarter
19.Human resources	a. Burnout b. High turnover c. Grievances	a. Not enough promotional opportunities for all the talent b. Low turnover c. Job satisfaction
20.Company loyalty	a. Low	a. High

AUDITING AND INVESTIGATION

The staying two components of the Fraud Deterrence Cycle are review examination, that is, evaluating and examination, and remediation of any discovered issues. As examined later in detail, there are contrasts between reviewing and researching.

These distinctions clarify that reviews and examinations are not the same. Over the span of a review, an examiner looks to distinguish mistakes or shamefulness's, missing a particular data that such indecencies exist. Amid investigations, a criminological bookkeeping examiner tries to find the full techniques and degree of mistakes that are suspected or known. Both are critical highlights of the Fraud Deterrence Cycle; however they are, and ought to be, independent. They include diverse strategies and they are performed by experts with different aptitudes, preparing, training, information, and experience. This is an important refinement in the present condition, when a few analysts have proposed that the spate of corporate outrages shouts out for the transformation of the standard review into something taking after an examination. On the off chance that the reviews later on were to take this way, the cost of playing out the review may increment. Trials of controls are utilized to decide the required example estimate. This is the place data frameworks mastery is imperative. On the off chance that the data framework is secure, at that point the interior control is considered to be solid. On the off chance that the inward control quality is great, at that point a littler example estimate is utilized. Whatever the example estimate, reviewers do substantive trial of exchanges. This is verifying whether the exchanges and occasions were effectively estimated and recorded in the monetary proclamations. Logical methods are another type of searching for sensibility. It takes a level of skill in view of instruction and experience to have the capacity to decipher the consequences of endeavors to check for anything that may be surprising. Reviewers search for confirm that authenticates and backings administration statements.

The expanded size and effect of budgetary revealing outrages and the related misfortune of billions of dollars of investor esteem have appropriately centered both open and administrative consideration on all parts of monetary revealing extortion and corporate administration. A portion of the issues annoying financial specialists and controllers—for instance, official pay that could be considered by some to be extreme—are in the nature of sketchy judgments, however don't really establish extortion. On the opposite end of the range, there have been in excess of a couple of cases of unyielding double dealing coordinated toward the contributing network by means of created monetary explanations, and a significant number of these activities are continuously being recognized and rebuffed.

The contributing open may not generally make a fine qualification between the over the top and the deceitful—between awful judgment and bad behavior. Be that as it may, for experts accused of the prevention, revelation, examination, and remediation of these circumstances, an orderly and thorough approach is fundamental.

Forensic Science

Measurable originates from the Latin word for open and particularly to gathering. The discussion was the place the old Romans were thought to accumulate to work together and settle question in addition to other things. Legal presently identifies with courtrooms. It is alludes to lawful concerns. Wrongdoing fathoming is the core interest. Legal identifies with the use of learning to legitimate issues, for example, wrongdoings. It is science based. To state measurable science is to nearly be excess. Scientific is the use of science to wrongdoing concerns. Be that as it may, science does isn't connected solely to wrongdoing. So the two words are not compatible. Measurable science will be science connected to lawful issues particularly criminal issues.

FORENSIC EVIDENCE

"Since they once in a while happen upon a wrongdoing in advance, police rely upon individuals from general society for learning that a wrongdoing has been conferred. They are similarly reliant on casualties, witnesses and different sources for learning of who the guilty party is and where he may be found. To misrepresent a tad, the police can explain a wrongdoing in the event that somebody reveals to them who conferred it."

Narrative proof used to be characterized as paper; however it presently is characterized as a recorded data. It could be in a PC or video or sound. It doesn't regularly remain solitary. It requires a specialist to decipher and present it. Expressive confirmation isn't real proof. It is a guide to comprehension. A model of a body part or pictures or different gadgets is utilized to help elucidate the certainties. Commonly a specialist witness is expected to decipher the illustrative proof. Profiling is utilized during the time spent distinguishing suspects and crooks. There is an Academy of Behavior Profiling (www.profiling.org). The landing page expresses that the Academy of Behavior Profiling is an expert affiliation devoted to the use of proof based criminal profiling methods inside investigative and legitimate scenes. The statement of purpose incorporates the advancement of open attention to prove based wrongdoing investigation and conduct profiling.

FORENSIC COMPUTER INVESTIGATION

To lead a legal PC examination, the criminological bookkeeper should scrutinize circumstance, log everything about, an underlying overview and survey the likelihood of progressing bothersome action. With respect to data innovation and frameworks, the PCs ought to be shut down and checked for booby traps. The legal bookkeeper should copy the PC hard drive or other changeless stockpiling unit first and afterward examines the hard drive.

At the point when money related explanation extortion isn't suspected, it is imperative to recollect that Generally Accepted Accounting Principles (GAAP) are just for the most part acknowledged. In the event that an association completely unveils the other bookkeeping standards being utilized and utilizes them reliably, at that point it isn't extortion.

The essential goal of a budgetary articulation is to give data that is valuable to chiefs. Indeed, even the GAAP can be translated in excess of one way. Diverse elucidations don't comprise misrepresentation since extortion exists just when there is purposeful error. Usually hard to clear up a man's expectation. The accompanying systems have been produced to review when misrepresentation isn't suspected: affirmation, perception, physical examination, re-execution, execution of explanatory methodology, request of customer, and documentation

SPADE

A structure that inspectors might need to consider consolidates proficient suspicion furthermore, a few different components that ought to be considered in the examiner's appraisal of the danger of material misquote caused by mistake or extortion:

S—Skepticism

P—Probing Communication

A—Analytics

D—

Documentati

on E—

Evaluation

Doubt focuses on that the inspector should basically assess review prove and keep up a scrutinizing mind, as depicted previously. Testing correspondence includes request and talk with the review group, organization faculty, and the review board. While request and talk are by all account not the only apparatuses accessible to encourage the reviewer acquire prove, when request are examining and joined with distrust, the evaluator will probably acquire the coveted confirmation. Examination can give fantastic review prove in starting arranging, checking, approving, and review consummation. There are various sorts of examination that can be performed, and also apparatuses that can be utilized to play out the examination and the reviewer must know about these with a specific end goal to utilize them generally successfully. Documentation, which permits the inspector to portray the work performed and the reason for it, is a required obligation of the reviewer. It is the best methods for permitting the correct appraisal with regards to the execution of a review reaction to hazard and further, to decide whether extra hazard was distinguished amid execution. Assessment is basic in all periods of the review, as it is the demonstration of evaluating the proof got when mulling over different variables encompassing the organization, for example, the economy, business, and inside controls. Every one of these components is a great device that the reviewer ought to consider utilizing all through the review.

ROOT CAUSES OF FRAUD

As society has advanced from bargain based economies to online business, so has misrepresentation developed into complex structures—Hammurabi's worry about dependable shepherds was only the start. Until only a couple of years back, organizations headquartered in the created world took the view that their business chance was most noteworthy n rising or Third World areas, where outside business societies and less-created administrative situations were accepted to produce more noteworthy risk.18 Picking up advertise get to and working in rising or less-created markets appeared to be frequently enough to welcome business hones that were completely unsuitable at home. Sharing this view, the administrations of major modern nations authorized enactment to battle the potential for defilement. The United States authorized the Foreign Corrupt Practices Act (FCPA); nations cooperating in the Organization for Economic Cooperation and Development (OECD) authorized the Convention on Combating Bribery of Foreign Public Officials.

BEDROCK OF AN EFFECTIVE AUDIT

The evaluating calling and administrative specialists—CPA firms, industry standard setters like the AICPA, and controllers including Congress, the SEC, and the Open Company Accounting Oversight Board (PCAOB)— are generally attempting to reestablish speculator trust in monetary revealing. This is show in SAS 99 also, in the necessities of the Sarbanes-Oxley Act and in the progressing work of the PCAOB to modify evaluating norms. Regardless of these progressions, the bedrock of a viable and top notch review process still comprises of ability and the proficient mentality of individual evaluators. These qualities comprise principally of (1) proficient distrust,

(2) learning and experience, and (3) autonomy furthermore, objectivity. These frame the bedrock of a successful review.

KNOWLEDGE AND EXPERIENCE

Reviewers must send experts with the fundamental aptitudes to play out a successful review. Examiners ought to have an intensive comprehension of the organization furthermore; its industry or ventures, and organizations today regularly take an interest in broadly extraordinary businesses. For example, a noteworthy retailer may have activities that incorporate assembling and dispersion and that likewise keep up an expansive arrangement of Visas, which may expect inspectors to have abilities in every one of those three particular organizations. Since each organization is extraordinary, inspectors need to get it the vital highlights of an organization Information of an organization and its complex what's more, changed exchanges is an aggregate undertaking. Constraining on organizations a change of inspector with an end goal to enhance freedom could run counter to this imperative progressing need. Notwithstanding learning of the organization and its enterprises, the review group ought to have available people with the specific aptitudes and skill essential to address a bunch of specialized review regions. A portion of these are expansive zones in which all inspectors are educated, including evaluating, interior control, and money related announcing. Others require specific information of measurable bookkeeping, tax collection, data innovation, complex bookkeeping, and money related detailing in such territories as subordinates and valuation and actuarial methods.

CONCLUSION

For a long time to come, corporate extortion is probably going to exhibit significant difficulties to the two evaluators and scientific bookkeeping examiners. Recalling the similarity of the watch officer, we can perceive that reviewing can't sensibly forestall monetary revealing misrepresentation or keep workers from plundering corporate resources. It might dissuade some extortion and identify others, however it is improbable that reviewers utilizing the customary review ideas of particular testing (inspecting) to acquire sensible—not supreme—confirmation that budgetary explanations are decently displayed—not really 100 percent exact—will dependably distinguish material errors caused by extortion. As considered by SAS 99, examining systems furthermore, systems can and will be enhanced, and future gauges will likely establishment facilitate upgrades. In any case, it must be perceived that the complexities of the business world and the resourcefulness of exceptionally taught, desk hoodlums will dependably figure out how to deliver plans that sadly go undetected until the point that they achieve noteworthy extents. Legal bookkeeping agents will explore, prosecutors will convict, and controllers will respond with new and more prerequisites. Be that as it may, misrepresentation will dependably persevere.

THE WORLD IS SHRINKING

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Abstract

Ever imagined what all have we inherited from our ancestors expect culture and DNA? We got the art or trading, didn’t we? But later people stopped internationalization before the world war one and named their mental inability as country`s betterment.

But all changed in when homogenization again started and it was coined as “globalization”. Then life changed, world changed! It felt like all of sudden world came to our finger tips. We could see billions of dollars being invested in many countries; we could see millions getting employed. We saw a sudden fall of in prices of all the products you named. This was followed by industrialization which made most of the developing counties prosper.

Allow me to brief you through my report. It (the report) is totally based on the business-men we don’t consider as such. But they play a very large role in the country`s **GDP.** Yes I`m talking about the street vendors, small tea stall owners, people at traffic signals selling toys and fancy items, small times books sales me, many more to name.

Don’t they have a budget? Don’t they have a capital? Don’t they earn profit or undergo loss? Don’t they have to have a family to care?

Keywords – Internationalization, Homogenization, GDP, Small capital business-man

Introduction

Globalization is a term used to describe increasing social, economic, and political interaction and interrelation across political and cultural boundaries. The process of globalization has advantages and disadvantages for social, political, and economic development.

As we all know India has the 6^{th} largest economy in the world and we even know a lot of great multimillionaires. But there`s fact I would like to share 'The 50% of India's GDP consists all the small street vendors, small time business-man.' So ever thought how a person in the signal in your neighborhood would get all his items from China. Ever imagined how a vegetable vendor owning just a cart gets his hands over many of those imported fruits you have. All of those items have come across the seas and been distributed across multiple cities, and the big deal is most of the process happens without any big organization in play.

All this is possible due to globalization; it allows all the small time business-man to prosper in their game. And even have contributed to the boom in the economy over the whole world.

"We didn't just adopt globalization, we adapted to it"

Evolution of globalization –

Globalization is the process of achieving an international marketplace for goods and services. It is an attempt to minimize the effect of national boundaries as a deterrent for trading materials. It is characterized by loosening of legislation that hampers the export of goods. Companies can manufacture and sell goods in a variety of different countries. Large multinational corporations are the biggest players in globalization.

Foreign direct investments impact on economic growth has had a positive growth effect in wealthy countries and an Increase in trade and FDI resulting in higher growth rates further more, globalized countries have lower increases in government countries have lower increase in government outlaws and taxes and lower levels of corruption in their government. The advantages of globalization are generally felt in more developed countries. The consumer benefits the most in terms of prices and the variety of goods and materials available for purchase. Companies can generally achieve lower operating costs through globalization. This sometimes happens by exploiting labor from underdeveloped countries. An advantage for developing countries is the introduction of new technologies and business models that may help in their efforts at modernization.

Globalization also comes with a downside for both developed and undeveloped societies. For undeveloped countries, the exploitation of labor and resources by multinational corporations can be seen as a deterrent to economic progress. Countries may become over dependent on the goods and services of another country which can lead to international disputes and warfare. This has been a theme of the modern Middle East as the major supplier of petroleum. Another negative of globalization is that economic conditions like recession may impact other countries as all of the nations become interconnected. For developed countries, the loss of manufacturing jobs is a real issue as companies pursue labor sources that are cheaper.

IMPORTANCE OF GLOBALIZATION

- **Proper use of Resources:** it leads to expansion of markets which enables organization to make proper use of available resources.
- **Multiple choices:** No country is self sufficient and every country depends upon other country. Globalization has solved this problem and people can have better choice to satisfy their need.
- **Foreign Exchange:** Globalization encourages exports and discourages imports. This help to earn foreign exchange.
- **Creates Employment:** Globalization helps to provide employment to a large number of people. Multinational companies such as Business Process Outsource popularly known as Call centre employs and appoint a large number of personnel with high pay scale and other benefits.
- **Government incentives:** Government also provides various incentives in taxes, custom duties, pre-shipment finance, post shipment finance and many more.
- **Technology:** Technology is the latest and fruitful outcome of globalization. It is the best even gift. Technologies not only increase efficiently but the organization and everyone having a little knowledge can update one and can stand by world. Globalization not only enables competition but is also very much helpful for profit of maximization.
- **Spreading of Risk of Loss:** There may be different types of losses in every business. Various losses in domestic market can be easily compensated from international market.
- **Benefit to the consumers:** Globalization encourages free and fair competition at world level.

Due to this, organizations try to supply quality goods and that also at a reduced price. This benefits consumers as well...

Objectives

- To deliver with a rudimentary understanding of globalization effects to the readers.

- To Emphasized different significant works on globalization effects to workforces.
- To extravagant on numerous green practices that can be assimilated for building a Green workplace for enhanced competence.

Methodology: The study is primarily constructed upon the secondary data. Mainly we interviewed many of street vendors and small shop owners talking to them about the scheme. For this existing literature connected to the subject from different databases, websites and other obtainable sources were collected. A systematic review of collected literature was done on available data.

How we built all the content to present:

We had mainly visited a lot of street vendors spoke to them about " how do they import goods" we sat with them for a while and asked them what did they all know about the goods which they are selling. While many were un-aware about how they got all the goods, they were few who confirmed to us that they knew a few things about it.

The process of gaining knowledge:

A toy vendor Salim, quite a big guy, he sells toys and umbrella at traffic signal. Tried his best to explain how it works. The following is my notes on that conversation. It was mid noon when the sun was shining hot over my head when I asked him Salim for a cup of tea, the he started sharing his thought over the importing of goods into India from different parts of the world. "Each signal has a group of its own, where in only the group members are allowed to sell their products in that locality" he started. "Local mafia" I exclaimed, "competition control" he replied with an entrepreneur look. Then he said "these traffic signal groups have a political come supply head, a person who supplies all the products to them." "Where do they get all this products from" I questioned in sheer curiosity. "They again have a group who pull in money, put together and buy the products in bulk from different parts of the world, usually from China Via websites" he answered. "Websites? Which one" I asked there was a swift reply from him "My friend I'm not educated enough to find that out, its you who is studying business administration, so I leave it to you to find out about those things, I`ll take a leave now" keeping his tea cup back he walked to continue his daily job.

As I had now got the perspective over this issue, I started my research through various books, websites, and newsletters. Here down below is the final result of that:

How to Import goods from China

- Sourcing

Find a China sourcing agent can help you start your business. If you cannot personally go to China or attend any Fairs, you may opt to work with a sourcing agent from China. This individual or firm can help you source for the goods you need.

- Alibaba

One of the most important steps in building an online business is to find reliable suppliers to make your product idea a reality. Most start-up online businesses are often faced with this dilemma: where and how do I order something from china? The answer is Alibaba.

- Canton Fair

This is China's most established and biggest fair and probably also in the world. There is one scheduled every April and another every Otcober

Find your supplier in China and place an order.

Place your order with the vendor, shipper or exporter and identify shipping terms that will be used.

Once you have selected your supplier, request a P/I (Proforma Invoice) for your prospective purchases to include the harmonized system number, description & value per item. Your P/I must show the weight & the packed dimensions as well as your term of purchase.

Attention:

- Ensure the supplier will agree to shipping under FOB term from their nearest port or airport as this will greatly reduce your shipping costs and give you more control over the shipment. For example, if you were importing from China and the closest port to the supplier is Shanghai, you would request FOB Shanghai terms.

- Keep in mind shipping by ocean is indeed quite slow, and this means that certainly requires a lot more long-term planning compared to domestic product purchases. Besides, the time required exporting goods, including documentation, inland travel, customs clearance, and port or terminal handling for a container of goods can cost up to 7 days.

In general, we recommend place an order at a minimum *3 months before you need your goods at your door*.

Minimum Order Quantity

The minimum order quantity (MOQ) is always one of the most important things to consider when sourcing for a China supplier. Some manufacturers have high MOQ which some small and medium importers cannot reach. China suppliers however are flexible and a compromise can always be reached especially if you are ordering a variety of different types of goods

Negotiating the Price

If you cannot personally go to China or attend any of the Fairs, you may opt to work with a China sourcing agent. This individual or firm can help you source for the correct goods you need. You can initially check the website of prospective suppliers and ask the sourcing agent to check the quality and design. The sourcing agent can also help you negotiate for the best possible price and will help you all the way to shipment of your orders. A china sourcing agent acts as your representative in China.

How to Pay China Suppliers

The best method to choose when paying your China furniture supplier depends on the amount you are going to be paying.

China suppliers may be notorious for delayed deliveries but they are not known to be scammers. Given this image does not give importers reason not to be careful because even in remote instances, there are really scammers.

- International Wire Transfer
- **Letter of Credit**
- Online Escrow
- **Online Escrow**
- PayPal
- **International Credit Cards**
- Cash
- **Western Union**

How do I have to book, load, and ship goods imported that I buy in China? Shipment Management

When importing goods from China (or any goods for that matter), you can let your supplier handle the shipping. This is common for most first time importers because it is the simplest process. The thing is, you will probably end up paying more. You have other shipping options that can help you save time and money.

- Handle shipping yourself.

This entails booking cargo space directly with the shipping company and managing Customs Declarations in China and in your country.

- Have a freight forwarder in your country handle your shipment

This is a convenient option because you will be dealing with local agents in your country. This is the option most often used by small and medium scale importers.

Transit Times

When you order goods from China, you should consider both the time it takes for the supplier to prepare your orders and the transit time. China suppliers are known to be most often delayed with their deliveries. That plus the transit time will mean that it will take some time for you to receive your orders. Importing goods from China can either be relatively easy or difficult. If you are equipped with full understanding of the process, it will be an enjoyable
experience. Otherwise, it will be stressful.

Pros and cons:

There always two sides of coin. Let’s see show you that two sides of this coin.

- **Social Development**

Advantages:

- The globalization of communication has given almost everyone a voice in worldwide discourse.

- The increased flow of knowledge and ideas has allowed everyone to learn more about other people and cultures.

Disadvantages:

- The desire for cheap labor in the global supply chain has led to human rights violations, including violations related to child labor and human trafficking.

➢ **Political Development**

Advantages:

- Globalization has led to greater interdependence among various countries and regions; this encourages political cooperation toward common goals.
- Military globalization has promoted cooperation in the fight against

  terrorism.

Disadvantages:

- Political globalization has created tension among countries with competing ideologies. More powerful countries often try to force their ideologies on less powerful countries.
- Globalization has given multinational corporations more lobbying power and has allowed them to influence political decisions in ways that benefit business over people and the environment.

➢ **Economic Development**

Advantages:

- Employment opportunities in developing countries have increased through global business expansion.
- The existence of an international market has encouraged competition and impacted consumer prices in a positive way.

Disadvantages:

- Globalization has helped to widen the gap between the poor and the wealthy in some countries.
- Employment opportunities in developed countries have decreased due to outsourcing.

Globalization - Concept

Globalization is the process of achieving an international marketplace for goods and services. It is an attempt to minimize the effect of national boundaries as a deterrent for trading materials. It is characterized by loosening of legislation that hampers the export of goods.

Companies can manufacture and sell goods in a variety of different countries. Large multinational corporations are the biggest players in globalization.

Literature review

Globalization involves addressing the company carbon footprint by cutting down on usage of papers, reducing unwanted travel. The existing literature in the Human Resources field on the subject of sustainability recommends that more and more HR administrators are keen to moderate their corporation as such to become exclusive environmental supporters. A great extent of empirical research highlights the impact of environment management practices on performance of the organization using different parameters (Iraldo, Testa, & Frey, 2009; Yang, Lin, Chan, & Sheu, 2010).

Various contemporary scholars have augmented the understanding and studies on Globalization in recent years (Berrone & Gomez-Mejia, 2009; Jabbour, Santos, & Nagano,2010; Massoud, Daily, & Bishop, 2008; Renwick, 2008; Stringer, 2009).

The incorporation of environmental objectives and strategies into the overall strategic development goals of a company helps in arriving at an effective EMS (Haden et al.,2009). Therefore, to expand such a framework, it becomes definitive to have effective human resource management practices including presentation of strict recruitment strategies (Grolleau, Mzoughi, & Pekovic, 2012), appraisal, and reward systems which include environmental awareness and implementation in their evaluation process (Jabbour, Jabbour, Govindan, Teixeira, & Freitas, 2013)

Primarily this study concentrates on Globalization, which according to Dutta (2012) includes two major elements namely, environmental-friendly HR performs and the protection of the knowledge capital. Globalization refer to using every touch point/interface to endorse maintainable observes and increase employee consciousness and obligations on the issues of sustainability (Mandip, 2012).

CONCLUSION:

Globalization is a real boon for everyone in the world as every product became cheaper, people started getting more jobs, the economy started rising, the developing countries are developing faster. But we all know if there is something good there is definitely something bad following it and in this case its all about the pollution and the global warming caused due to the emission all the harmful gases produced but it which is inevitable but we are at the greatest point of technology, so cant we do something to control it.

I would even like to thank the “MUDRA Yojana” started by the government.

I would like to end it via a quote by Narendra Modi “India doesn’t need two 5 CR company but it needs 500 thousand 2 CR company”

ETHICAL ISSUES IN INTERNATIONAL TRADE

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ABSTRACT

The globalisation of business and commerce has opened a wide arena for the various of players to enter and flourish. This paper discusses and analyses various aspects of ethical issues in international trade. Many of the ethical issues and dilemmas in international trade are rooted in the fact that political systems, law, economic development, and culture vary significantly from nation to nation. Consequently, what is considered a normal practice in one nation may be considered unethical in other nation. The most common ethical issues involve employment practices, human rights, environmental regulations, corruption, and the moral obligation of Multinational Corporations. The importance of ethics has been rising steadily along with the growth of international trade. One of the biggest problems facing any international business code of ethics is that standards for employment practices are not constant between nations participating in international trade. It also takes an additional risk along with the opportunities. The main risks include foreign exchange risk and political risk. Constant flexibility is required to adapt to changing patterns at local, regional and international levels.

Key words: International trade, ethical issues, environmental regulations

BACKGROUND OF THE STUDY:

Business ethics, connotes the **form of applied ethics**, which studies ethical principles, morals and problems that take place in the business environment. It is nothing but the **integration of day to day morals and ethical norms to business** and applies to all types of business. Business ethics is a branch of applied ethics that deals with the relationship of what is good and right in business. This definition can be extended to cover global business ethics. It requires that business decisions should not be made exclusively from the narrow, economical perspective, but also the global social, political, technological and ecological concerns should be taken into account. This means that people who work in the business life should consider how their economical decisions affect other people, environment or the society on the whole, not only in the home country but also the host country.

In other words, it means that the interests of all the relevant parties, or "stakeholders" should be acknowledged and weighed. Having defined the term theoretically, it should be made clear that a uniform set of standards of business ethics, applicable to the global community as a whole, is yet to be defined. All PEST factors that commonly business activities and performance must be considered as code of ethics in the interests of promoting a high standard of business conduct.

WHAT IS ETHICS?

Morf (1999: 265) believes: “Ethics is the moral principle that individuals inject into their decision making process and that helps temper the last outcome to conform to the norms of their society”. Ethics is the significant issue in the business both on the firm level and wider phases. Ethics stands for a practice as well as reflection on that practice. On the practice, it can be described as the conscious appeal to norms and values, to which, on reasonable grounds, we hold ourselves obliged as, reciprocally, we hold others obliged to the same norms and values (as per Brian Harvey). Ethics are the rules we play by. They are the standards of behaviour generally accepted by the society. If everyone could agree on what constitutes ethics, there would be no need to address this question or discuss the differing views of just what constitutes ethical behaviour. Unfortunately, people cannot always agree on what is ethical and what is not.

"Ethics is the discipline dealings with what is good and bad, or right and wrong or with moral duty and obligation". (R.Wayne Mondy). As a reflection, ethics is the methodical and systematic elaboration of the norms and values, we appeal to in our daily activities.

ETHICS IN INTERNATIONAL TRADE:

International Business Ethics usually talks on the moral philosophy or about a form professional ethics or applied ethics that examines ethical principles or ethical problems that arise in a business environment.

The importance of international business ethics has been rising steadily along with the growth of international business. Technologies like the internet have made international business all the more viable, and many companies can only find the desirable growth and profit they seek by expanding into new markets. The business operations in the 21st century is ubiquitous and sweepingly global. Therefore, this immense scope of operations requires a deep understanding of culture, moral values and ethics in different parts of the world and markets. Additionally, the cultural, moral and ethical values could be alike in different countries; but, the implementation of these issues might vary. Therefore, the best course to adjust indigenous ethical and cultural standards is to adopt a contingency inclination on the cultural, morale, historical and individual basis rather than a universal point of view in order to influence ethical conduct positively (Tsalikis, Seaton, 2007; Tsalikis et al., 2008; Helin, Sandström, 2008). Organizations with universal ethical standards present a better performance, enjoy a positive image before the society and this would accommodate to establish stronger relations with the possible stakeholders in the long run (Aydın, 2003: 19-20; Burnaz et al., 2009; Rodriguez-Dominguez et al., 2009; Lamberton, Minor, 1995: 328; Certo, Certo, 2006: 50- 56; McDaniel, Gitman, 2008: 45-50). The company becomes interested in the international environment when it engages in operations (sales, services, finances and payments, investments) with other countries. It needs to pay close attention to the specific of the cross-border operations that come with illicit or illegal temptations. It also needs to keep the intercultural dimension in mind: the product, the service or exported activity will be inserted in a different society, with its own customs, behaviours, codes and values.

IMPACT OF ETHICS ON GLOBAL BUSINESS:

Understanding business ethics matters in making decisions while administering a company both on the national and international basis since an ethical application may not accommodate the same practice in every market with respect to legal, political, cultural, human relations and many other regards. Even the applications in finance, management, accounting and economics may differ so much. Therefore, understanding the insights of ethics resulting from culture, moral values, education and legal instances are of great importance to be successful in the global competition arena by international businesses. (Choi et al., 2010; Chan et al. 2010; Bailey, Spicer, 2007).

As Rudyard Kipling puts "Oh, east is east, and west is west and never twain shall meet", the cultural, moral and ethical differences along with political, economic, social and technological difference between the countries will influence the international trade.

With billions of USDs as investments in international businesses, a global firm with unethical practices not only hurt the employees and executives but impact the shareholders and stakeholders. Codes of ethics are official form of corporate fundamentals and measures to manage relations in organization on morale basis. Codes of ethics demonstrate the actual and future organizational and inter-organizational values and obligations for employees. Ethical codes are clear documents of businesses aimed at constituting morale employee behavior and bring about change by making exact statements for expected behavior. Therefore, an international business adopting contemporary codes of ethics would constitute profession relationships rested on honesty and morale manners, comply with government laws and regulations, stimulate social responsibility and enhance managerial process and corporate culture. International businesses, by deploying such core issues within the corporation, would fortify the position of the firm before the public and accommodate transparency, thereby ensure a competitive status even in the face of domestic firms (Rodriguez-Dominguez et al., 2009; Stohl et al., 2009; Helin, Standström, 2008; Godos-Diez et al., 2011).

The areas of business impacted by global perceptions of ethical, moral, and socially responsible behaviour include the following:

- Ethics and management
- Ethics and corruption
- Corporate social responsibility

ENVIRONMENTAL REGULATIONS IN INTERNATIONAL TRADE:

The relationship between trade and environment is a complex and highly debated issue.

Addressing this relationship is fundamental in order to achieve sustainable development. There is ever growing inter-face between trade and environment. The Commission Communication on Trade and Environment, adopted in 1996, underlined that a mutually supportive relationship between trade and environment can occur but is in no way automatic.

ETHICAL ISSUES :

Among the eternal business issues we can find the ones related to ethics and behaviour. Every time we make a decision or accomplish an action, we wonder if our conscience is clean, if we behave proper.

"We are in the throes of a giant ethical leap that is essentially embracing all of human kind." (Donahue, 1996, p.484)

In the international business arena, ***ethical problems*** also arise out mere international business transactions**. Fair trade movement, transfer pricing, bioprospecting and biopiracy are examples of transactions that fall within the ambit of international business ethics**. Similarly issues like child labour and cultural imperialism are controversial enough to call upon the attention of international business ethics.

In 1990's many businesses from the developing countries expanded their operations and became multinational. The transactions between businesses and the governments increased as a result, which gave rise to many practical issues. Culture and its relativity was one factor more prominent than the others. Other ethical issues in the context of international business are generally dealt with the laws of the land; although all of them fall within the ambit of international business ethics.

Globalisation diminished the barriers between countries on the globe and also called for universalization of values for trade to occur smoothly. Universal values were perceived to control the behaviour in the commercial space. This lead to ethical issues in the international business perspective, those that were unknown till date.

Other theoretical issues arise from the diversity of business ethical traditions in various countries across the globe. In addition, comparisons made on the basis of corruption rankings of a certain state or on the basis of gross domestic product of a certain economy also lead to ethical issues in the international arena.

The following is the list of few companies with their ethical issues:

- Nestle – irresponsible marketing of baby milk in developing countries.
- Coco Cola- long history of worker's rights violations at its bottling plants (Columbia)
- ASDA WalMart- monumentally failed to embed CSR into its operations and supply chains around the globe.
- CenturyLink- negative customer service and poor relation with its employees.
- Monsanto- producing harmful chemicals products, weed killer causing cancer in 100 of consumers.
- Comcast- forced to pay a $2.3million fine in 2016 over allegations that it charged customers for unauthorized services and equipment.

OBJECTIVE OF THE STUDY

- To build up the attention for global (Cultural & Legal) issues and integrity of ethics.
- To build up independent thinking and capability for representing information.

REVIEW OF LITERATURE

Grossman and Krueger (1992); Lucas and others (1992); Antweiler and others (2001); and Eskeland and Harrison (2003) have made significant contributions on this issue. The role of international trade in determining the environmental damage has been addressed by specialists using input-output techniques Wright (1974;) Hann (2002); Hayami and Nakamura, (2002); Lange and Hassan (2002); and Wadeskog,(2002). Unfortunately very little work has been done in India. Recently, preliminary attempts have been made by Mukhopadhyay (2004), Mukhopadhyay and Chakraborty (2004), Dietzenbacher and Mukhopadhyay (2004) and Jha and Rabindran (2004).

A number of researchers (see e.g. Bartlett, 1986, Ghoshal and Bartlett, 1990, Hedlund, 1986, Ghoshal and Nohria, 1989, Gupta and Govindarajan, 199 1, Nohria and Ghoshal, 1994, Prahalad and Doz, 1987, Rosenzweig and Nohria, 1994) have pointed to the fatt that units within multinational firms are not identical. According to Ghoshal and Nohria (1989, p. 323) the MNC is the quintessential case of the dispersed firm with different national subsidiaries often embedded in very heterogeneous environmental conditions (Robock, Simmons and Zwick, 1977). Thus, MNC units are located in different cultural milieus (Hofstede, 1980) and people with different nationalities, belonging to the same term. have to cape with each other. When people from different cultures work together, misunderstandings are likely to occur (Adler, 1986). Problems due to Gultural differentes are thus of special interest in such firms in which complexity, differentiation and variation in relations between the subsidiaries and HQ are characteristic features (Van Maanen and Laurent, 1993). As Hofstede (1983, p. 75) points out, cultural differences do matter, and cultural differences may become one of the most crucial problems especially for managements in multinational, multicultural firms.

RESEARCH METHODOLOGY

DATA COLLECTION:

- Due to time constraint we were able to collect only the secondary data

SECONDARY DATA:

- Secondary data is collected from various publications: websites, journal, research papers.

Descriptive analysis on issues faced by MNC's:

CULTURAL ISSUES:

Doing business across national boundaries requires more than just exporting a concept that is successful in the United States. Cultural differences can be challenging, leading to misunderstandings between employees and management as well as between the company and its customers and partners. By enhancing cross-cultural training and adapting to local needs, multinational companies can succeed in bridging cultures.

During the last decades, the search for cultural integration in business community, has become more and more homogeneous. Differences in culture is a main factor causing friction between parties in MNC's as ***cultural differences may lead to a***

communication gap. Although there are cultural differences between units belonging to the same firm (in case of MNC's), these differences need not necessarily be a handicap.

A number of researchers have found that Companies operating in international environment choose a model of their organizational culture and a degree of national culture's influence on strategies and decision rules of the firm.

Workplace Values:

One problem encountered by multinational companies is differences in workplace values. Geert Hofstede, a researcher and published author on workplace culture, has identified ***six dimensions of national culture that affect employee values.***

c. The first of these is **power distance,** which deals with how society views inequalities among people. Some societies accept without question the concept of a hierarchy, while others demand justification for unequal power, Hofstede says. This means that executives of multinational companies need to ***adjust their leadership style based upon the power distance view of the host country's national culture***, for example, by adopting a collegial style in countries that reject hierarchies.

d. Another of Hofstede's dimensions is the ***degree to which a society believe***s that individuals are expected to ***care*** for ***themselves*** and their ***immediate families*** vs. those societies in which an extended family or group will care ***for all its members.***

e. A third dimension is **competitiveness vs. cooperation.** Understanding these dimensions helps determine compensation structures; for example, if collectivism and cooperation are strong cultural attributes, companies will reward employees as a team based on team performance. Hofstede's other dimensions are the degree to which societies feel uncomfortable with **uncertainty,** how much priority is given to **tradition vs. education and innovation,** and whether societies are **restrained or indulgent** in meeting needs and wants. Companies that require workers to be creative and take risks to invent cutting-edge products might need to find a way to link innovation with the country's traditions to gain worker buy-in.

- **Communication Styles:**

Multinational companies also are challenged by different communication styles that ***affect developing strong relationships*** with partners or clients.

For example, Western communication style is straightforward and direct, but people in India and China are more accustomed to a less aggressive approach. In these cultures, patience is required to build the relationship outside of the board room. Because of the need to build these connections, business deals might take five times longer to complete in China than in the United States, reports Business Insider.

- **Concept of Time:**

A third challenge is that cultures tend to view time differently. Monochronic cultures, such as the United States and Germany, ***value punctuality and keeping to schedules,*** (reports Iowa State University's Center for Excellence in Learning and Teaching.) In **polychronic** cultures, such as the Middle East or Latin America, ***maintaining relationships and socializing*** is more important than the schedule.

Tips

- Differences in concepts of time can pose challenges for multinational companies; one example is in how meetings are run. An American executive trying to stick to a strictly timed agenda **might be seen as brusque** in Peru.

LEGAL ISSUES

Multinational companies (MNCs) are responsible to host countries for their actions there. If they have a presence in the U.S. -- as most multinationals do -- they are also responsible under U.S. law for their actions even if they were conducted abroad. Further complicating matters, ***MNCs are also subject to international law***. A clear policy of best practices and a corporate support structure are required for the sake of clarity and compliance.

Competing Laws:

MNCs have a responsibility to obey the laws of each host country, international laws and those of countries with a record of legal intervention in areas such as human rights. Fulfilling this responsibility can be tricky because laws in one country are often incompatible with those in another. That difficulty has increased as international non-governmental organizations (NGOs) have begun pursuing legal remedies in one country

for alleged violations elsewhere.

Areas of Concern:

Some legal issues, such as ***human rights and employment practices***, have been particularly troublesome. For example, U.S. financial company *JPMorgan Chase* was accused of corruption by the Department of Justice for hiring the sons and daughters of prominent Chinese government officials. The circumstances, as reported in The New York Times, suggested that company executives in China may have wandered into the problem naively, believing they were engaging in a common hiring practice in China.

U.S. investigators then began probing similar practices by five more Wall Street firms doing business in China.

➢ Problem Awareness:

A guidance paper from Pinsent Masons, a U.K. law firm with an extensive international practice, suggests that MNCs should address potential problem areas sooner rather than later. Legal departments can conduct preventive research to identify which areas may cause trouble, promote corporate awareness of those problems and suggest solutions before legal issues arise and the courts intervene.

➢ Policy Information:

Best practices can also arise from an awareness of a company's culture and of what kinds of policies have worked in the past. They may also arise from position papers, in-service education programs or the wisdom of senior legal staff with experience abroad. Countries and NGOs can also help MNCs by informing them of best legal practice in specific countries from an international perspective. The International Law Office, for example, distributes its "Code of Best Practice for Corporate Governance" for Nigeria to global counsel.

CONCLUSION

Managing the ethical climate of an organization is not easy given the myriad influences, both internal and external, on the firm. Corporate ethics programs will not completely eliminate unethical conduct, nor will they resolve all of the perplexing conflicts of ethical values that arise in various social and economic arenas today. Nevertheless, managers' efforts to strengthen the ethical climate in their organizations will have real benefits for employees, for the performance of the firms, and for society at large. By legitimizing the discussion of ethical considerations in business, by standing up for ethical values despite short-term costs, by giving serious consideration to problems of conflicting values, managers and executives can contribute to strengthening their organizations and to building public trust in business.