A CONCEPTUAL STUDY ON IMPACT OF WORK AT HOME FROM IT & BPO COMPANIES

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ABSTRACT

The unexpected global pandemic situation has changed the world to a greater extent. At once, when all people and businesses were struck at one point, many of them have started migrating to their native, leaving behind their job and business. Due to this, people have lost their job and faced heavy loss in their business. Likewise, during the Covid-19 pandemic time, IT and BPO companies also have lost their business and employees of this sectors also have moved to their native places, without thinking about the upcoming days of work and business. In IT and BPO sectors, before pandemic situation, some company employees have a privilege of Work from home option and this was very limited only with certain level of employees along with some conditions factors like monthly one day, comp off etc.,

Now, to overcome the sudden business loss, IT and BPO companies have emerged with an idea of Work from home culture for all employees, to recover the loss in the business and wanted to run their business as usual. Employees of many organizations have started their work from home and companies have arranged all logistics and facilities for their employees in order to get the business and work from their employees.

Therefore, there is a need to do conceptual study on the impact of "work from home" in IT and BPO companies. This research paper content has been developed from the testimony of random sample of 60 participants from IT & BPO sectors. Hence the objective of this paper is to discuss on the impact of work at home from IT & BPO companies which include the merits and the limitations of this work culture.

Keywords: *Work culture, Work from Home, Willingness of WFH, Benefits of WFH.*

Introduction

In the late year 2019, a virus which is related to SARS (**Severe Acute Respiratory Syndrome**) Corona Virus has emerged in the city of Wuhan, China. This virus caused severe respiratory disease characterized initially by fever and later cold and cough. The virus was highly contagious and named as COVID-19.

In the early year of 2020, it had spread throughout the regions of China and had reached the United States and Europe. This virus has been carried by travelers from affected regions to the unaffected region. In March-2020, the World Health Organization had declared the outburst situation of Covid-19 a **pandemic.** Due to this, travel to, from, and within state / provinces in many countries was severely restricted in an effort to control the spread of Corona virus. In many areas, schools and other educational institutes, many businesses were closed and gradually stay-at-home guidelines were implemented globally, which strongly encouraged people not to leave their places of residence but to be safe and healthy.

Literature Review

Adams-Prassl et al. (2020) found additional evidence on the link between the scope for remote working and job loss from a job market survey of households across many countries.

Alon et al. (2020) also predicted relatively larger job losses among women this is due to the large impact on service occupations with high female employment shares.

Brynjolfsson et al. (2020) says that 14.6 percent of employees reported that they were already working from home just before the COVID-19 pandemic.

Brammer, Branicki and Linnenluecke, (2019) stated that many organization managers are facing overwhelming challenges, which leads them to navigate in troubled waters with very costly aftermaths caused by the COVID-19 outbreak, as the strategic processes had to change and we have had to learn to adapt.

Dreger (2020) described that "there is a lot to enjoy in this new way of working, but suddenly encountering life- altering changes can also cause fear and anxiety".

Castro-de-Araujo and Machado (2020) said that there is a high impact on employees' mental health due to the high level of uncertainty and the economic crisis.

Caligiuri, et al; Deloitte, Henke, Puri and Saleh; Korn Ferry, (2020): Many organization have the opportunity to develop new strategies and the competences to achieve, such as being more digital, streamlining processes, automating work areas, designing more flexible cost structures, reacting to decision making, having the right technological support, creating secure alternatives for online commerce, delivery and distribution.

Lane et al., (2020), stated that Global pandemic changes the whole system in industries affecting dynamics of office culture.

Bai (2020): stated that WFH has become an increasingly common practice and constitutes an essential dimension in the future of work.

Ratten, (2020) said the world has changed due to the covid-19 pandemic, with new social practices and ways of living introduced.

Kniffin et al., (2020), mentioned that the COVID-19 pandemic has forced companies to change their status quo functionally, leading to the new norm of work from home (WFH).

Shareena P. and Shahid, (2020), described that the workplace concept is shifting from ideas of a physical location to WFH or telecommuting, where employees do not have to commute to the place of work.

Kramer and Kramer, (2020), mentioned that for most businesses, this drastic shift to WFH is a new experiment that represents a very different way of working

Wood, (2020), stated that Face-to-face meetings and popping by someone's desk or office have been replaced by video chats, especially in this pandemic era of COVID-19.

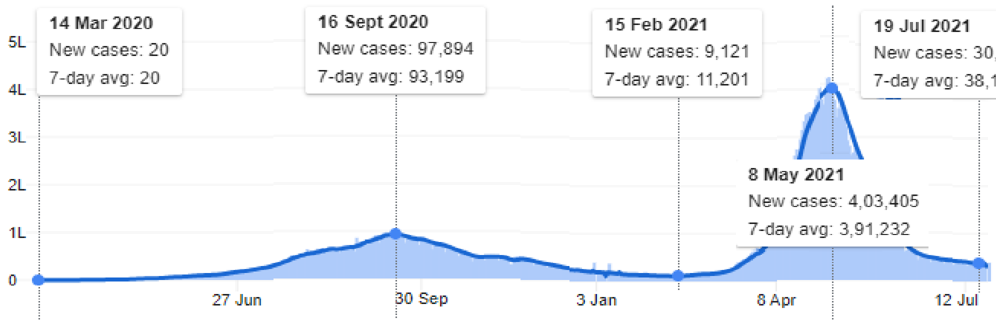
Dingel and Neiman (2020) estimation says the number of potential home-based workers, as per their research the ratio of effective to potential home-based workers was 71.7 percent in May (2020).

Mongey, Pilossoph, and Weinberg (2020) find that low-education and low-income employees are more likely to be forced to become inactive as a result of social distancing.

Schur Liza & others (2020) concluded in their research about the pre and post Covid-19 analysis related with work from remote and the productivity of employees with and without disabilities. In this research they have found out that, rates of working primarily at remote locations are higher among employees with disabilities.

Corona Virus in India

In India, though the lock down had announced and implemented in March-2020, there were just 20 Covid positive cases was registered on 14th March-2020. From March-2020, every day the new cases of Covid positive has increased and reached 97,894 the maximum number of registered new cases on 16th September-2020. The affected people count started decreasing from September onwards and reached 9121 new cases registered on 15th Feb-2021. The time duration from March-2020 to February 2021 was recorded as the First Wave of Corona virus.



The second wave of Corona virus, has started spreading when people moves out of lock down and not followed the protocol which was suggested by government of India. Therefore, the new cases have increased and reached a maximum of 403405 on 8th May-2021. Due to various preventive measures from State and Central Government like lockdown and vaccinations, has decreased the daily registered new cases to 30093 on 19th July-2021. During this critical situation of pandemic, IT and BPO companies were in very high pressure in meeting their client deliverables. Hence, work at home option has come up as a solution for corporate companies to meet their day to day requirements.

Work from Home Pre-Pandemic for Covid-19

Usually employees of IT and BPO companies works from office and the infrastructure in office attracts the employees for work due to the facilities they have in-house, like cafeterias, indoor games, employee engagement programs, etc.., Companies also had work culture guidelines like work hours per day/week, week offs, holidays etc., Many organizations would work Monday to Friday with two days of week off i.e, Saturday and Sunday.

Similarly, companies also had work from home guidelines when there is a requirement for an employee to stay at home and do their personal work. If an employee can do official work at home in addition to their personal work in a day, then they can opt for Work from Home. In this way the companies, get the work from an employee without hampering their customer delivery. Therefore, many organizations allowed the employees to have a work life balance.

As per the working policy, employees had very limited days to go for Work from Home option in a month. So, some organization had allowed work from home only 1 to 3 days in a month as per the designation of employees and some organization had no working guidelines for Work from home before pandemic for Covid-19. In general, work from home has been included in the working hour policy to encourage company employees to avoid taking off from their work for their personal work at home. Those who were able to manage their working tasks had utilized this work from home option.

Work from Home Post-Pandemic for Covid-19

In March-2020, when Government of India had declared nationwide lockdown, all small / medium and large capital industries were shut their businesses. Employees were not allowed to continue their work except the people in need for an emergency. When all businesses were closed, the global economy had struck and falls down to an unexpected edge. Many companies had predicted that the lock down would extend for more than a year and they wanted to start their businesses gradually.

The IT and BPO sectors once had a limited work hour guidelines of work from home wanted to make it utilize the work hour policy for a longer run to avoid their delay in daily deliverables. Therefore, companies have asked their employees to stay safe and healthy at home and keep informing their employee to follow the quarantine guidelines even at home. Slowly, employers have asked their employees to work from home until the pandemic situation becomes normal. In order to accomplish this, companies have transported desktop computers, laptops, other supporting & relevant gadgets, documents everything to their employees' home. Some of the employees were already moved to their native place which is far away from their work place. Though employees were moved a distant place, companies had taken tremendous steps and arranged all logistics for their employees. In pandemic, when employees are not allowed to go out of their home, the company and its employees have no other choice apart from Work from home to run the business as usual.

Once, all the requirements received at home for work, employee have set up the work environment at home and started working as usual. Companies have regulated work hours with additional employee engagement programs to make them feel better at home during their work. Supervisors have asked to get in touch with their teams at regular intervals. All members of a team were working in one floor with fun and now they all departed and separated, hence they had planned to meet in online to share their work around than usual on daily basis. Internet era had made the work from home possible at this unexpected situation in IT and BPO sectors. Needless to mention, however the work from home becomes more successful in many companies in India during the pandemic is due to the IT infra which has been built in our nation.

Though, work from home is successfully managed in India, it has its own merits and limitations from Employees and Employers too.

WFH Benefits for Employees

There are many benefits or advantages for employees in work from home and few are mentioned as below:

a) Saves Time:

Work from home surely saves employees time. Employees commute to office by public / own transport to reach the work location on time and the travel duration put them into pressure to reach office on time to avoid Loss of Pay for late attendance or absenteeism. In work from home, this will not be an issue for an employee, so the travel time to and fro that has been spent to office so far is an additional time in a day they can spend on other productive works or can spend with family and friends. WFH is very much suitable for persons with physical disability and pregnant women who can avoid traveling to office and work at home.

b) Saves Cost:

When there is no travel and time is saved, obviously the cost also will be saved. If the employees are working at office, they would tend to spend money during their travel like travel fare, coffee and snacks at break time for self or colleagues, lunch with team at hotels, birthday celebrations for team members, contributions for gifts, shopping and purchase of new dresses to office etc., Hence, when an employee works from home all these expenses becomes savings and they will not be spending money for the aforesaid things.

c) Freedom of work:

Employees have some freedom of work at home, can schedule their work plan as per requirement to have work life balance and be with family members when they are in need. There is very minimal chance for an employee to go for permission off while working from home, so there is a freedom and flexibility of work culture at WFH. Employees who are WFH can have a greater possibility of maintaining work life balance than the employees who are working from office.

d) No Location boundary:

Work from home employees have no location boundary, now many companies have renamed work from home to work from anywhere. As long as the employees have good network connectivity infrastructure with them, they can work from any location in the world in remote and will be able to meet their daily tasks. If the given tasks are completed on time, no matter where the employees are work from for the corporate companies. In this situation, the companies would expect only the deliverables as per requirement from the employees.

e) Peace at Work:

At office, there could be many people walking around, phones ringing, many client calls happening, and looks to be a noisy at times. However, work at home where employee can set up their own work place where no noise or disturbance. As silence is golden and powerful, employees also require working in a silence environment for a powerful thoughts and actions. A peaceful and silent work place always brings more productive work hours from employees than at noisy office environment.

WFH Disadvantages for Employees

a) Not Suits for Everyone:

Work from Home may not be suitable for everyone. Some employees may require face to face interaction with other colleagues like Supervisors or Managers for motivations and get tasks to be completed. For some employees, home environment is not good for work, they may have small kids, who cannot know the working boundary and distract employees during work and may not be suitable to attend a conference call with team where they require some silent environment.

b) Feel Isolated:

Employees who work from home may feel some disconnect from their colleagues and organization, this would cause lack of motivation and stress to employees. Therefore, they are in need to connect with their team at regular intervals for discussions and participate in organization's employee engagement programs from WFH.

c) Difficulty in monitor:

When employees are working from remote location, it is a challenging task to the supervisors to monitor their work. Supervisors have to set daily goals or tasks to make them occupied and get it delivered what is required. If the set goals or tasks are not completed, then performance issue can be raised on employees at the very early stage.

Supervisors also under pressure to schedule daily meeting with them to assign the tasks and get the work from them.

d) Utility Expenses:

In WFH, there will be more expenses on the utilities at home like Electricity charges or water etc., To have a suitable work place, employee may use additional electricity consumption at home through air conditioning or fan for longer duration than usual. Similarly, water usage also would increase when employee works at home. All these would cause an additional cost in their monthly budget.

e) Network and Power back up:

For work at home, employee would require good network connectivity and power back up for interrupted work. In office, this will not be an issue, however in pandemic situation many people have traveled to their native village where there is poor internet connectivity; hence this is a big concern for the supervisors to get in touch with team members. If power shut down happens, then this would be a loss of business and production at home.

WFH Benefits for Employers

For Employers also, there are lots of benefits or advantages when employees asked for work from home and few are mentioned as below:

a) Cost Saving

Cost saving is one of the major benefits for employers when employees are working at home. They can save money on the following:

Rent: Since employers have asked their employees to work from remote location, there is no requirement to pay rent, so many companies vacated their large office and reduced their work office at office.

Utilities like Water, Electricity, Telephone, Internet: Companies have spent lot of money on utilities when employees are working from office. Now, in lockdown, there is no or less utilization of utilities and reduced the cost to the company.

Building Maintenance: There is no requirement to spend money on building maintenance, as office space is reduced and most of the employees have moved to home and work in remote, this cost benefit is the on employer cards.

Housekeeping & Security Services: This cost is reduced for the manpower supply agencies. Usually, companies hire resources for these services from a third party agency. Every month, huge money is spent on the salaries and services for these agencies. During lockdown, this cost has been saved by the companies as they did not get the services from these people.

Tea / Coffee Vending Machines: Similarly, Tea or Coffee vending machines expenses like manpower, milk, etc. are saved during the lock down. This is also benefited for many organizations.

Purchase of Equipment's and Furniture: When employee are working at office there are more cost involved in buying stationeries like notepad, papers, etc., and also furniture like chairs, and tables. In lockdown, all these expenses are saved for many companies.

b) Absenteeism towards work:

An employee who works from home can manage sickness at home and continue to work. If they need to travel for a long distance, they may tend to take off and rest at home. In work from office, employee may take permission and leave office earlier to meet a doctor or take off to take care of an elderly person at home. So, employer would be losing the productive work hour from an employee. If they are work at home the necessity to take permission would be reduced and employer gets more work hours from an employee.

c) More Productive Time:

Employees working from home are more productive than work at office. When there is no travel time, this time is put into the work hours by employees. At office, there are chances of going out with team for a break and the break time may be longer than usual, meeting many people at office and gossip, all these are not happening at home and employees are focused more on work, and hence employers is benefited with more productive work hours.

d) More Talented Group:

Work from remote has no boundary for hiring a resource. So, Employer has an option to seek a talented employee from anywhere in the globe. Remote working improves employers to have most talented group of employees in their organization. It reduces the cost of relocation when the skilled resources are hired in remote location.

WFH Disadvantages for Employers

a) Information Security risk:

WFH has more risk for breach in information security. Office environment is more secured in terms of customer data handling, whereas it is not that much secured while work at home. There are more chances of customer sensitive data can be handled in an insecure way and can put employee and employer at risk.

b) Lack of Infrastructure:

All employees may not have good working environment and feel better while at work. The infra at home will not support employees to be productive when compared to the performance at office. During pandemic lock down, some companies were not able to arrange all requirements and equipment's at once to employee's home and this caused loss of business.

c) Loss of Performance:

Due to lack of motivation and less or no interaction with team, employees are tending to work for long hours in front of computers. In addition, due to poor network connectivity and slowness, the work at home takes more time to complete the tasks than usual time in office. This cause an employee burnout, feel stressed while working at home and it results in poor performance. Eventually, this leads to delay in the business deliverables to customers by an employer.

CONCLUSIONS

- WFH reduced the rate of attrition
- WFH has enhanced skill development for many resources through virtual learning.
- WFH had created productive workforce for many employers.
- Self-development programs had developed more confidence and enthusiasm for employees.
- The employees learnt to get connected and engaged with organization even from remote location.
- Organization now becomes ready to hire physically challenged resources where they can work from home, this boost their confidence level and will build the positive mindset and dignity on the basis of equal opportunity to work.
- The working policy should be revisited by human resource team and shared with employees for work from remote. Many companies will be rewriting the norms and share with employees.
- Employee performances are much better in WFH and have great flexibility in working hours and tasks deliverables.
- Employees are well adopted for remote working so as the employers are also too good in monitoring employee's performance in remote working.
- Now employers and employees are ready and well prepared to face any situations like pandemic again in future and work business as usual.

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A CRITIQUE ON THIRD PARTY FUNDING IN INDIAN ARBITRATION

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ABSTRACT

India has recently realized the potential of Alternative Dispute Resolution as a means of dispute resolution, which is evident from the continuous amendments in the Arbitration & Conciliation Act, 1996 since 2015. Since the realization of the fact of Arbitration has been lately though, but there are still some issues which are left unaddressed. One of them and perhaps the most important is the applicability of 'Third Party Funding' to Arbitrations. Several countries have allowed third party funding with some exceptions, while some have expressly declared them as illegal. However, India has to still clear its position regarding third party funding. The Indian Arbitration & Conciliation Act do not make any reference, neither a passing reference to third party funding. However, the Hon'ble Supreme Court recently has permitted such funding albeit through lawyers. This study deals with the concept of third party funding with the help of a working definition. Further, the International practice is presented along with concerns associated with third party funding. Finally, a the feasibility framework is presented which should be adopted by India for effective regulation and promotion of 'Third Party Funding'.

Key words: *Arbitration, Confidentiality, India, Law, Third Party Funding*

Introduction

Alternative Dispute Resolution ('ADR') has become one of the most-sought tools for dispute resolution worldwide. Over the years, arbitration has gained prominence not only amongst litigants but even big corporate firms. As per a survey conducted by Queen Mary University of London and White & Case LLP in 2018 showed that 90% of the respondents preferred arbitration over the traditional court system for dispute resolution. One of the primary reasons for parties choosing ADR is its cost effectiveness and flexibility in procedures. However, over the years, it has been clear that arbitration is costlier than litigation – involving not only administrative fees (including cost-shifting rules and waivers), arbitrator's fees to attorneys' fees and other litigation expenses.[1]

In cases, where the parties opting for arbitration, are not capable to pay the various fees, comes they arrange the fees from third parties by entering into Third Party Funding Agreements. With such importance being attached to Third Party Funding, it becomes necessary to understand the term Third Party Funding ('TPF'). As the name suggests, TPF is the funding of litigation by a party who has no pre-existing interest in that litigation, with expectation of returns from the amount recovered as a consequence of the litigation, often without the liability to pay in case of failure of the claim. Usually, such fund covers the party's legal fees and other expenses incurred in the arbitration. In some cases, it may cover other party's costs along with securities. However, this definition of TPF is simpler in theory than in practice. This is because there exists no universal standard definition for 'third party funding' and who is a 'third party funder'.

As per a definition, TPF, refers to "*an agreement by an entity that is not a party to the dispute to provide a party, an affiliate of that party or a law firm representing that party,*

a) funds or other material support in order to finance part or all of the cost of the proceedings, either individually or as part of a specific range of cases, and

b) such support or financing is either provided in exchange for remuneration or reimbursement that is wholly or partially dependent on the outcome of the dispute, or

[1]Christopher R. Drahozal, *Arbitration Costs and Forum Accessibility: Emperical Evidence,* UNIVERSITY OF MICHIGAN JOURNAL OF LAW REFORM (2008), https://repository.law.umich.edu/cgi/viewcontent.cgi?article=1299&context=mjlr.

provided through a grant or in return for a premium payment."[2]

Similarly, a 'third party funder' refers to "*anynatural or legal person who is not a party to the dispute but who enters into an agreement either with a party, an affiliate of that party, or a law firm representing that party,*

a) in order to provide material support for or to finance part or all of the cost of the proceedings, either individually or as part of a specific range of cases, and

b) such support or financing is either provided in exchange for remuneration or reimbursement that is wholly or partially dependent on the outcome of the dispute, or provided through a grant or in return for a premium payment.

The above definitions cover within its scope not only individual funding cases but also a bundle of cases where firms are to be funded against collateral against the sum to be received if the decision comes in favour of the funding party.

Though a Working Definition, it amply covers a broad view regarding Third Party Funding. However, debates still continue as to its applicability in particular individual cases, and to what extent TPF should be adopted and regulated. The approach of national laws towards TPF is somewhat conflicting. On one hand, common law countries prohibit such funding as against the doctrines of maintenance and champerty while the civil law jurisdictions prohibit it on grounds of professional attorney ethics rules and ownership of claim constraints. Upholding the longstanding common law principles, the Supreme Court of Ireland stated that third party funding by an entity which has no independent interest in the underlying proceedings would be prohibited under Irish law.

However, Ireland is an exception to the common law countries majority of which have legalized Third Party Funding. Countries like Australia, UK, Australia,USA and Singapore have legalized third party funding. These countries have not only allowed such funding but also regulated it effectively. For example, Australia permits third party funding with a regulatory regime for managing conflicts that may arise during third party funding and exempting litigation funders from registration requirements.

Thus, the concept of third-party funding is not new and some jurisdictions have allowed them for over a century. However, third party funding in the sphere of arbitration is new. What draws the funders to fund arbitration lies in the high value claims clubbed with efficient enforcement mechanism provided by the New York Convention. With the growing popularity of arbitration as a means of dispute resolution even in high value claims, several jurisdictions have allowed third party funding to cater to the need of the international business community. Accordingly, USA, UK, Canada, Australia, Switzerland and Hong Kong have allowed third party funding not only in domestic arbitrations but also in international commercial arbitrations and international investment arbitrations.

Doctrine of Champerty and Doctrine of Maintenance

When one looks at the common law countries, the doctrines of 'maintenance' and 'champerty' have somewhat prevented parties from indulging in third party funding in litigations. The 'Doctrine of Maintenance' refers to the importunate assistance, either monetary or otherwise, to a party to the suit by a third person who has no interest in the suit.[3] The 'Doctrine of Champerty' is the maintenance of an action, suit or other proceeding, where the maintainer agrees to provide assistance on the basis that he gets a share of the proceeds of such action, suit or proceeding.[4]

The concept of 'Third Party Funding' as such is not new in India and the Indian courts have addressed the legality of TPF in several cases. However, the position regarding TPF in arbitration is still unaddressed and a dust of confusion is settled on the issue. Till 1860s,

[2]4 INTERNATIONAL COUNCIL FOR COMMERCIAL ARBITRATION, REPORT OF THE ICCA-QUEEN MARY TASK FORCE ON THIRD PARTY FUNDING IN INTERNATIONAL ARBITRATION 100 (2018)

[3] HUGH BEALE, CHITTY ON CONTRACTS 1273(33rd ed. 2020)

[4] *Id.*, at 1275.

the Indian courts were unclear as to the applicability of the doctrine of maintenance and champerty in Indian suits. In *Gross&Anr. V. AmirtamayiDasi*[5]it was held that agreements supporting champerty and maintenance in India would be void on grounds of public policy. However, the subsequent decisions overturned the decision holding that since the Indian Contract Act, 1872 did not adopt the English law rule against champerty and maintenance, such arrangements are not*per se* void under Indian law.[6] Further, the Privy Council in *Raja Rai Dayal Singh v. Debi DayalSahu*[7] held that an agreement may be champertous under English law is not void in India, unless it was against public policy. Further, agreements providing funding for litigations in return for a share of the proceeds of such litigation or a return of such funding upon success is not necessarily against public policy.[8] Since then, several decisions have reflected the same principle that doctrines of champtery and maintenance are not applicable in India and such contracts would be valid unless their very object is contrary to public policy, morality, access to justice, equity and good conscience.

The rationale for maintenance and champerty was public policy that is, everyone is equal in the eyes of law. Thus, these doctrines were considered as a 'criminal offence' and were declared unlawful by the Statute of Westminster, 1275. However, there were later decriminalized by the Criminal Law Act, 1967 but left unenforceable on grounds of public policy.[9]

Where an issue of conditional fee arrangement between a senior advocate and his client arose, the Hon'ble Apex Court reiterated the above decision and held that the rigid English rules of champerty and maintenance do not apply in India.[10] Considering the transaction and parties involved in the instant case, the court was of the view that *"there is nothing morally wrong, nothing to shock the conscience, nothing against public policy and public morals in such a transaction per se, that is to say, when a legal practitioner is not concerned."* However, where such agreements are extortionate or unconscionable, or made for the purpose of gambling/speculating in litigation or oppressing others by aiding or encouraging unmeritorious claims, they are held to be void as being opposed to public policy.[11]

Regulation of Third-Party Funding

The concerns associated with third party funding have led legal practitioners and commentators to call for regulation of third-party funding. Some countries, apart from expressly permitting third party funding of arbitrations have also regulated third party funding. However, at the international level, there is a lack of consistent regulation of TPF. One reason being that third party funders are usually large investors who do not fit into any of the traditional roles in an arbitration that international conventions or arbitral rules usually envisage.[12]

However, the regulation of third-party funding is in the form of disclosure of the use of third-party funding arrangements as well as the identity of the third-party funder. The 2014 IBA Guidelines on 'Conflicts of Interest' provide for disclosure of any direct or indirect relationship between the arbitrator and one of the parties. For facilitating the disclosure, legal entities with "a direct economic interest in award to be rendered in the arbitration, such as an entity providing funding for the arbitration" are identified with a party to the arbitration.[13]

Similarly, the Singapore International Arbitration Centre's Investment Arbitration

[5](1869) 4 Beng LR 1

[6]Chedambara Chetty v. Renga Krishna Muthu Vira Puchaiya Naickar (1874) 1 IA 241; Ram Coomar Condoo v. Chunder Canto Mookerjee (1876) 4 IA 23

[7][1908] UKPC 2

[8]Dara Shapurji v. Asakarai Begum, AIR 1954 Hyd 98

[9]Criminal Law Act, 1967 s. 14(2)

[10]*In Re: Mr. 'G', A Senior Advocate of The Supreme Court*, AIR 1954 SC 557

[11]POLLOCK & MULLA, THE INDIAN CONTRACT ACT & SPECIFIC RELIEF ACTS 549 (16th ed. 2019).

[12]Francisco Blavi, *It's About Time to Regulate Third Party Funding*, Kulwer Arbitration Blog (Dec. 17, 2015), http://arbitrationblog.kluwerarbitration.com/2015/12/17/its-about-time-to-regulate-third-party-funding/

[13]General Standard (6) (b), 2014 IBA Guidelines on Conflicts of Interest in International Arbitration

Rules, 2017 have empowered the arbitral tribunal to order the disclosure if the existence of any third-party funding arrangement and/or the identity of the third-party funder. The Arbitral Tribunal is also permitted to order, in appropriate cases, the disclosure of the funder's interests I the outcome of the arbitration proceedings and whether the funder has agreed to undertake liability for adverse costs. Further, the tribunal is also empowered to consider any third-party funding arrangements in the apportionment of costs between the parties.

Third Party Funding India

Third party funding has not yet gained traction in India, possibly due to the lack of clarity surrounding the validity and enforceability of third party funding agreements. Unlike other jurisdictions like Singapore and Hong Kong, India does not have any rules or laws regulating or dealing with third party funding. However, this does not necessarily mean that such funding is prohibited in India. Although the Supreme Court has clarified that lawyers in India could not fund litigations on behalf of their clients, it does not discount the possibility of third parties funding litigations.[14]

Thus, it implies that the laws of champerty and maintenance do not create any hindrance to third party funding in India, provided the funding is not given by lawyers through contingency fees or otherwise. Nonetheless, funding agreements could still be challenged at the stage of set-aside, under Section 34 of the Arbitration and Conciliation Act, 1996, or enforcement under Section 48. However, the 2015 Amendment to the Act has significantly restricted the scope of "public policy" and clarified that an award would be in contravention of public policy only if

(i) the award is vitiated by fraud or corruption;

(ii) it is in contravention with the fundamental policy of Indian law;

(iii) it is in conflict with basic notions of morality and justice.

The amendment has also clarified that the additional ground for "patent illegality" to challenge an award can only be taken for domestic arbitrations and not for international arbitrations.

However, it is unlikely that a funding agreement would seek to be set-aside on the grounds mentioned in Section 34, especially since the case laws on champerty and maintenance clarify that third party funding *per se*, is not illegal.[15] However, the Indian judiciary in the past has expanded the scope of "public policy", bringing in third party funding threby, reassuring claimants and funders.

However, applying third party funding in India arbitration disputes has its own set of problems. Funding in India by a foreign third party funder would be subject to the Foreign Exchange Management Act, 1999 ("FEMA") which classifies transactions involving non-residents and foreign exchange as capital or current account transactions. FEMA does not expressly categorize third party funding under either type of transaction which makes it difficult to ascertain how such funding would be treated under the present regulatory regime.

Under FEMA, current account transactions are defined as "payments due as net income from investments"[16] while capital account transactions include "borrowing or lending by whatever name called."[17] Since third party funding is often considered to be an investment, it could easily be categorized as a current account transaction.[18] On the other hand, third party funding also resembles a loan and therefore liable to be categorized as a capital account transaction. Since both these types of transactions are treated very differently under FEMA and related regulations, in the absence of legislative

[14]Bar Council of India v. A.K. Balaji (2018) 5 SCC 379

[15]Varun Mansinghka, *Third Party Funding in International Commercial Arbitration and Its Impact on Independence of Arbitrators: An Indian Perspective* 13 AIAJ 97, 101-102 (2017)

[16]Section 3 (j), Foreign Exchange Management Act 1999

[17]Section 6 (3) (d), Foreign Exchange management Act 1999

[18]Wadia & Rawat, *Third-Party Funding in Arbitration – India's Readiness in a Global Context* 2 TDM (2018)

clarification on the issue, third party funding in India is subject to regulatory uncertainty.

Conclusion

The Srikrishna Committee (which examined the institutionalization of arbitration in India) commented on the benefits of legalizing third party funding and observed as follows:

"Apart from arbitration legislation, in certain jurisdictions, the enactment of supporting legislation has contributed significantly towards the growth of these jurisdictions as arbitration hubs. For instance, Singapore has recently passed amendments to its Civil Law Act legalizing third party funding for arbitration and associated proceedings. Similarly, Hong Kong recently legalized third party funding for arbitrations and mediations. The Paris Bar Council has also indicated its support for third party funding."[19]

From the observation of the Srikrishna Committee and the commends made by the Hon'ble Supreme Court in *A.K. Balaji* case suggest that the time is ripe to introduce regulations to formalize third party funding in India by way of appropriate amendments to the Indian Arbitration Act or by independent regulations. The introduction of regulations governing third party funding in arbitrations in India would be consistent with practices in other jurisdictions of the world, such as Singapore and Hong Kong where such legislation has been introduced/amended to permit or incorporate third party funding in their national arbitration regime.

[19]Report of the High Level Committee to Review the Institutionalization of Arbitration Mechanism in India, Srikrishna Committee (2017)

VOLTAGE REGULATION OF WIND POWER SYSTEM WITH PI CONTROLLER AND D-STATCOM

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ABSTRACT

Due to large integration of wind mills to grid and variability of wind speed the Power Quality has become a great problem in current edge specially for Wind farm. The very same issue is targeted in this simulation work, detailed comparative stability analysis has been done based on different types of faults assuming conditions without power electronics load using STATCOM tuned with PI controller(GA,ACO and HS based controller) as a control device. Without power electronics load, power quality issues are determined . A research level software MATLAB R2017a is being user for simulation and analysis purpose. Very satisfactory results were obtained.

Keywords: *Wind Power(WP), Power Quality(PQ), Static Synchronous Compensator (STATCOM), Permanent Magnet Synchronous Generator(PMSG), Harmony Search Algorithm (HSA), Proportional and Integral (PI), Ant colony optimization (ACO), Genetic Algorithm(GA)*

Introduction

Wind power generation, particularly offshore wind power, has been the subject of dramatically increasing interest in recent years. Wind power generation appeals because of its merits in cost, ecological compatibility, sustainability, enormousness, and ubiquity natures; however, disadvantages such as intermittency, variability, and uncertainty still remain technological issues. Power generated from wind power varies depending on the wind speed variation. Here Permanent Magnet Synchronous Generator(PMSG) is used in the wind power generation system.

Various types of configuration of offshore wind farms are required to collect and transfer the offshore wind power to onshore grids with sufficient efficiency and reliability. Wind turbine technologies and power electronic converters provide wind power developers and operators with the options necessary to achieve wind power transmission targets[1].

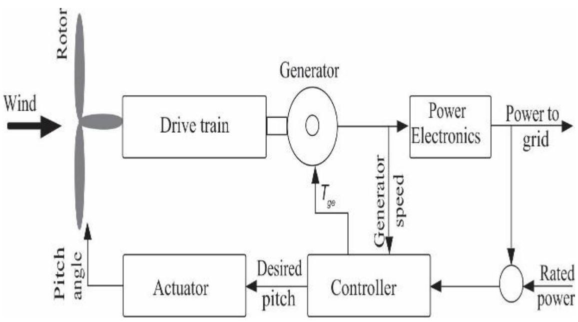

Fig.1 Variable-Speed Wind Turbine[5]

Fig1 describes a variable speed Wind turbine, various issues related with interconnection of large scale wind turbines were identified and cost effective solution is provided for mitigation of power quality, reactive power, harmonic distortion, low voltage ride through capability by use of STATCOM. It is used as an active voltage and reactive power supporter to increase the power system stability[10].

The D-STATCOM produces three phase alternating current output voltage from the known dc input voltage and it create a three phase alternating current voltage output, both are coupled and in phase with the related voltage of AC system through small reactance. The energy storage capacitor is used to provide a dc voltage. [6,8]. Block diagram of compensator is shown in Figure 2.

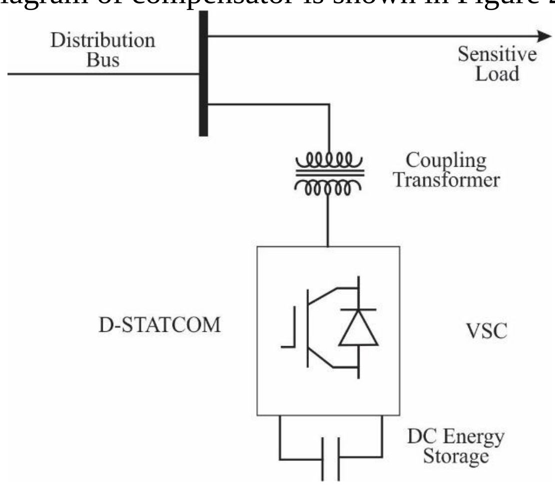

Fig.2 Block Diagram of D-STATCOM[9]

STATCOM unit is simulated to inject reactive power for mitigation of power quality problems and to get stable grid operation. It is used at the point of common coupling (PCC) to regulate terminal voltage of wind turbine system. Simulation results verify the effectiveness of the proposed system to mitigate the power quality issues, reactive power issues, low voltage ride through capability, voltage, power & rotor instability during fault, wind turbulence issues[1].

This simulation investigates the use of a STATCOM along with wind farms for the purpose of stabilizing the grid voltage after disturbances such as symmetrical and unsymmetrical fault. The simulation has demonstrated that an additional active voltage / Var support produced by a STATCOM at suitable location in case of multi machine power system with a large scale wind farm system can significantly improve the recovery of wind turbines from voltage collapse. Without power electronics load, with the help of optimization technique by tuning the parameters of PI controller and STATCOM, power quality issue is rectified.

PI controllers are the most important controllers used now days in industrial applications. It has two control parameters, Kp, Ki. When we increase the value of Kp the peak overshoot of the system increases and the steady state error decreases. That means as we increase the value of Kp more and more the system becomes unstable due to the increase in overshoot. On the other hand, when Ki increases, the overshoot becomes smaller, and the speed of response becomes slower.

Here different optimization techniques are used , the PI controller design using, GA based, HS based and ACO based algorithms for D-STATCOM has been applied along with respective algorithm, steps and computational flow chart.

MATLAB Simulation

Figure 3 represents wind power generation system without power electronics load which is operated by two switches which is an input speed switch and other is manual speed switch. Input switch is connected to wind generation block. This block consists of wind turbine model and PMSG (Permanent magnet Synchronous Generator). Three phase transformer is connected to the three phase series RLC load. Three phase fault block is connected to one of the load and individually faults are provided accordingly. Faults activate for 0.4 - 0.6 seconds.

One of the winding of three phase transformer is connected to STATCOM through three phase circuit breaker. PI controller is in-turn connected to STATCOM. Analysis is done for different parameters like speed, voltage, current, torque, terminal voltage etc. Without power electronic device, power quality issue is seen and is rectified using optimization technique by tuning the values of PI controller and STATCOM.

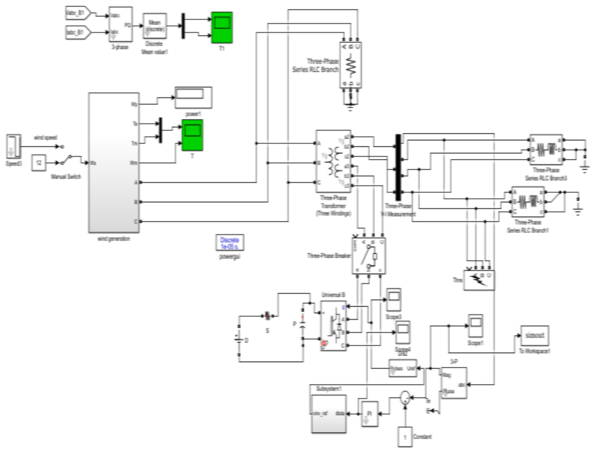

Fig.3 Wind power generation system without power electronics load

Methodology:

In recent research, the PQ in the wind generating system is biggest challenges. The main aim of the proposed approach is to expand a wind power producing system with enhanced power quality. A controlling method is developed in D-STATCOM installed wind energy conversion system. The PI controller with optimization techniques is applied in this control scheme.

The D-STATCOM injects current in the power network to maintain the phase angle of the source voltage in preferred value and also to maintain the source current free from harmonics. An injection of the current from the compensator negate the harmonics in the load, reactive part and also the current in the double fed induction generator, as a result it enhanced the power factor as well as the power quality.

Various schemes like Genetic Algorithm based PI Controller for D-STATCOM, Harmony Search based PI Controller for D-STATCOM and Ant Colony Optimization based PI Controller for D-STATCOM

In the proposed technique, optimal PI controller based on Genetic algorithm (GA) with D-STATCOM is proposed and implemented. In industrial control method, a feedback loop control mechanism provided by the conventional PI controller. The variation between the measured variable and desired set position are estimated as an error value by PI controller. The controller tries to reduce the error by changing the process through the use of controlling variables. The two constant parameters are involved in the algorithm of PI controller. So it also denotes a two control term that is proportional and integral values.

The Harmony Search Algorithm (HSA) is one of the newest metaheuristic population search algorithms. It was introduced by [11]**.**The HSA depends mainly on the musical process of searching for a pleasing harmony. The musicians are the decision variables of the function to be optimized. The notes of the musicians represent the decision variable values. The harmony is considered as optimal solution vector. Unlike the gradient optimization techniques, the HSA is a stochastic search and a free derivative algorithm.

In this work, we have demonstrated a step by step optimum design procedure of PI controllers' parameters is using Harmony Search Algorithm scheme. The parameter optimization scheme is applied to control real and reactive power simultaneously along. The effectiveness of the proposed HSA methodology in obtaining optimum PI controller parameters in a complex and nonlinear system is demonstrated by comparing the results using two other popular techniques namely Genetic Algorithm and Ant Colony Optimization.

In this work, the ACO technique is used for the tuning of PI controller in DSTATCOM. The performance of the GA and HSA tuned PI controller is compared with Ant Colony Optimization based PI tuning. Here, the Kp and Ki are treated as nodes and from which the shortest pat or the best solution is found to obtain the optimum values for the gain.

Result and Discussion

The voltage sag is seen as a serious power quality issue, with the help of optimization techniques sag should be reduced by tuning the parameters of PI and STATCOM. It is very effective and helps to achieve stability in a very accurate time. Firstly analysis is done without fault. After that one by one fault are taken in to account. Three optimization algorithms are used namely Genetic Algorithm (GA), Ant Colony Optimization (ACO) and Harmony Search (HS) algorithm. From the above mentioned algorithms best result is obtained in HS algorithm as it converges fast as compared to GA and ACO. Fault analysis is done based on following parameters: Terminal voltage deviation, Rotor speed deviation, Mechanical torque deviation, Electrical torque deviation and Power deviation.

Case1: for Single Line to Ground Fault

When single line to ground fault occurs on the system. Voltage sag is seen at particular time duration of 0.4 – 0.6 seconds. This voltage sag should be reduced by tuning the parameters of PI and SATCOM using optimization techniques. Best result is obtained in harmony search (HS) optimization as it converges fast as compared to ant colony optimization (ACO) and genetic algorithm (GA). Below figures from Fig 4, Fig 5, Fig 6, and Fig7 individually represents different performance parameters related to wind generation block. Power quality issue is seen in this section of analysis.

Table 1 Performance parameters of PI controller and STATCOM for line to ground fault

PARAMETERS → / TUNING METHODS ↓	P	I	Vdc
Without fault	0.2500	0.5000	18.7000
Genetic Algorithm	4.1053	9.8511	20.9370
Ant Colony Optimization	2.8944	7.1542	27.5221
Harmony Search Algorithm	4.1723	9.6753	25.2051

Table 1. Represents the values of tuned parameters of PI controller and STATCOM which is tuned with the help of optimization techniques. Values are represented in the table without fault, genetic algorithm, ant colony optimization and harmony search algorithm.

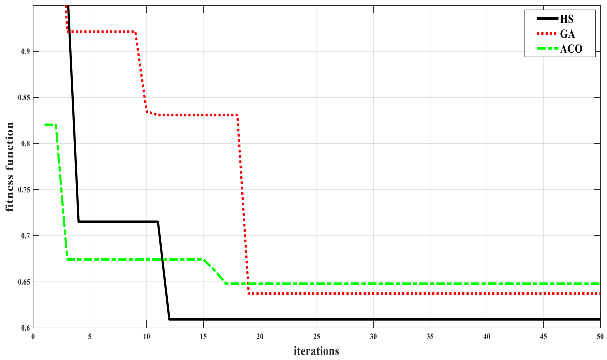

Fig.4 Comparison of convergence obtained at the time of optimization for L-G fault

From the output graph represents the comparison of convergence obtained at the time of optimization for single line to ground fault. All the algorithms are run individually and convergence is obtained which is merged in above figure. It is seen that best result is obtained in harmony search algorithm as compared to ant colony optimization and genetic algorithm. Convergence rate of harmony search algorithm is much fast as compared to ant colony optimization and genetic algorithm. Thus it can be concluded that harmony search algorithm is best as compared to other two optimization algorithms.

Case2: Performance Comparison of Optimal Parameters of PI Controller and STATCOM for Line to Line Fault

Table 2 Performance parameters of PI controller and STATCOM for line to line fault

PARAMETERS → / **TUNING METHODS ↓**	**P**	**I**	**V_{dc}**
Without fault	0.2500	0.5000	18.7000
Genetic Algorithm	0.9336	0.2773	29.3051
Ant Colony Optimization	0.3673	0.8259	22.7054
Harmony Search Algorithm	0.8166	0.0306	20.0151

The graph represents the values of tuned parameters of PI controller and STATCOM which is tuned with the help of optimization techniques. Values are represented in the table without fault, genetic algorithm, ant colony optimization and harmony search algorithm.

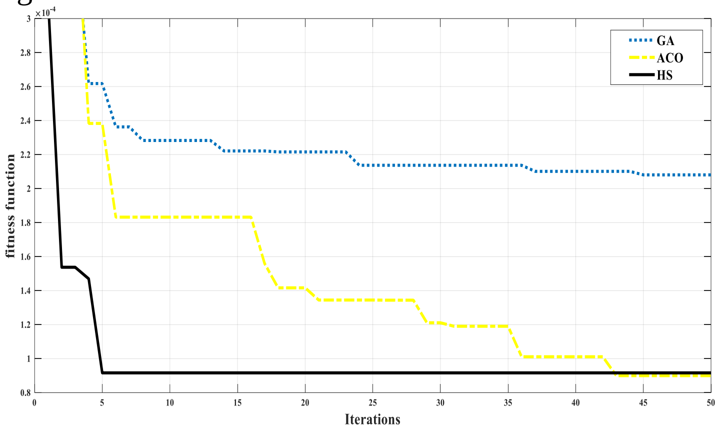

Fig.5 Comparison of convergence obtained at the time of optimization for line to line fault

In this line to line faults case also the performance of harmony search algorithm exhibits better results as compared to ant colony optimization and genetic algorithm.

Case3: Performance Comparison of Optimal Parameters of PI Controller and STATCOM for Double Line to Ground Fault

Table **3** Performance parameters of PI controller and STATCOM for double line to ground fault

PARAMETERS → / **TUNING METHODS ↓**	**P**	**I**	**Vdc**
Without fault	0.2500	0.5000	18.7000
Genetic Algorithm	0.9575	0.9649	21.5300
Ant Colony Optimization	0.9626	0.9058	20.0781
Harmony Search Algorithm	0.9800	0.0216	15.0171

Table 3. represents the values of tuned parameters of PI controller and STATCOM which is tuned with the help of optimization

techniques. Values are represented in the table without fault, genetic algorithm, ant colony optimization and harmony search algorithm.

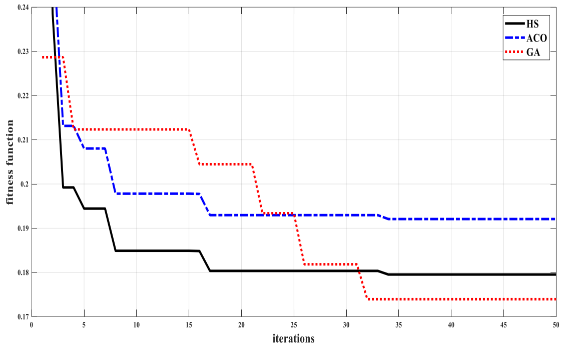

Fig.6: **Comparison of convergence obtained at the time of optimization for double line to ground fault**

The performance of harmony search algorithm in double line to ground faults is similarly very good .

Case4: Performance Comparison for Optimal Parameters with PI Controller and STATCOM for LLL Fault

Table 4 Performance parameters of PI controller and STATCOM for LLL fault

PARAMETERS → / TUNING METHODS ↓	P	I	V_{dc}
Without fault	0.2500	0.5000	18.7000
Genetic Algorithm	4.2252	0.1539	17.8711
Ant Colony Optimization	2.7236	9.4985	22.0156
Harmony Search Algorithm	5.4821	9.3726	25.3174

From above graph represents the values of tuned parameters of PI controller and STATCOM which is tuned with the help of optimization techniques. Values are represented in the table without fault, genetic algorithm, ant colony optimization and harmony search algorithm.

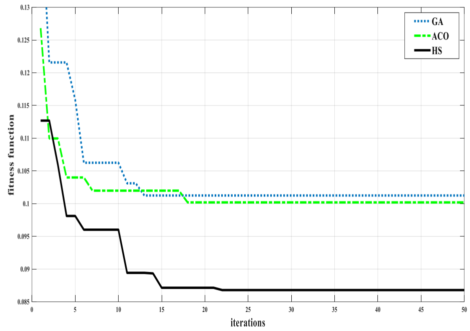

Fig.7 Comparison of convergence obtained at the time of optimization for LLL fault

Again the convergence obtained at the time of optimization for LLL fault by harmony search algorithm is best among All the algorithms .

Conclusion

The simulation results of MATLAB R2017a are very encouraging and satisfactory. Power quality issue is analysed from Fig 4 to Fig 7. Voltage sag is analysed as a power quality issue. When power quality issue is seen model is simulated without power electronics load. In every case terminal voltage deviation, rotor speed deviation, mechanical torque deviation, electrical torque deviation and power deviation is analysed without fault and with optimization algorithms. Tuned values of P, I and V_{dc} are represented with the help of tables individually in the section end for single line to ground fault, line to line fault, double line to ground fault and for LLL fault. In every case end convergence is represented in a comparative basis individually for single line to ground fault, line to line fault, double line to ground fault and for LLL fault. Thus comparative analysis of power quality issues for different types of fault is analysed using optimization techniques, harmony search algorithm performance was best among All the algorithms for this scenario.

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MICROSTRUCTURAL STUDIES, MECHANICAL BEHAVIOR AND TENSILE-IMPACT FRACTOGRAPHY OF AL$_2$O$_3$-B$_4$C DUAL PARTICLES REINFORCED AL6061 ALLOY METAL COMPOSITES

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ABSTRACT

The current work intended to synthesize Al_2O_3-B_4C particles reinforced Al6061 alloy metal matrix composites by varying weight percentage of B_4C particulates in steps of 3 and 6 in constant 5 wt. % of Al_2O_3 particles by using liquid metallurgy technique. SEM pictures of Al6061-5 wt. percent Al_2O_3-3 wt. percent B_4C hybrid composites and Al6061-5 wt. percent Al_2O_3-6 wt. percent B_4C hybrid composites were taken to show the uniform dispersion of the reinforced Al_2O_3 and B_4C particles throughout the matrix. EDS and XRD spectra verified the presence of numerous elements and phases in the Al6061-Al_2O_3- B_4C composites. Hardness, tensile, and impact tests are performed to determine the effect of B_4C particles on the mechanical properties of the composites. The hardness, impact, and tensile strength of synthesized composites are found to be increased by increasing the weight fraction of B_4C particles along alumina. Tensile and impact failure studies were also investigated utilizing SEM micrographs of fractured surfaces.

Key words: *Al6061 Alloy, Al_2O_3-B_4C Particles, Tensile Strength, Impact Strength, Fractography*

Introduction

Aluminium and its alloys are generally preferred for automotive and aerospace applications due to their low density and moderate strength characteristics [1, 2]. The strength and toughness of few aluminium alloys can be increased significantly by subjecting them to heat treatment. Development of aluminium based metal matrix composites by inclusion of organic or ceramic reinforcements to such metallic matrices can further enhance the properties by virtue of their high hardness and chemical inertness [3, 4]. Aluminum based metal matrix composites reinforced with secondary phase materials have potential properties over unreinforced monolithic alloys. They are capable of addressing various issues of ever increasing service requirements of components used in automotive, aerospace, transportation, marine and other industries [5, 6]. The requirements of modern engineering applications can be easily addressed by aluminum based metal matrix composites through addition of reinforcements in the form of fibers, whiskers, particle or particulates [7]. It is possible to obtain aluminum based composites with superior profile of characteristics by use of multiple reinforcements.

Aluminum composites with two or more reinforcements have high level of opportunity in materials design [8]. Regardless of huge quantity of work done on enhancing the mechanical properties of fundamentally prepared composites with one reinforcement, little research work has been done on characterization of hybrid aluminum composites.

As of late, there is a developing concern in producing hybrid aluminum metal framework composites with better physical and mechanical properties. This might be because of certainty that the utilization of at least two fortifications in aluminum lattice upgrades the exhibition of composites by presenting interesting new highlights. What's more these materials can diminish the expense and weight of the composites and their physical and mechanical properties are tantamount or even better than aluminum composites built up with single material. It has been accounted for by numerous specialists that, synthesis of aluminum based metal lattice composites utilizing at least two supporting materials having one of a kind attributes not just adds to decrease in cost additionally helps in property advancement of aluminum composites. Shoufa et al. [9] conducted the experiments on Al7075 alloy reinforced with B_4C and MoS_2 hybrid composites. The prepared composites were evaluated for tensile and compressive strength, the hybrid composites exhibited superior properties as compared to the as-cast Al7075 alloy. Senthil Kumar and co-authors [10] investigated the Al_2O_3 and SiC dual particles reinforced Al2024 alloy composites. Al2024 alloy with 5 wt. % of Al2O3 and 5 wt. % of SiC of 10 micron sized particles reinforced hybrid composites were processed by squeeze cast method. Thus prepared hybrid composites shown more hardness and ultimate tensile strength as compared to as-cast Al2024 alloy.

The processing of hybrid composites is almost similar to that of conventional metal matrix composites. The composites are fabricated by liquid metallurgy, powder metallurgy or spray Co-deposition techniques. Out of all these techniques, liquid metallurgy technique is utilized for fabrication based upon its simplicity and low manufacturing cost, mass production, creating near net shaped components. Etc. The liquid metallurgy technique includes gravity die casting, squeeze casting, lost foam and investment casting processes [11]. An advantage of aluminium and its alloy is that they can accommodate wide variety of reinforcements.

In the current research, Al6061 alloy with varying 3 and 6 wt. % of B_4C particles along with constant 5 wt. % of Al_2O_3 reinforced composites were developed using conventional stir casting method. The prepared Al6061-Al_2O_3-B_4C alloy composites were subjected evaluation of various mechanical properties in line with ASTM standards. The failure or fracture behavior of as-cast Al6061 alloy, Al6061 alloy – 5 wt. % Al_2O_3-3 wt. % of B_4C and Al6061 alloy – 5 wt. % Al_2O_3-6 wt. % of B_4C composites were analyzed by using SEM micrographs of fractured surfaces.

Experimental Details

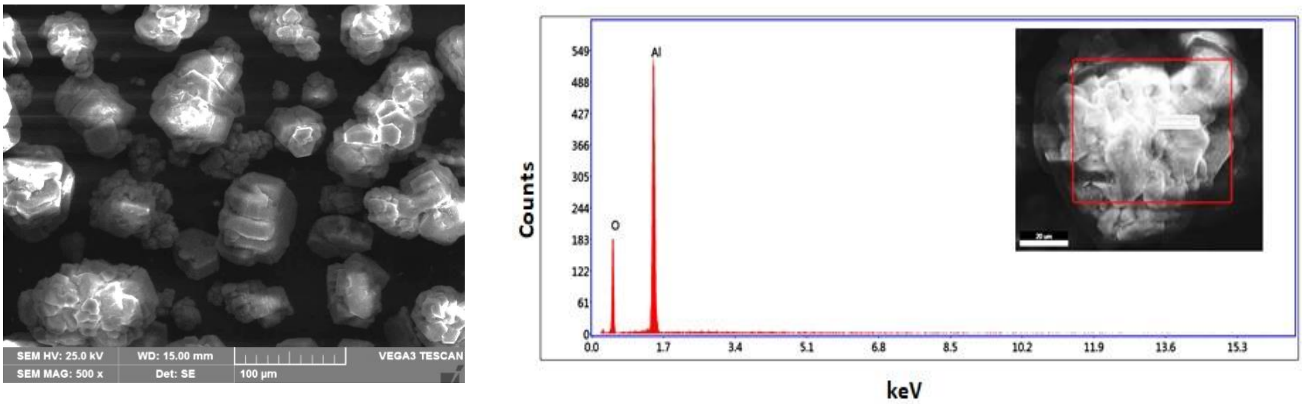
2.1 Materials Used

In the current study, Al6061 alloy with Al_2O_3 and B_4C particles are taken into account as a matrix and reinforcement respectively. The chemistry of Al6061 alloy is represented in Table 1.

Table 1 Chemical composition of Al6061 alloy by wt. %

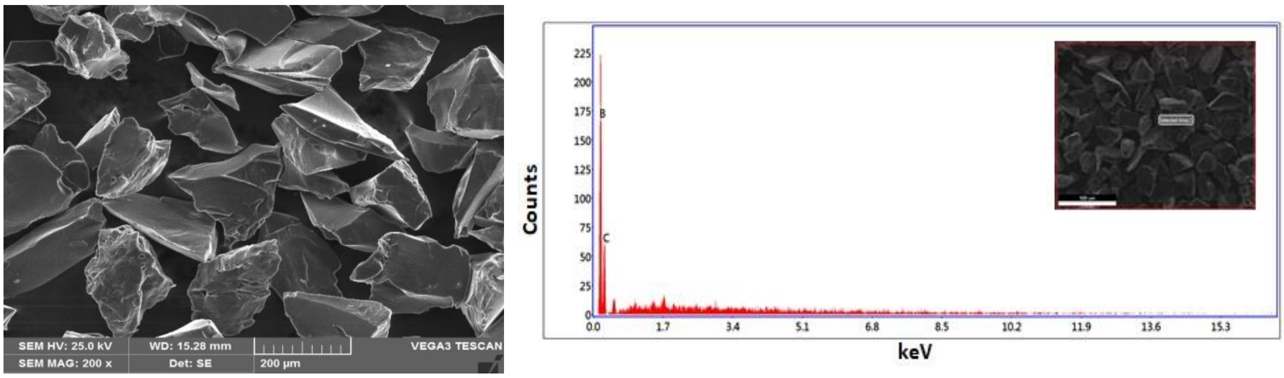
Elements (wt. %)	Mg	Si	Fe	Cu	Ti	Cr	Zn	Mn	Al
Al 6061 alloy	0.91	0.67	0.21	0.23	0.07	0.02	0.03	0.06	Remaining

Metal composites with Al6061 alloy with varying 3 and 6 wt. % of boron carbide particles and 5 wt. % of constant Al_2O_3 particles were created by stir method. Aluminum 6061 alloy is chosen as matrix due to its greater, strength, formability, heat-treatment nature, good corrosion resistance, machinability and wide applications in several sectors etc. while Al_2O_3 and B_4C particles were utilized as reinforcements. The Al_2O_3 particles with 40 micron size and B_4C particles with 80 micron size were utilized for the research. Fig. 1 (a-b) is indicating the SEM micrograph and energy dispersive spectrographs of Al_2O_3 particles and Fig. 2 (a-b is indicating the SEM micrograph and energy dispersive spectrographs of B_4C particles used in the current research.



(a) (b)

Figure 1 (a) SEM micrograph of Al_2O_3 particles (b) EDS spectrum of Al_2O_3 particles



(a) (b)

Figure 2 (a) SEM micrograph of B_4C particles (b) EDS spectrum of B_4C

2.2 Synthesis of Al6061-Al_2O_3-B_4C Metal Composites

Initially, a defined amount of Al6061 alloy is deposited in a graphite-made crucible and melted (at 750^0C) in an electrical resistance furnace. Once the necessary temperature is reached, a degasser (C2Cl6) is added to the melt to prevent gas trapping, and vigorous stirring is performed until a clear vortex forms. Following that, preheated (500^0C) 5 wt.% Al_2O_3 and 3 wt.% B_4C particles are added into the produced vortex of the melt in two steps rather than adding at a time, and further stirring is carried out for 10 minutes using a zirconia coated steel impeller. The molten fluid is then poured into the cast iron mold and allowed to solidify completely. After complete solidification, the hybrid composite formed is drawn from the mold and subjected to SEM, hardness, tensile, and impact tests in accordance with their specifications. Microphotographs taken with a scanning electron microscope were utilized to examine the various fracture mechanisms involved in the tensile and impact failure analyses.

SEM is used to determine the size, shape, and dispersion of Al_2O_3 and B_4C in Al6061 composites (TESCAN VEGA, Czech Republic). The device is linked to the JED 2300 examination software package for EDX analysis. Specimens for SEM are cut to be 15 mm in diameter and 5 mm in height. The sliced samples are flattened using a belt grinder. The samples are next polished with a series of silicon carbide emery papers ranging in grit size from 300 to 1000. Finishing is done by hand on a micro cloth with fine cerium oxide. Using Keller's reagent, the produced samples are etched to reveal the correct granular structure. The etching solution contains 95 mL of H2O, roughly 2.5 mL of HNO3, 1.5 mL of HCl, and 1 mL of HF. After etching, the samples are carefully washed and dried.

To determine the hardness, a Vickers hardness tester with a load range of 25 to 1000 g is used. For testing, the ASTM E384 [12] standard is utilized. Dead weight is used to apply loads. A precision diamond indenter is utilized on the material, and a load of 100 g is placed over a specimen with a diameter of 15 mm and a length of 10 mm for 30 seconds. The indentation is then microscopically measured, and the applied load is utilized to calculate the value in terms of Vickers hardness number (VHN). Three readings were taken on each sample at various points, and the mean value was calculated. Tensile tests are performed using an Instron computerized universal testing machine (UTM) with a 60 kN capacity and a minimum count of 4 N. Figure 3 depicts a tensile specimen with a gauge length of 45 mm in accordance with the ASTM E8 [13] standard. Following the test, the fracture surfaces are submitted for microstructural analyses with SEM to better understand the fracture mechanism.

Figure 3 Tensile test specimen

The impact strength of Al6061 alloy and Al6061 reinforced composites with 3 and 6 variable weight percentages of B_4C and a constant 5 wt. percent of Al_2O_3 particles is measured using the ASTM E23 standard [14]. Figure 4 depicts the standard size of the Charpy impact test sample.

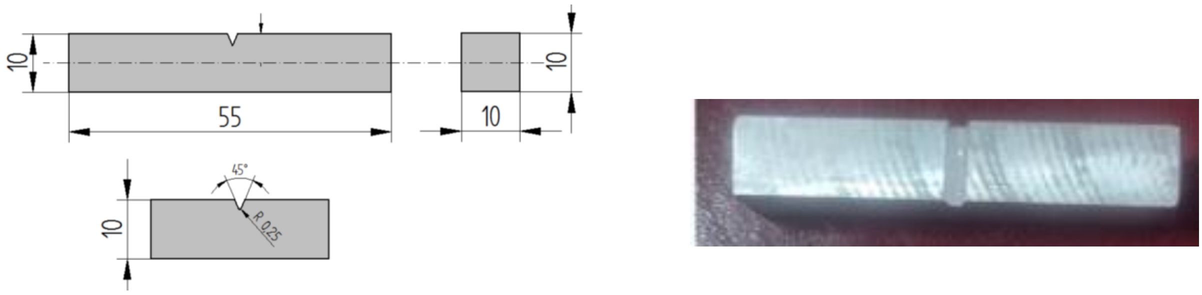
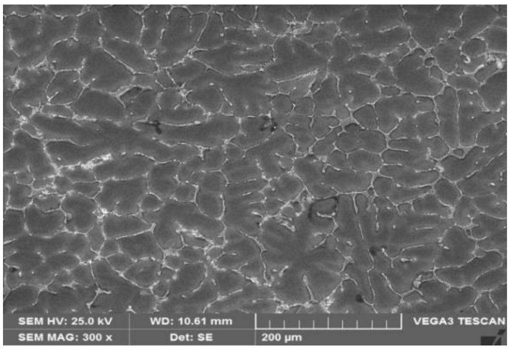


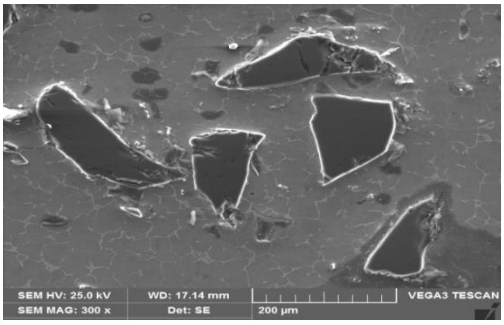
Figure 4 Sample of Charpy impact test specimen

Results and Discussions

3.1 Characterization of Al6061 Alloy with Al_2O_3-B_4C Hybrid Composites

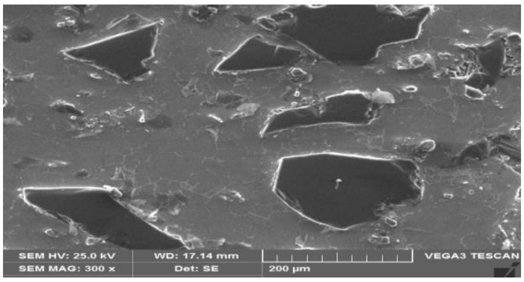
SEM is used to characterize the microstructure of the synthesized composites on as-cast Al6061 matrix alloy (Fig.5 a), Al6061-5 wt. percent Al_2O_3 and 3 wt. percent B_4C (Fig.5b), and composites Al6061-5 wt. percent Al_2O_3 and 6 wt. percent B_4C composites. The two-stage reinforcing of the melt accomplishes the dispersion of the reinforcement, as seen by the microstructure. In this assessment the level of uniformity depends on the difference in density between the molten matrix, Al_2O_3 and B_4C grades with the lowest density level. The homogeneous distribution of the reinforcing particles and robust connection between the matrix and reinforcement are shown in Fig. 5 (b-c). If the pouring distance and time are too lengthy, the MMC will generate a weak bond at the interface due to interfacial reactions. In the current study, these issues are addressed by preheating the reinforcement particles to 500 degrees Celsius, adding reinforcing particles in two steps, and keeping the optimum pouring distance between the mold and the pouring mixture.





(a)

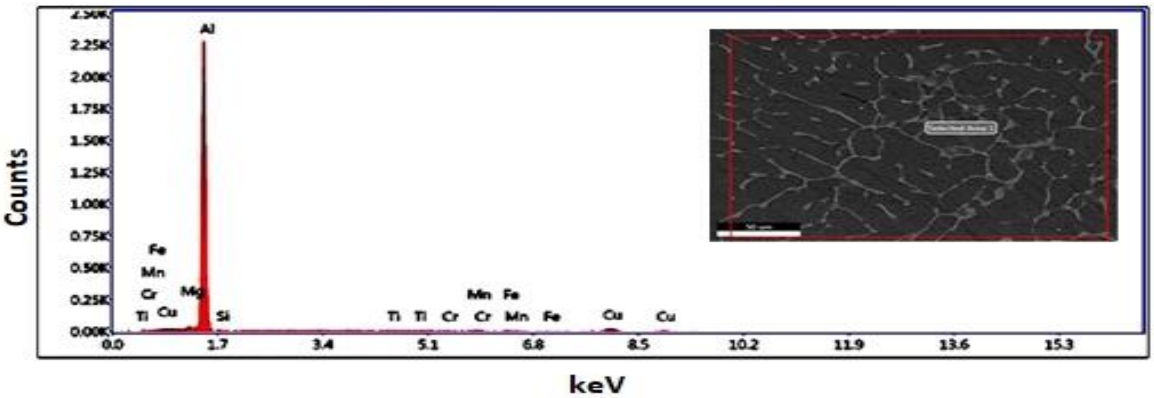
(b)



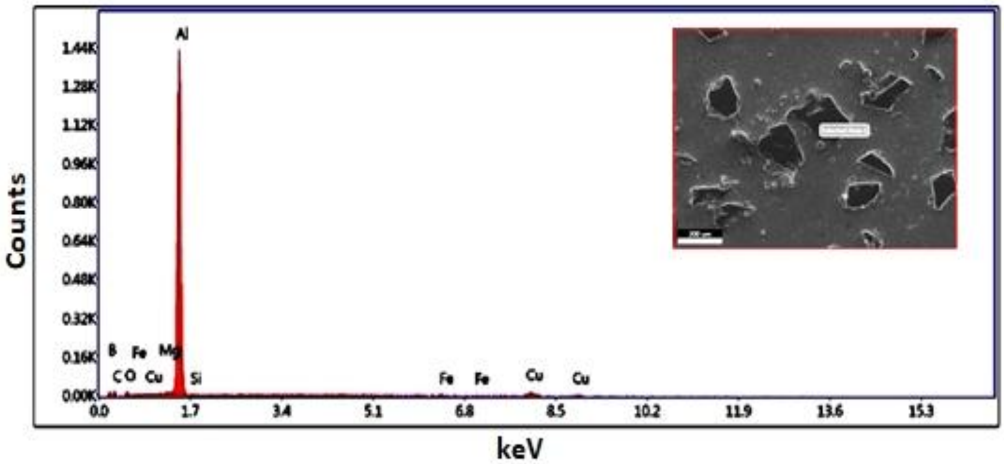
(c)

Figure 5 shows the SEM micrographs of (a) Al6061 alloy (b) Al6061-5 wt. % Al_2O_3-3 wt. % B_4C (c) Al6061-5 wt. % Al_2O_3-6 wt. % B_4C hybrid composites

As shown in Fig. 6, EDS analysis is performed on as-cast Al6061 alloy, Al6061-5 wt. percent Al_2O_3-3 wt. percent B_4C particles reinforced composites, and Al6061-5 wt. percent Al_2O_3-6 wt. percent B_4C particles reinforced composites . The energy dispersive spectrograph for Al6061 (Fig. 6 a), which comprises important alloying elements such as Mg, Si, Cu, Fe, Ti, and Cr (b) The presence of B, C, O, Mg, Si, Cu, Fe peaks in Al matrix alloy was clearly demonstrated by Al6061-5 wt. percent Al_2O_3-3 wt. percent boron carbide composite, and Fig. 6 (c) shows the elemental analysis of Al6061-5 wt. percent Al_2O_3-6 wt. percent B_4C particles hybrid composite, which confirms the elements B, C, O, Mg, Si, Cu, Fe in Al



(a)



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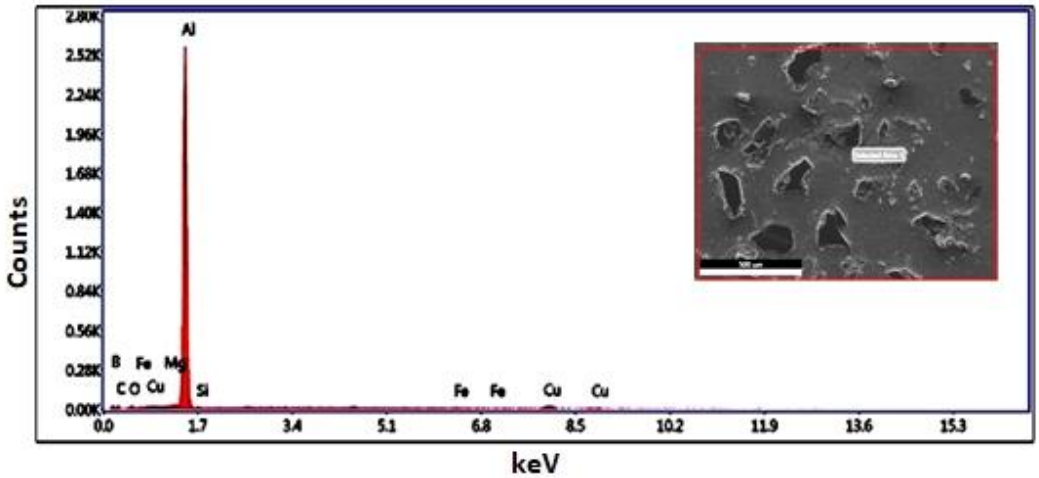
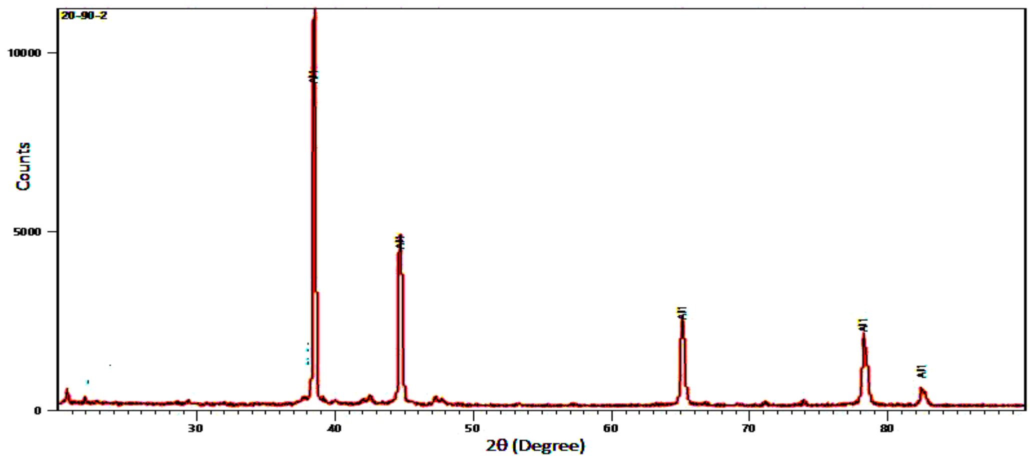


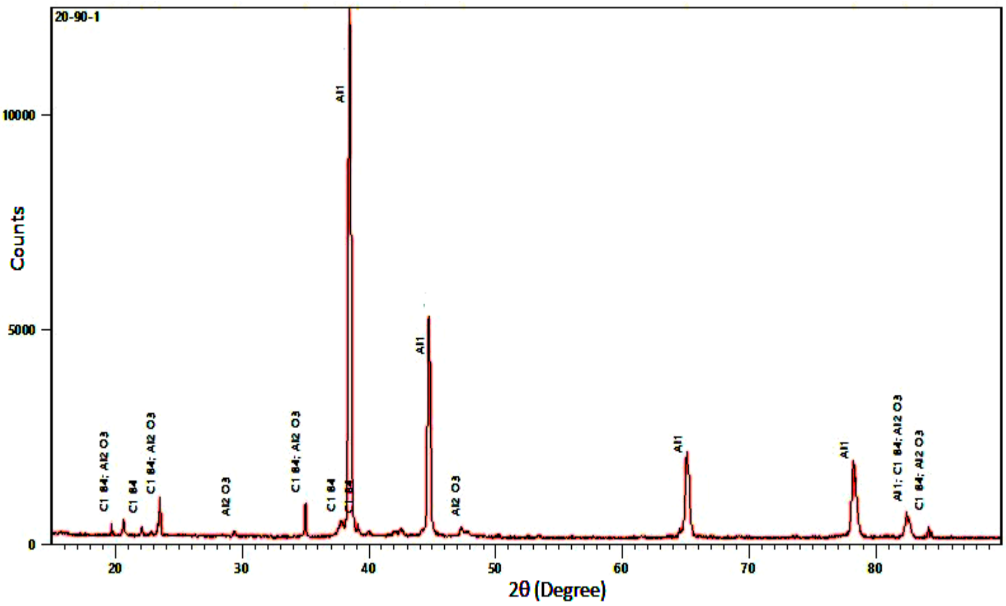
(c)

Figure 6 shows the EDS graphs of (a) Al6061 alloy (b) Al6061-5 wt. % Al_2O_3-3 wt. % B_4C (c) Al6061-5 wt. % Al_2O_3-6 wt. % B_4C hybrid composites

Fig. 7 (a-b) shows the X-ray diffractograms of Al6061 alloy (Fig. 7 a) and Al6061-5 wt. % Al_2O_3-6 wt. % B_4C hybrid composites (Fig. 7 b). Fig.7 (a) the peak observed for the Al6061 alloy is at 38˚, 45˚, 65˚ and 78˚ approximately, in Fig. 7 (b) the Al_2O_3 peaks are observed in the Al6061 alloy composite is at 29˚, 34˚, 46˚and 82˚, in Al6061-5 wt. % of Al_2O_3 and 3 wt. % of B_4C composites, the B_4C phases are available in Fig. 7 (b) at 21˚, 37˚, 83˚and 84˚ these phases confirms the presence of Al_2O_3 and B_4C particles in the Al6061 alloy composites.



(a)



(b)

Figure 7 X-Ray Diffractometer graphs of (a) Al6061 alloy (b) Al6061-5 wt. % Al_2O_3-6 wt. % B_4C hybrid composites

3.2 Microhardness Al6061-Al_2O_3-B_4C composites

The difference in microhardness between the Al6061 alloy and the produced composites is seen in Figure 8. All of the hardness values are represented on the 'Y' axis in Figure 8, and 'X' indicates the various composites. Along the 'X' axis, 0 represents as-cast Al6061 alloy, 5 represents Al6061 alloy with 5 wt. percent of Al_2O_3 and 3 wt. percent of B_4C, and 5 represents Al6061 alloy with 5 wt. percent of Al_2O_3 and 6 wt. percent of B_4C hybrid composites, respectively. The as-cast Al6061 alloy has a microhardness of 60.4 VHN, while the Al6061-5 wt. percent Al_2O_3-3 wt. percent B_4C and Al6061-5 wt. percent Al_2O_3-6 wt. percent B_4C hybrid composites have microhardness improvements of 19.8% and 29.8%, respectively. The microhardness of the composite appears to improve with an increase in the B_4C content combined with a constant 5 wt. percent of Al_2O_3 particles because a hard ceramic phase in a soft ductile matrix considerably improves the hardness. The enhanced microhardness is thought to be due to the combined action of the hard ceramic B_4C and Al_2O_3 particles, as well as a reduction in grain refinement and matrix grain size [15]. The Vickers hardness of Al_2O_3 particles is 1175 VHN, while boron carbide particles have a Vickers hardness of 3200 VHN. When these tougher particles are integrated into the soft matrix, the surface area of the Al6061 alloy becomes brittle and hard, which helps to improve the hardness even more. As the weight proportion of B_4C and alumina increases, the micro hardness of Al6061 matrix alloy is said to grow significantly. Hard particles or fibers have been reported to increase the hardness of alloy composites by several studies [16].

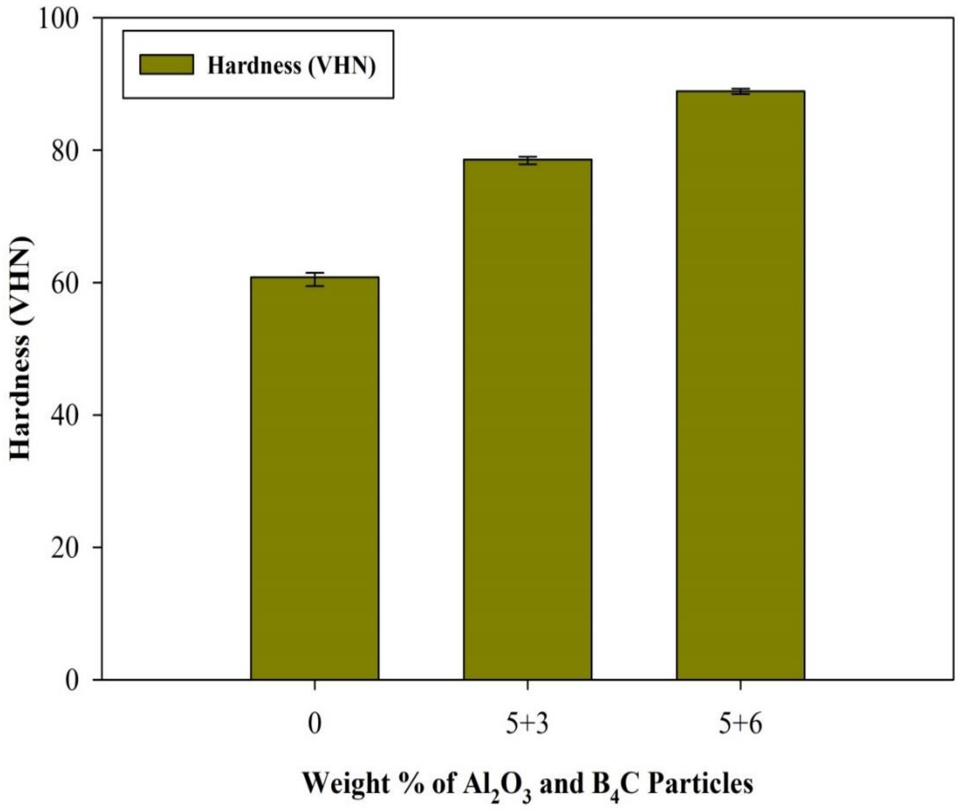
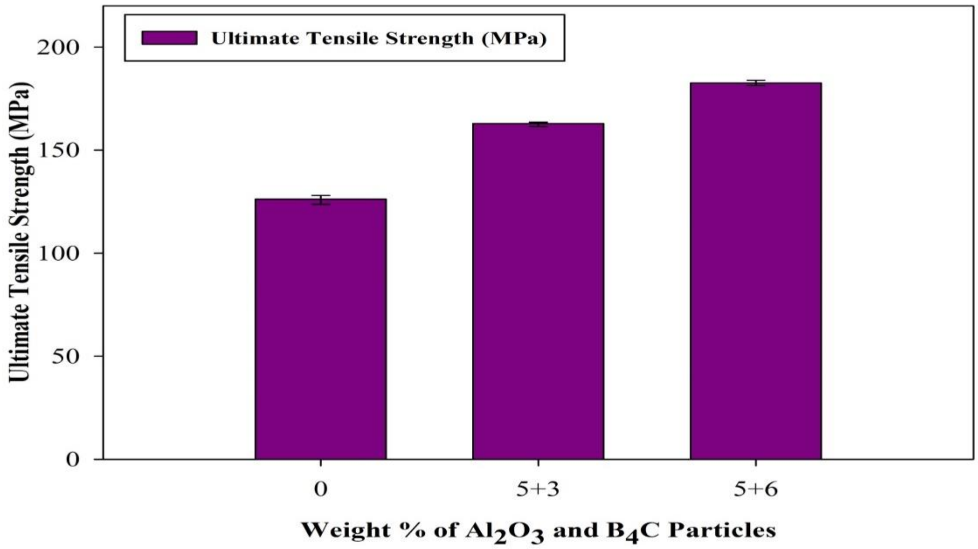


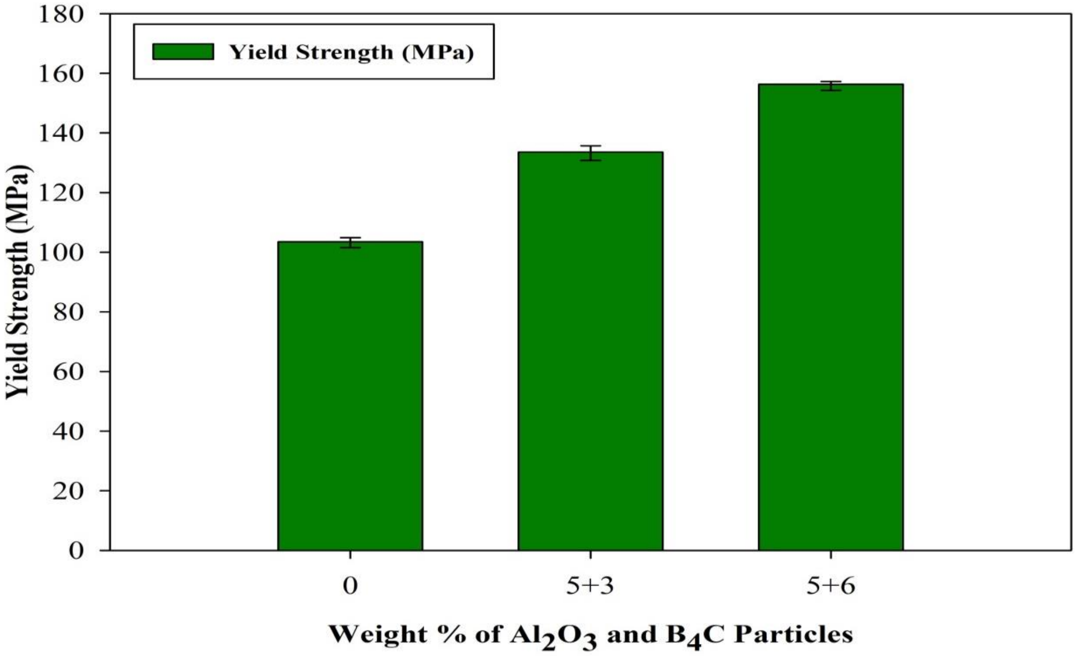
Figure 8 Hardness of Al6061 alloy with Al_2O_3 and B_4C reinforced composites

3.3 UTS, YS and Percentage Elongation of Al6061-Al_2O_3-B_4C composites

Figure 9 shows the difference in ultimate strength (UTS) and yield strength (YS) for Al6061 alloy, Al6061-5 wt. percent Al_2O_3-3 wt. percent B_4C hybrid composites, and Al6061-5 wt. percent Al_2O_3-6 wt. percent B_4C hybrid composites (a-b). The near proximity of hard Al_2O_3 and B_4C particles is credited with the improvement in UTS. The UTS and YS of Al6061 alloy are 125.9 MPa and 103.2 MPa, respectively, according to the test. Al6061-5 wt. percent Al_2O_3-3 wt. percent B_4C hybrid composites have a UTS of 162.4 MPa and Al6061-5 wt. percent Al_2O_3-6 wt. percent B_4C hybrid composites have a UTS of 182.6 MPa. The addition of Al_2O_3 and B_4C particles to the Al6061 alloy resulted in a 45 percent improvement. The yield strength of the A6061 alloy is 103.2 MPa, however with the addition of 5% Al_2O_3 and 6% B_4C particles, the YS has grown to 155.8 MPa. The increase in ultimate and yield strength is due to stress transfer from the soft material to the hard Al_2O_3 and B_4C reinforcements during tensile testing, especially when the interfacial integrity of the two phases is balanced, as well as the influence of the Hall pitch mechanism, which contributes to the strength of the B_4C particles [17]. Strengthening mechanisms are responsible for the improvements in UTS and YS. The Al6061 alloy has a lower elastic modulus than reinforcing particles, at 70GPa. Al_2O_3 and B_4C particles have elastic moduli of 380 and 410 GPa, respectively. The inclusion of these higher modulus particles in the soft matrix improves the Al6061 alloy's overall strength.



(a)



(b)

Figure 9 (a) Ultimate tensile strength (b) yield strength of Al6061 alloy with Al_2O_3 and B_4C reinforced hybrid composites

Figure 10 shows the ductility of Al6061 alloy reinforced composites with 3 and 6 wt. percent of varying B_4C and a constant 5 wt. percent of Al_2O_3 particles. A decrease in percentage elongation may be seen in the composite specimen. As the percentage of B_4C increases and the percentage of Al_2O_3 particles increases, the ductility of Al6061 alloy falls. As a result of the addition of brittle B_4C and alumina particles, the Al6061- Al_2O_3- B_4C composites are getting more brittle. With the addition of 5 wt. percent Al_2O_3 and 3 wt. percent B_4C particles and 5 wt. percent Al_2O_3 and 6 wt. percent B_4C particles, the percentage elongation of the Al6061 alloy is reduced to 10.1 percent and 9.3 percent, respectively, in the Al6061 alloy.

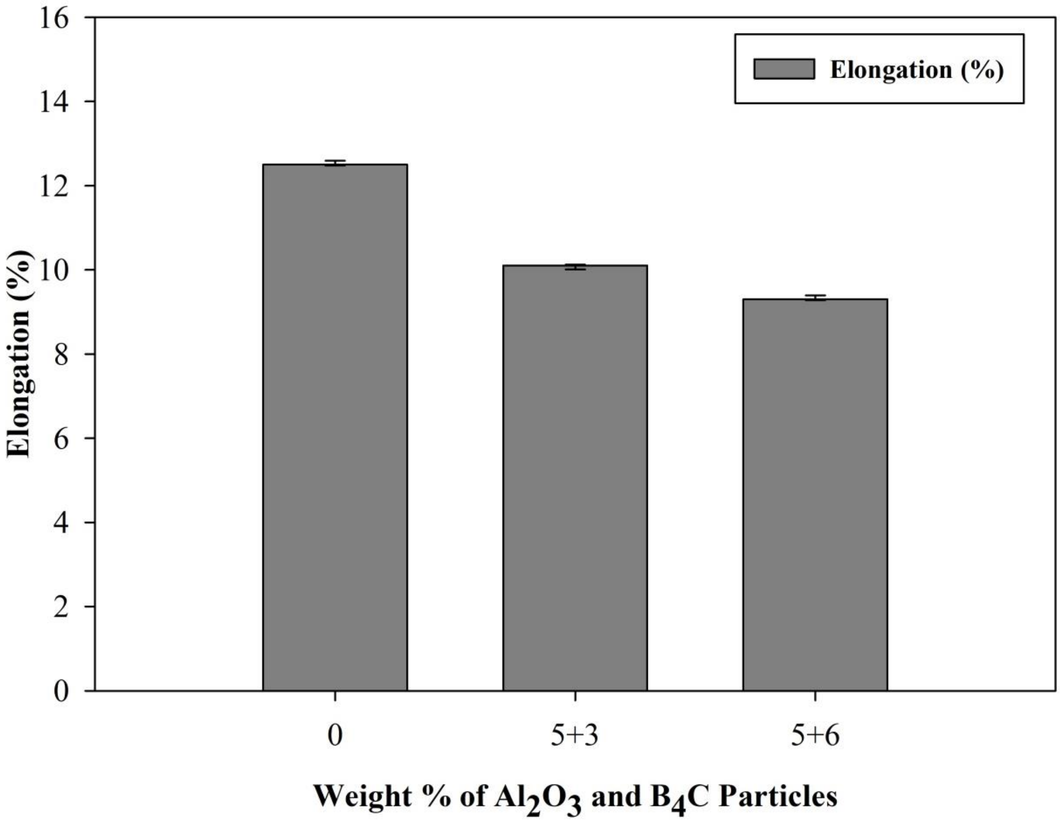
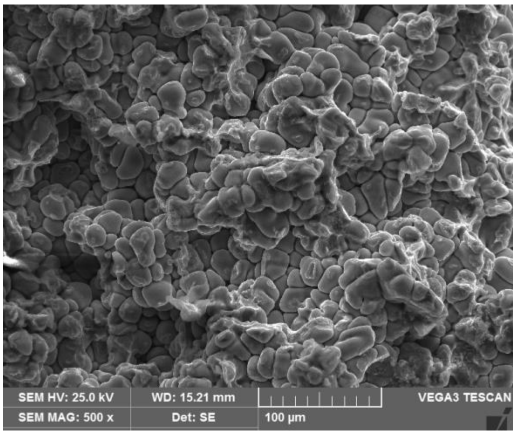


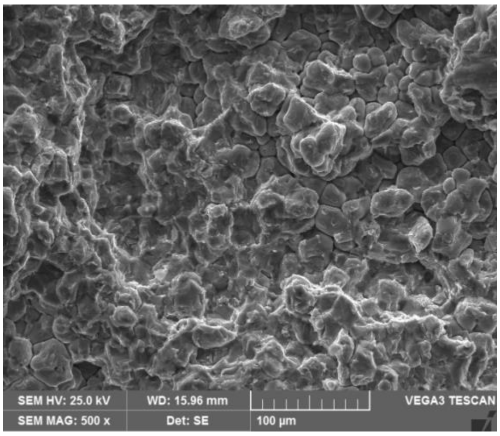
Figure 10 Percentage elongation of Al6061 alloy with Al_2O_3 and B_4C reinforced hybrid composites

3.4 Tensile Fractography

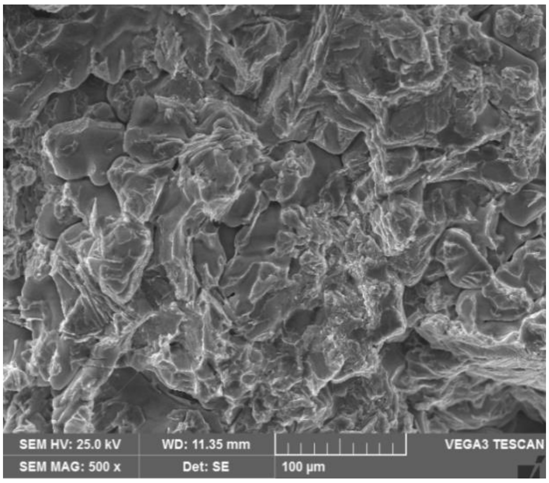
The tensile fractured surfaces of as-cast Al6061 alloy, Al6061-5 wt. percent Al_2O_3-3 wt. percent B_4C hybrid composites, and Al6061-5 wt. percent Al_2O_3-6 wt. percent B_4C hybrid composites are shown in Fig. 11 (a-c). The purpose of the tensile fracture surfaces investigation is to determine the impact of boron carbide particles on Al6061 alloy fracture behavior. In the current study, 3 and 6 percent B_4C particles were introduced to the Al6061 alloy, with a constant 5 percent alumina particles equally dispersed throughout the matrix alloy, increasing microhardness, ultimate, and yield strength while reducing ductility. The failure of particle-reinforced metal composites is caused by interface decohesion of the Al matrix and B_4C- Al_2O_3 particles, reinforcement fracture, and matrix failure [18].



(a)



(b)



(c)

Figure 11 SEM micrographs of tensile fractured surfaces of (a) Al6061 alloy (b) Al6061-5 wt. % Al_2O_3-3 wt. % B_4C (c) Al6061-5 wt. % Al_2O_3-6 wt. % B_4C hybrid composites

The tensile fractured surface of the as-cast Al6061 alloy in Fig. 11 (a) reveals larger and homogeneous dimples, indicating malleable fracture. Fractured surfaces of Al6061 alloy reinforced with 3 and 6 wt. percent boron carbide and 5 wt. percent alumina particles (Fig. 11b-c) show smaller size dimples than the as-cast Al6061 matrix. Decohesion of the particle with the matrix and reinforcement was also observed using electron microscopy on the fracture surfaces of composites [19]. The particle fracture surface is smooth in the majority of cases, demonstrating that the particle is shattered rather than decohesion, implying that these composites are dominated by high interface strength.

3.5 Impact Strength

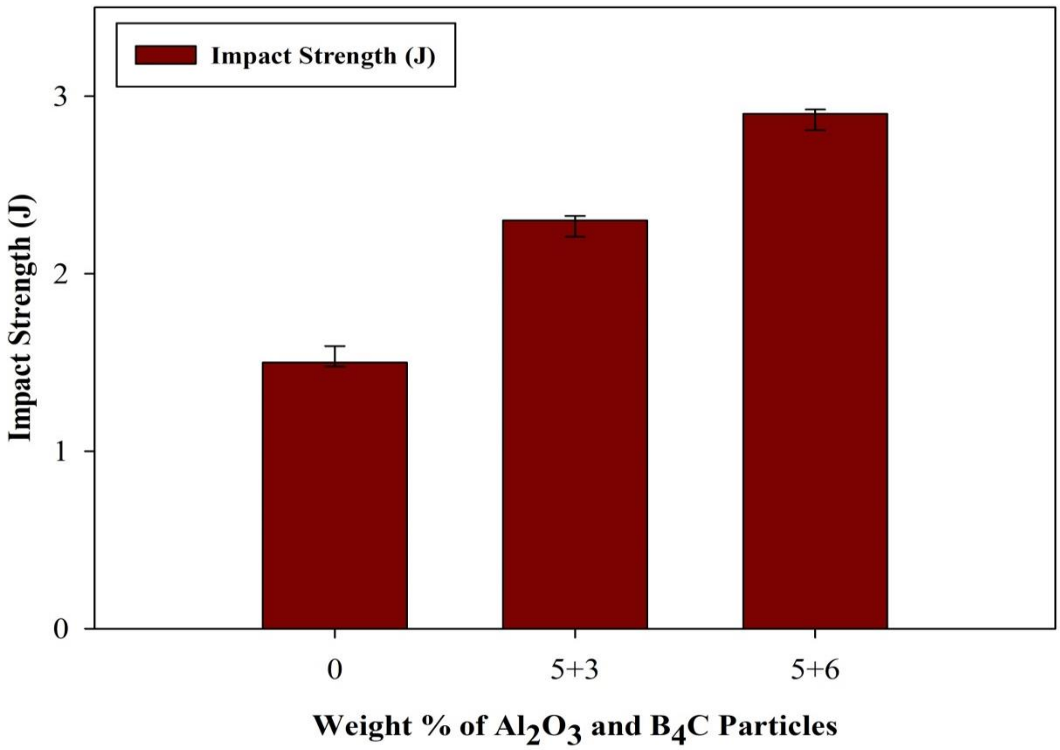
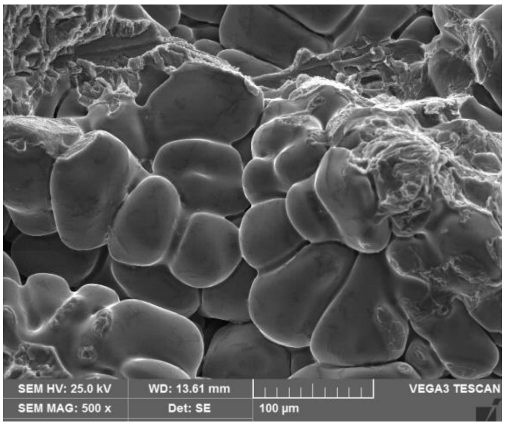
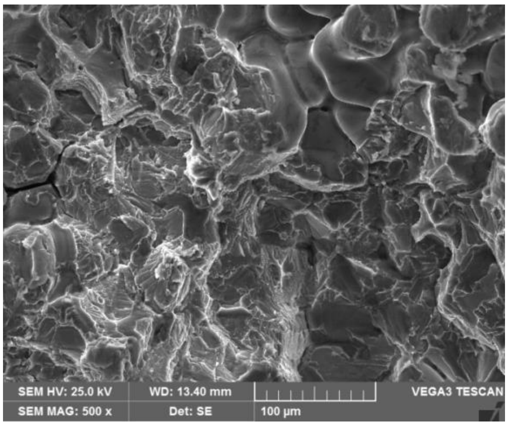


Figure 12 Impact strength of Al6061 alloy with Al_2O_3 and B_4C reinforced hybrid composites

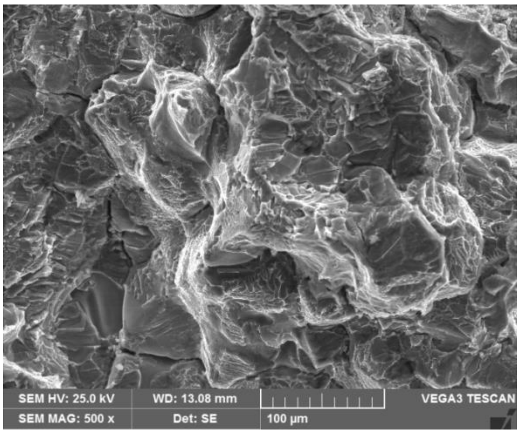
The impact strength of Al6061 alloy reinforced metal composites with 3 to 6 wt. percent B_4C and 5 wt. percent alumina particles is shown in Fig. 12. The impact strength of Al6061 alloy as-cast is 1.5 J, but with the inclusion of ceramic particles, the impact strength of Al6061-5 wt. percent Al_2O_3-6 wt. percent B4C hybrid composites increased to 2.9 J. When compared to the as-cast Al matrix, composites absorb more energy due to the strong connection between the particle and matrix interface. The development of a clean interface between the matrix and reinforcement is dependent on load transfer; hence it is important for enhancing composite strength [20].

(b)





(a)



(c)

Figure 13 SEM micrographs of impact fractured surfaces of a) Al6061 alloy (b) Al6061-5 wt. % Al_2O_3-3 wt. % B_4C (c) Al6061-5 wt. % Al_2O_3-6 wt. % B_4C hybrid composites

The impact cracked surfaces of the as-cast Al6061 alloy, Al6061-3 wt. percent of B_4C -5 wt. percent of Al_2O_3, and Al6061-6 wt. percent of B_4C-5 wt. percent of Al_2O_3 reinforced composites are shown in SEM micrographs in Fig. 13. The Al matrix alloy has larger dimples with voids, as shown in Fig. 13 (a), however following integration of B_4C and alumina particles, the matrix alloy tends to show reduction in dimple size and voids, as shown in Fig. 13 (b) (b-c). The addition of ceramic particles changed the soft matrix into a brittle material. Brittle materials have a lower load absorbing capacity than soft or ductile materials, but the impact strength of the newly developed composites is improved due to strong interfacial bonding between the Al matrix and B_4C-Al_2O_3 particles. In the case of 3 and 6 weight percent particles reinforced composites, the broken surfaces indicate a strong cleavage type of fracture.

Conclusions

By using stir casting technology, Al6061alloy with Al_2O_3 and B_4C composites with changing 3 and 6 wt. percent of B_4C and constant 5 wt. percent of Al_2O_3 were successfully made in the current study. Hardness, UTS, and YS, % elongation, impact strength, and fractography behaviors were studied micro structurally. As a result of the as-cast alloy and evenly dispersed Al_2O_3-B_4C in the produced composite, the matrix is virtually pore-free, as evidenced by SEM micrographs. The Al6061 alloy matrix contains B_4C and alumina particles, according to EDS and XRD studies. Hardness, UTS, YS, and impact strength of hybrid composites were all enhanced, however ductility of ceramic and oxide particle reinforced composites was reduced. On a microscopic scale, the composites' tensile and impact broken surfaces revealed an overall brittle look. The presence of ductile dimples and their combination on a microscopic scale, however, verified the general ductile fracture behavior caused by void nucleation. At concentrated damage zones, voids were seen to disseminate and consolidate.

Acknowledgement

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Conflict of Interest

The authors declared no conflict of interest.

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A STUDY ON THE IMPULSIVE BUYING BEHAVIOUR OF WOMEN IN CHENNAI CITY

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ABSTRACT

Impulsive buying refers to the spontaneous purchase of a product without much thought or a plan. This can also be called as an unplanned purchase as it is done momentarily while doing shopping. As far as shopping is concerned, most of the men consider it as a task whereas for women it is an experience. All women have their preferences, choices, likes, and dislikes when it comes to shopping. Similarly, Impulsive buying is triggered by several factors. Some women impulsively buy a product because it makes them feel better (i.e. Hedonic reasons). While some are triggered by the store environment and for some it might be the appearance of the product. In some cases, impulsive buying is also triggered by discounts, clearance sales, etc. Thus, these various factors can be categorized as internal and external factors. This study aims to find the specific Internal and External factor that triggers the impulsive buying behaviour in women and also the product that is bought impulsively by majority of the women. This study is based on random sampling technique with a sample size of 50 respondents. The primary data for the study had been collected through a structured questionnaire. This study was carried out in the Chennai City. The results reveal that internal factors like emotions and state of mind and external factors like store displays, attractive packaging and brand name trigger the impulsive buying behaviour of women and clothing is the most common thing bought impulsively by the woman.

Keywords: *Impulsive buying, unplanned purchase, Store environment, Hedonic reasons*

INTRODUCTION

Impulse buying happens when a purchase is made without prior decision/plan. Impulse buying is done at that moment without much thought. Buying a product impulsively means that, that particular purchase was not included in the purchase list/plan. High percentage of women take so much time when it comes to shopping compared to men. This is because women are so peculiar in selecting a particular product and they are more involved in the shopping process. This is one of the reasons for the increased impulse buying by women than men. The more the time women are involved in shopping, the more they tend to make impulse buying. Impulse buying is made due to various factors. These factors can be internal as well as external. Internal factors are those factors that are within a woman's self (i.e., feelings, state of mind, urge to buy, emotions, etc.). These internal factors vary from one woman to another woman.

Sometimes, women might create a need for a product just to buy that product. This happens mostly because of the external factors. The external factors include the store display, mannequin display, product packaging, brand name, etc. Impulse buying also happens because of the discounts, promotional offers, sale clearance, etc. These external factors induce the customers to buy a product irrespective of the customers need for that product.

As a retailer, they can utilize this opportunity to increase their sales. Retailers tend to capitalize this Impulse buying behaviour of women by adopting various techniques which includes beautifully decorated store, attractive mannequins, discount offers, placing the product in the store in an attractive manner, etc. In this way, retailers can increase their sales.

Because of the growth of the retail outlets and also the increased number of women buyers, this study has made an attempt to throw some light on the impulse buying behaviour of women. This study mainly aims to find in particular the internal and external factors that lead to impulsive buying and also aims to find the product which is commonly bought by women impulsively.

REVIEW OF LITERATURE

Mrs.P.L.Kanaga and Dr.K.Chelladurai (2020) in their paper titled **"A Study on factors influencing impulsive buying behaviour among women in Coimbatore city"** aimed to identify the factors that trigger the impulse buying behaviour among working women in Coimbatore city. The researchers collected the primary data by circulating structured questionnaires to 200 working women. The secondary data was obtained from journals, magazines and websites. The results revealed that factors like offers, discount, window display, advertisement and brand of the product triggers the impulse buying behaviour of working women. The researchers concluded that working women purchase more because of their additional income.

Chitrali Chhabra et al (2018) in the research **"Impulse Buying Behaviour among female consumers"** attempted to study the Impulse Buying Behaviour of female consumers. The researchers used both primary as well as secondary data. Questionnaire was used to collect primary data and secondary data was gathered through journals, blogs and reviews. According to the results of this study, it reveals that brand equity, ambience in the store, discounts and offers and word of mouth are the things which a woman looks for while shopping.

Dr. Smita Harwani, Dr. Sneha Ravindra Kanade (2017) in a journal presented on the topic, **"Impact of Demographic Differences and other factors on Impulse Buying"** shows the factors that trigger the behavioural aspects of the consumers which ultimately results in impulse buying. The study aimed at evaluating the factors both internally and externally that influence the consumer's impulse behaviour and to identify how impulse buying is affected by differences in demographic variables. The findings of the study revealed that the impact of each of the factor on the impulsive buying behaviour of the respondents varies. It also shows that differences in the gender also affect the impulsive behaviour and the females are tending more towards impulse buying.

Dr.Ramesh Kumar Chaturvedi and Sanjay Kumar Yadav (2015) in their research paper **"Influence of In – store factors on Impulse Buying"** studied the effect of demographic variables like gender, education and age on the attitude towards Impulsive Buying Behaviour among the university students at the Bilaspur City. The results showed that there is no relationship between the demographic variables and the attitude towards Impulsive Buying Behaviour of the university students at Bilaspur City.

Nicole Istudor and Corina Pelau (2013) in the paper titled **"Impulsive Buying Behaviour depending on Gender"** aimed to study the different aspects like consumer's social behaviour and emotional behaviour, Impulsive Buying Behaviour and the consumer's attitude towards these behaviours. The results of the study revealed that there are differences in consumer behaviour depending on age and gender. Further, it also shows that the consumers spend more because they forget to include some products in their purchase plan.

OBJECTIVES OF THE STUDY

1. To identify the Internal factors that lead to the Impulsive Buying Behaviour of women.
2. To analyse the External factors that triggers the Impulsive Buying Behaviour of women.
3. To find the product most commonly bought by women impulsively.

RESEARCH METHODOLOGY

The study is based on Random sampling technique with a sample size of 50 respondents. Primary data and Secondary data have been used in the study. A structured questionnaire which includes likert scale was circulated to gather primary data. Journals and websites were referred for secondary data. Chi square has been used with the help of SPSS along with percentage analysis.

LIMITATIONS OF THE STUDY

1. The sample size is limited to only 50 respondents.
2. The study's geographical location is limited to Chennai city.
3. More detailed analysis could not be done due to limited time period.

DATA ANALYSIS AND INTERPRETATION

Table 1 – Age of the respondents

Age	Number of Respondents	Percentage (%)

18 – 25	27	54
26 – 30	8	16
31 – 35	3	6
Above 35	12	24
Total	**50**	**100**

Source: Primary Data

Table 1 show that majority of the respondents (i.e. 54%) are of the age category 18 – 25, 24% belong to the category of above 35, 16% of the respondents are of the age group 26 – 30 and 31 – 35 age category contains 6% respondents.

Table 2 – Qualification of the respondents

Qualification	Number of Respondents	Percentage (%)
Higher secondary	6	12
Diploma	0	0
Bachelor's degree	19	38
Master's degree	25	50
Total	**50**	**100**

Source: Primary Data

The above table reveals that maximum respondents (i.e.50%) have completed Master's Degree, 38% belong to Bachelor's degree and 12% have completed their higher secondary education.

Table 3 – Occupation of the respondents

Occupation	Number of Respondents	Percentage (%)
Employed	25	50
Unemployed	16	32
Entrepreneur	4	8
Homemaker	5	10
Total	**50**	**100**

Source: Primary Data

Table 3 shows that half of the respondents (i.e. 50%) are employed, 32% are unemployed, 10% belong to homemaker category and 8% of them are entrepreneurs.

Table 4 – Monthly income of the respondents

Monthly income	Number of Respondents	Percentage (%)
Below Rs.20,000	24	60
Rs.20,001 – Rs.30,000	11	27.5
Rs.30,001 – Rs.40,000	1	2.5
Rs.40,001 – Rs.50,000	1	2.5
Above Rs.50,000	3	7.5
Total	**40**	**100**

Source: Primary Data

From the above table, it can be seen that maximum of the respondents (i.e.60%) earn below Rs.20,000, followed by 27.5% of the respondents who earn between Rs.20,001 – Rs.30,000, 2.5% earn between Rs.30,001 – Rs.40,000 and between Rs.40,001 – Rs.50,000 respectively. 7.5% earn above Rs.50,000.

Table 5 – Frequency of Impulsive buying of the respondents

Frequency of Impulsive buying	Number of Respondents	Percentage (%)
Always	4	8
Often	1	2
Sometimes	29	58
Rarely	13	26
Never	3	6
Total	**50**	**100**

Source: Primary Data

Table 5 reveals that maximum respondents (i.e.58%) sometimes only indulge themselves in impulsive buying, 26% of the respondents buy impulsively only in rare circumstances, 8% always buy impulsively, 6% never buy impulsively and 2% of the respondents often buy impulsively.

Table 6 – Feeling of guilt after making impulse purchase

Feeling of guilt	Number of Respondents	Percentage (%)
Yes	16	32
No	10	20
Sometimes	24	48
Total	**50**	**100**

Source: Primary Data

From the above table, it is clear that maximum number of respondents (i.e. 48%) sometimes feels guilty after making impulsive buying, 32% feel guilty after making impulse buying and 20% of the respondents never feel guilt after making impulse buying.

HYPOTHESIS I

1. H0: There is no association between age and Internal factors that lead to impulsive buying behaviour of women

H1: There is association between age and Internal factors that lead to impulsive buying behaviour of women

Table 7

Chi-Square Tests			
Statements	**Value**	**df**	**Asymp. Sig. (2-sided)**
Spontaneous buying	26.479[a]	12	.009
Trying new and innovative products	29.650[a]	12	.003
Trying products when friends/relatives praise that product	26.007[a]	12	.011
Buy products based on the momentarily feel	4.877[a]	12	.962
Shopping to feel better	16.980[a]	12	.150
Unexplainable urge to shop	11.433[a]	12	.492

Source: Primary Data

Interpretation:

The calculated values for Spontaneous buying, trying new and innovative products and trying products when friends/relatives praise that product (i.e. 0.009, 0.003 and 0.011) are lesser than the significant value (i.e. 0.05). This shows that Null hypothesis (H0) is rejected and Alternative Hypothesis (H1) is accepted. From this it can be said that significant association exists between age and spontaneous buying, trying new and innovative products and trying products when friends/relatives praise that product.

Further the calculated values of buying products based on momentarily feel, shopping to feel better and feeling an unexplainable urge to shop (i.e. 0.962, 0.150 and 0.492 respectively) are greater than the significant value (i.e. 0.05). Hence, the Null hypothesis (H0) is accepted. Therefore, no significant association exists between age and buying products based on momentarily feel, shopping to feel better and feeling an unexplainable urge.

HYPOTHESIS II

2. H0: There is no significant association between qualification and external factors that triggers the Impulsive Buying Behaviour of women

H1: There is significant association between qualification and external factors that triggers the Impulsive Buying Behaviour of women

Table 8

Chi-Square Tests			
Statements	**Value**	**df**	**Asymp. Sig. (2-sided)**
Relying on Word of Mouth while buying a new product	6.239[a]	8	.620
Relying on Word of Mouth while buying all products	26.529[a]	8	.001
Choose the shop based on window display	6.375[a]	8	.605
Get an idea to shop based on the in store form	5.432[a]	8	.711
Relying on the store display	3.865[a]	8	.869
Buying a product due to promotional offer	10.332[a]	8	.242
Sale/clearance signs entice me to look through the shop	6.475[a]	8	.594
Brand name induce me to buy impulsively	1.418[a]	8	.994

Eager and courteous salesperson	12.069[a]	8	.148
Popularity of the product	6.953[a]	8	.542
Owing a credit card leads to impulse buying	7.135[a]	8	.522

Source: Primary Data

Interpretation:

The calculated value of relying on Word of Mouth while buying all products (i.e. 0.001) is lesser than the significant value (i.e. 0.05). This shows that there is association between the relying on Word of Mouth while buying all products and the qualification of the respondents. The results, further shows that the values of Relying on Word of Mouth while buying a new product, Choosing the shop based on window display, Getting an idea to shop based on the in store form, Relying on the store display, Buying a product due to promotional offer, Influence of Sale/clearance signs, Influence of Brand name, Eager and courteous sales person, Popularity of the product and Owing a credit card, in impulse buying (i.e. 0.620, 0.605, 0.711, 0.869, 0.242, 0.594, 0.994, 0.148, 0.542 and 0.522 respectively) are greater than the significant value (i.e. 0.05). Therefore, Null Hypothesis (H0) is accepted. Hence, there is no association between qualification and the external factors that triggers the impulsive buying behaviour of women.

3. The product most commonly bought by women impulsively:

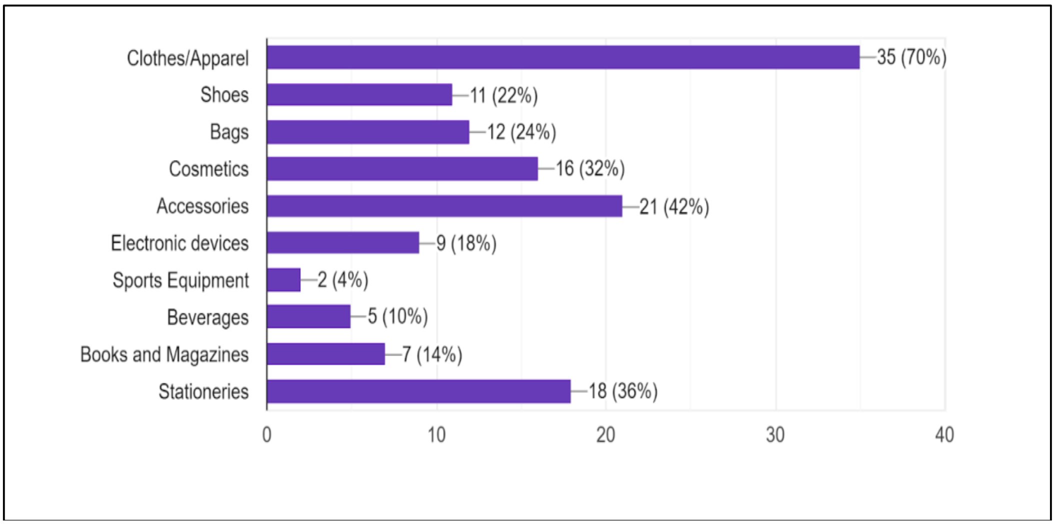
The products that are bought impulsively

Table 9

Products	Number of Respondents	Percentage (%)
Clothes/Apparel	35	70
Shoes	11	22
Bags	12	24
Cosmetics	16	32
Accessories	21	42
Electronic devices	9	18
Sports equipment	2	4
Beverages	5	10
Books and magazines	7	14
Stationeries	18	36

Source: Primary Data

Chart 1



The product recently purchased by the respondents impulsively

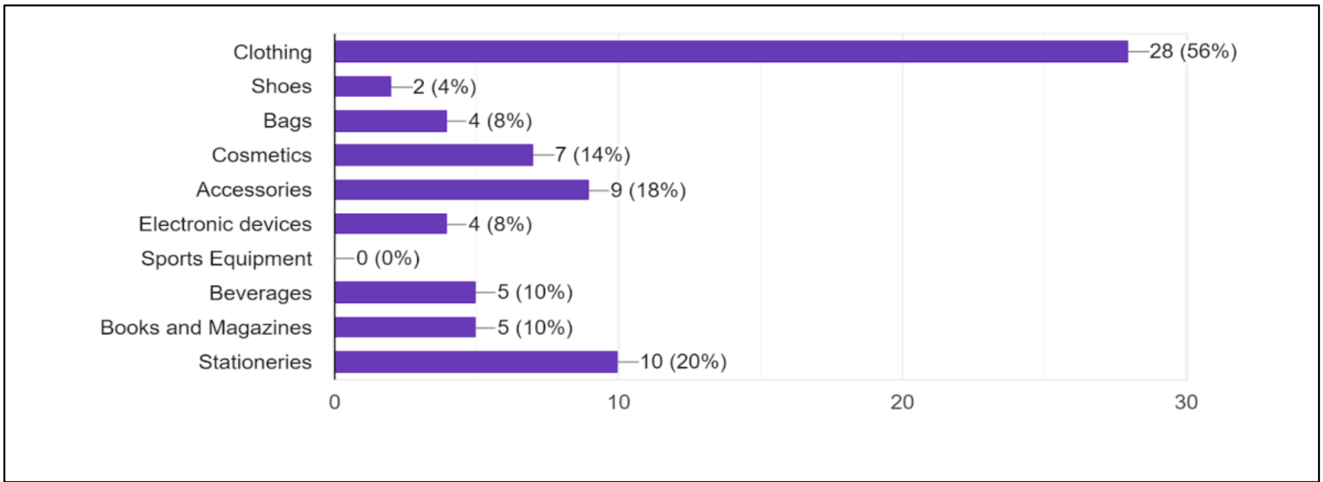
Table 10

Products	Number of Respondents	Percentage (%)

Clothes/Apparel	28	56
Shoes	2	4
Bags	4	8
Cosmetics	7	14
Accessories	9	18
Electronic devices	4	8
Sports equipment	0	0
Beverages	5	10
Books and magazines	5	10
Stationeries	10	20

Source: Primary Data

Chart 2



From the above charts (i.e. Chart 1 and Chart 2) it is clear that clothing is being bought impulsively by majority of the women both generally and in their recent shopping as well (i.e. 70% and 56% respectively) which was followed by accessories and stationeries (i.e. 42% and 20% respectively)

CONCLUSION

The study mainly aimed to identify the particular internal and external factor that leads to Impulsive Buying Behaviour of women. The results show that women buy impulsively based on how they feel at that moment. The study further reveals that external factors like sales clearance, promotional offers and brand name leads them to impulsive buying. It was also found that majority of women buy clothing and accessories impulsively. The retailers can capitalize this and increase their sales. The retailers can introduce new techniques to make their store more attractive and can come up with lot of different types of offers. On the other hand, Impulsive buying may lead to difficulties if it's not controlled. If this Impulsive buying is not kept in check, it might affect the financial position of the women. This impulsive buying behaviour can be controlled by various techniques like planning purchase prior to shopping, taking only required cash to shopping, not taking debit/credit card to shopping, etc. Though, it is believed that women do lot of shopping, this trend is changing in recent times. Men are also involving and spending time in their shopping and men also involve in impulse buying. Therefore, in future, research can be done in locations other than Chennai and also by considering men.

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EVALUATING THE INVESTOR'S ATTITUDE TOWARDS INVESTMENT DECISION MAKING ON INDIAN STOCK MARKET

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ABSTRACT

The Indian stock market is the oldest stock market in Asia. The study attempts to understand the attitude of the individual investor in Indian stock market, the research is descriptive in nature. The regulators of the stock market should consider the behaviour of individual investor. Specifically, the investor's attitude with respect to stock market and its volatility. Attitude of investors is difficult to measure in the stock market since investors act according to the market condition. However, an individual investor attitude towards selecting the stock with high returns and minimum risk. The study mainly depend on attitude depth criteria are conservatism, speculation, and opportunistic base Thus, the present study is attempted to understand the basic psychology of an investor towards stock market. The objective is framed that to identify the investors attitude towards investment decision on stock market. The source of information gathers from primary data as well as secondary data to explore the research objective and appear the expected outcome.

Key words: *Stock market, individual investor's attitude, pattern, investment decision, psychology factors*.

INTRODUCTION

The individual investor plays very important role in the stock market, the investors attitude with respect to stock market and its volatility. Stock market: Stock markets are a type of capital market in which trading is equities and fixed income in a structured manner, through the sale of securities. It allows users the channeling of capital in the medium- and long-term investors. Investing in the stock market is among the most common ways investors attempt to grow their money, but it is also among the riskier investment options available. Understanding the basic concept of the stock market is a first step in becoming an informed investor. While the stock market is an extremely complex system, its basic characters are much more modest Attitude of investors is difficult to measure in the stock market since investors act according to the market condition. The behavior of individual investors in Indian stock market, specifically their attitude and perception with respect to the stock market. Investor's psychology on their decision creating, and to examine the relationship between investor's attitude towards risk and behavioral decision-making. It will help broking agencies to know percentages of investors are ready to invest their funds into stock market and to know how much percentage of their funds they would like to invest in stock market. Most investors show different attitude towards risk like motivated risk aversion, but we can find on the financial markets.

STATEMENT OF THE PROBLEM

in earlier, the people have interested in investment their savings into banks and insurance. In recent period individual needs to earn more return, therefore they have interest to investment in stock market. Individual's investors have their own idea or perception towards Indian stock market. And individuals have different behaviour, pattern, perception towards decision making towards investment and high market volatility, loss of money, stock market crash, lack of capital, poor investment skills, and lack of market knowledge. This study is undertaken small attempt to fix or to give suggestion to avoid the problem faced by individual's investment towards investment decision making.

OBJECTIVES

- To understand association between investor's attitude and investment decision making towards the Indian stock market.
- To determine the impact of Investors attitude and factors of investment decision making towards the Indian stock market.

HYPOTHESIS

H1: There is no relationship between investor attitudes and investment decision making on Indian stock market.

H2: There is no impact of investor attitude factors and investment decision making towards the Indian stock market

CONCEPTS

Investor's attitude: Investors attitude towards investment always looking for safe and more profitable but, with less risk and here important characteristic is psychology of the investors attitude towards investment in stock market.

Conservatism: it is also kind of investing strategy that arranges the preservation of capital over market returns. Conservative investing seeks to protect an investment portfolio's value by investing in lower risk securities such as fixed income and money market securities, and often blue chip or large cap equities. The investment decision of these people is based on the limited information. They may react aggressively on both the sides positively as well negatively by Hearing only a little information about the area in which they have invested.

Speculative: in this type of area speculation promises higher returns. When shooting for sky high investment returns, like more than 10% annually, be prepared for the possibility of losing al or major of investment .so the investors doesn't get strategy to save money or earn money that much easy, under these criteria may People are less conservative as they are considering the whole economy while taking the investment decision.

Opportunistic: Beneath this type of criteria, investors who see an accidental to gain some advantage from a situation, often at the expenses of ethics or moral. It is something characterized by targeting underperforming and/or undermanaged stocks, that are temporarily depressed, and then using high degree of influence to acquire the stocks, hold it for a short period of time, and then sell it at an expected profit of at least some percentage. People are highly Opportunistic as they are considering the global condition while making the investment decision.

REVIEW OF LITERATURE

Abhijeet Chandra (2008): Under this study, author providing the required evidence about the factors influencing Indian individual investor behaviour in stock market. And found five major factors that affect the investment behavior of individual investor in stock market namely prudence, and precautions attitude, conservatism, under confidence, informational asymmetry and financial.

addition. Finally, he concluded that these are the major psychological components seem to be influencing individual investor's trading behaviour in Indian stock market.

Dr. D.P. Warne (2012): In this study author discussing and providing applicable information about investment behavior of individual investor in stock market to understand the attitude and perception of investors concluded that market movements affect the investment pattern of investors in stock market.

R Gowri Shankar and Girish Babu (2014): The literature review shows that authors discussing about to know the Behavioural finance, the study of the influence of the psychological factors on financial markets, resulting If you see people in the stock market you will observe that they move in herds, and this influences stock prices. To put it slightly different, theoretically, markets are efficient but in practice, they never move efficient.

Hari Priya VR & Dr.R. Thenmozhi (2018): In this study authors discussing about the Investors Attitude towards Stock Market Investment in India. The study clearly specifies that there is a significant relationship between the investor's attitudes and stock market reserves and optimistic boldness enhancement strategies are introduced, and study suggesting that investor's investor should be very watchful in market movement or risk while investing.

Krutika Mistr (2015): This segment reviews the literature about investment decision making and made attempts to analysis attitude and perception with respect to the stock market. also, to identify the preferred source of information influencing investment decision. And made small attempt by using the different criteria based on their psychology like conservative, Opportunistic, speculative. By study she found that investors are not conservative in nature about company events as they are Unbiased, under speculative related domestic events and under opportunistic about world economic events the investors are not take decisions immediately, but they try to understand the market first and then react.

Kavitha (2016): The study found positive relationship between Investor's attitudes of Stock Market and stock market investments by using primary data. Study provides the report the more positive attitude enhancement strategies are introduced, the more it is easy for local investors to invest in the stock market. Further, there is a significant relationship between the local investor's perception of stock market.

N. Princess vinothini, Dr. J. R. Isaac balasingh (2016), This research study is found that age, gender, income level (monthly), investment level have no association with the attitude of investors towards Indian stock market. But educational qualification has an association with the investors' attitude towards stock market. People think FM radio, television news as the most important source and online newspapers show as the least important source

RESEARCH GAP

The study will help to find out the investor's attitude towards investment decision making on Indian stock market. Many studies were conducted regarding investor's behavioral factors, but most of the studies focus on attitude and investor's psychology towards decision making on Indian stock market. Therefore, this study is mainly focused on attitude on individual investors towards investment decision on Indian stock market.

RESEARCH METHODOLOGY

The study is descriptive in nature, the foundation of information together primary and secondary data. With the help of online survey by systematic structured questionnaire distributed and collected from respondents. Data analyzed with basic statistical tools like descriptive statistic, percentage analysis for demographic profile, and exploratory factor analysis, correlation and one-way anova test study found expected results and findings.

DATA ANALYSIS AND INTERPRETATION

EXPLORATORY FACTOR ANALYSIS: it is a statistical method used to uncover the underlying structure of a respectively large set of variables. Which is used to identify the relationship between measured variables. In this study we used this analysis to identify the relationship between investor attitudes and risk factors of Indian stock market.

CORRELATION: it is used to measure of the liner relationship between two quantitative variables' positive correlation indicates the extent to which those variables increase or decrease in parallel; a negative correlation indicates the extent to which one variable increase as the other decreases. In this study we used correlation to identify association between with risk factor, experience, education, conservatism, speculative, opportunistic and investor's attitude towards Indian stockmarket.

ONE WAY ANOVA: it is used to determine whether there are any statistically significant differences between the means of two or more independent groups.

EXPLORATORY FACTOR ANALYSIS

Table -1 Investor Attitude Factors

Factor Loadings

	Factor	
Attitude factors	Attitude criteria	Uniqueness
CONSERVATISM GOOD	0.819	0.329

SPECULATIVE GOOD	0.786	0.382
OPPORTUNISTIC GOOD	0.867	0.249
CONSERVATISM BAD	0.318	0.899
SPECULATIVE BAD	0.786	0.382
OPPORTUNISTIC BAD	0.824	0.321

the above table shows that the factor loading of attitude criteria. Its shows the relation between the item of attitude criteria and factor loading showed the size of the relation between the factor and items, it is ranged between 0.819 to 0.824, conservatism when good news about market of Indian stock market secured 0.819 but in god "opportunistic got highest score while compared to other items. And strongly
respondents are herd about Bad news about market opportunistic criteria has highest score.

Table :1.2 Summary

Factor	SS Loadings	% of Variance	Cumulative %
Attitude factors	3.44	57.3	57.3

The above table shows that factor statistics of attitude criteria, SS loading is 3.44, variance 57.3 and cumulative57.3%.

Assumption Checks

Table 1.3 Bartlett's Test of Sphericity

χ^2	df	P
730	15	< .001

FACTOR STATISTICS

Table 1.4 KMO Measure of Sampling Adequacy

	MSA
Overall	0.793
CONSERVATISM GOOD	0.847
SPECULATIVE GOOD	0.847
OPPORTUNISTIC GOOD	0.784
CONSERVATISM BAD	0.799
SPECULATIVE BAD	0.752
OPPRTUNISTIC BAD	0.747

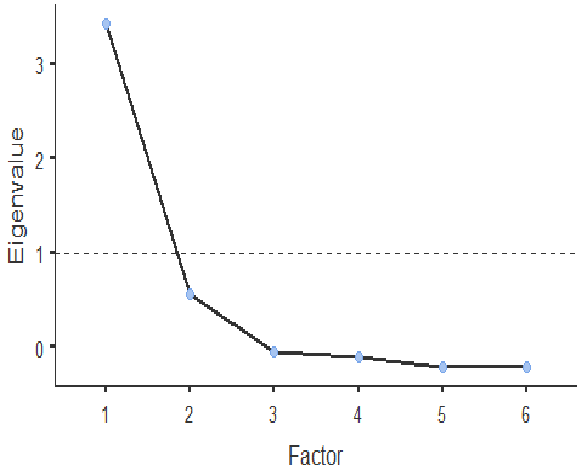
Eigenvalues

Table 1.4 Initial

Eigenvalues

Factor	Eigenvalue
CONSERVATISM GOOD	3.4382
SPECULATIVE GOOD	0.5632
OPPORTUNISTIC GOOD	0.0438
CONSERVATISM BAD	0.0972
SPECULATIVE BAD	0.2024
OPPRTUNISTIC BAD	0.2198

Graph-1 Representation on Eigen value



The graph showed factor is extracted based on Eigen value, which kept more 1 to extract factors. It showed the variable of one factor, risk factor.

Interpretation: The exploratory factor of attitude criteria shows difference between the factor and items. Here Factor loading showed 0.50 above so it is practically significant. Except the few items like opportunistic good, conservatism bad, speculative bad and opportunistic bad these items are in negative. only conservatism and speculative good "when respondents herd about good news about market interact more and come up with good results.

CORRELATION

Table :2 Attitude of investors and factors of investment decision making

Attitude items		Factors
CONSERVATISM GOOD	Pearson's r	0.209
	p-value	0.006
SPECULATIVE GOOD	Pearson's r	0.237
	p-value	0.002
OPPORTUNISTIC GOOD	Pearson's r	0.207
	p-value	0.007
CONSERVATISM BAD	Pearson's r	0.007
	p-value	0.923
SPECULATIVE BAD	Pearson's r	0.148
	p-value	0.053
OPPRTUNISTIC BAD	Pearson's r	0.193
	p-value	0.011

Interpretation: Correlation between 0.2 to 0.4 is moderate, and those below 0.2 are considered weak. In this all items which is under the attitude is with mix of weak and moderate, only conservatism bad is considered as strong. Remain compared to conservatism bad all items are weak in correlation, but all items are positive, conservatism bad H1accepted.

Table 3 Factors of Investor attitude and level of Experience

Attitude items		EXPERIENCE
CONSERVATISM GOOD	Pearson's r	0.027
	p-value	0.723
SPECULATIVE GOOD	Pearson's r	0.093
	p-value	0.226
OPPORTUNISTIC GOOD	Pearson's r	0.075
	p-value	0.326
CONSERVATISM BAD	Pearson's r	0.029
	p-value	0.709
SPECULATIVE BAD	Pearson's r	0.068
	p-value	0.376
OPPRTUNISTIC BAD	Pearson's r	0.053

p-value	0.489

Interpretation: Correlation between 0.2 to 0.4 is moderate, and those below 0.2 are considered weak. In this all items which is under the attitude is with mix of weak and moderate, only conservatism bad is considered as strong. Remain compared to conservatism bad all items are weak in correlation, but all items are positive, conservatism god "HO "accepted.

Table :4 One Way Anova on Investors Attitude and Level Of Education

Items	Education	Mean	SD	F	P
CONSERVATISM GOOD	10th	1.56	0.602	5.9	<0.001
	PUC	1.8	0.687		
	U. G	1.83	0.86		
	P. G	1.69	0.544		
	Professional course	2.32	0.559		
SPECULATIVE GOOD	10th	1.66	0.674	5.296	<0.001
	PUC	1.87	0.682		
	U. G	1.77	0.659		
	P. G	1.83	0.665		
	Professional course	2.45	0.63		
OPPORTUNISTIC GOOD	10th	1.69	0.736	5.005	0.001
	PUC	1.76	0.659		
	U. G	1.78	0.864		
	P. G	1.76	0.659		
	Professional course	2.36	0.576		
CONSERVATISM BAD	10th	2.26	0.568	0.271	0.895
	PUC	2.34	0.529		
	U. G	2.38	0.704		
	P. G	2.27	0.371		
	Professional course	2.33	0.682		
SPECULATIVE BAD	10th	1.84	0.579	3.225	0.017
	PUC	1.96	0.676		
	U. G	2.19	0.925		
	P. G	1.9	0.577		
	Professional course	2.32	0.495		
OPPRTUNISTIC BAD	10th	1.77	0.612	3.015	0.024
	PUC	1.92	0.67		
	U. G	2.13	0.878		
	P. G	1.99	0.799		
	Professional course	2.32	0.552		

Interpretation: According to the above table, in these results, p values which is less than the significance level of 0.05, here as result reject the hypothesis and conclude that some of the items have different means. In education the item 10^{th} is a lowest mean and professional course is highest mean. There was a no statistically difference between groups as determined by one-way anova (F (5.29 to 3.015) =0.939, between good and bad items it is less than 0.05. 0.5 significance level only one in association with education that is opportunistic good, conservatism bad H0 accepted remain are H1 accepted.

Table:5 One way Anova on Factors of investors Attitude Items and Investor level of experience

Items	experience	Mean	S.D	F	P
	less than 3 years	1.78	0.616		
CONSERVATISM GOOD	3-5 years	1.85	0.697	0.164	0.849
	5&above years	1.82	0.818		
	less than 3 years	1.95	0.748		
SPECULATIVE GOOD	3-5 years	1.89	0.71	0.939	0.394
	5&above years	1.77	0.567		
	less than 3 years	1.91	0.667		
OPPORTUNISTIC GOOD	3-5 years	1.78	0.746	0.647	0.526
	5&above years	1.78	0.764		
	less than 3 years	2.29	0.593		
CONSERVATISM BAD	3-5 years	2.41	0.485	1.652	0.198
	5&above years	2.21	0.6		
	less than 3 years	1.97	0.687		
SPECULATIVE BAD	3-5 years	2.01	0.61	0.332	0.178
	5&above years	2.1	0.798		
	less than 3 years	1.94	0.668		
OPPRTUNISTIC BAD	3-5 years	2.04	0.712	0.429	0.652
	5&above years	2.02	0.841		

Interpretation: A one-way anova was conducted to compare experience with good and bad factors. Normally checks and level's test carried out and the assumption met. Here opportunistic good and bad is above 0.05 in p value resulting that significant difference, and remaining conservatism and speculative not showed significant difference.

CONCLUSION AND SUGGESTION

This study has made some observations and derived some conclusions while carrying out the research work. These observations are summarized below in the form of finding, suggestions, and conclusions. It is totality of outcomes, rather than the conclusions or suggestions drawn from them. On-going process of correcting and refining hypotheses, which should lead to the acceptable of certain truths. The study on preferred attitude factor of various investors has been undertaken with the objective, to understand and analyses the factors considered for making an Investment and to analyse attitude of an individual decision-making towards investment stock market. The main portion of this study is while purchasing or taking decision to invest on Indian stock market based on conservatism, speculative and opportunistic. Analysis of the study was undertaken with the help of survey conducted. The study is conducted by taking a specific place sample size. There might be a chance that the preference of the respondents may be different because of difference in their awareness level, every individual should be made aware about various investment avenues, its importance, advantages etc. for a secured future and many more reasons. the study did not consider other factors that affect stock market investments decisions like culture, family back grounds and many more. It should also be noted that the study was dealing with a sensitive issue of financing often regarded as highly confidential. Therefore, some respondents concealed some of the vital information. The study is found positive relationship between market condition and decision making of investors with respect to Indian stock market. Investment is a decision-making process the outcome that relationship between investor attitudes towards investment decision and Indian stock market investments. information influencing investment decision and to access the psychology of investors in different market situations.

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A 'STUDY ON FACTOR THAT AFFECTING EMPLOYEE TURNOVER IN SELF FINANCED ARTS AND SCIENCE COLLEGES IN CHENNAI

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ABSTRACT

This research attempts to understand how the employee turnover affects the Education sector and its major challenge of adding a considerable cost to the sector. Also, this study assesses the causes of employee turnover from the employee's perspective. Understanding the connection of employee turnover on various managerial in view of the education sector, especially self-financed arts and science colleges is essential aspect for consideration. Further, the research suggests an appropriate measures to condense the prevailing rate of employee turnover in Education sector. Adding to this the study one can observe how appropriate measures can help to condense the employee turnover in the Education Sector. Therefore, the present study can be beneficial to the education sector by retain their employees with a consequential benefit of resulting enhancing productivity.

Key words: *Employee turnover, Employee recognition, job security.*

INTRODUCTION

Education is teaching and learning definite skills, and also somewhat a smaller amount of tangible, but more thoughtful: the imparting of facts, favourable verdict, and intense wisdom. Education has as solitary of its elementary aspects th econferring of culture from generation to generation.

LITERATURE REVIEW

Jack Worth et al. (2017) "Teacher Retention and Turnover Research: Interim Report" In this article they discussthat in the middle of 2010 and 2015, there has been a large decrease in the proportion of teachers who are elderly between 51 and 59. Our explore finds that this decrease is due to a combination of both a superior to average regiment and a superior rate of grownup teachers leaving over the period from one organisation to another organisation.

Peter Kwegyir-Aggrey(2016) "Assessment of Staff Retention in Private Universities in Ghana: A Study of the Perez University College, Winneba" This paper revealed that liberalisation of tertiary education in Ghana has lead to the formation of private universities together with the public universities in the provision of tertiary education. Employee turnover in private organization is very high due to following reasons, like less compensation, no job security, no promotion. On the average, about 54% lecturers and administrators leave every academic year for employment elsewhere.

Fairuz Chowdhury (2015) "Demographic Factors Impacting Employee Turnover in The Private Banking Sector of Bangladesh" we observed in this study the savings and investment perspective of the employee retention as a whole.The importance of turnover cannot be omittedregarding employee enactment and its related costs to the organisation. It is well documented that the profitability of an organisation generally negatively impacted by a high turnover rate of employees.

Usman Shah and Jangraiz Khan (2015) "An Analysis of the Factors Affecting Turnover Intentions: Evidence from Private Sector Universities of Peshawar" In view of this article, they find the defendant employs of private sector universities were asked if they get a chance to start a profession, whether they will again connect the same job. The options included strongly disagree, disagree, neutral, agree, and strongly agree. According to the results, 28% of the employ strongly disagree/disagreed with the declaration that they will reply the same organisation.

Sachin Jadhavet al. (2014) "Strategies for Employee Retention in Indian Higher Education System" In this article find that employee retention is a business management term referring to efforts by employers to retain current employees in their workforce. Valuable employee retention is a regular try by the employer to construct and further an surroundings that encourage present employees to stay in work by have policy and practice in position that attend to their diverse desires.

RESEARCH QUESTION

To observe the trends and issues in employee turnover in self-financed arts and science colleges in Chennai City. The study is exploratory and descriptive. The population, regarding the current studyincludes faculty member in Chennai city.

OBJECTIVES OF THE STUDY

1. To observe the perception of employee turnover as applicable to the Education sector.

2. To suggest appropriate measures to reduce the employee turnover in the Education Sector.

LIMITATIONS

The study is focused on the Education sector especially self-financed arts, and science colleges of Chennai city only and no other areais included.

HYPOTHESIS OF THE STUDY

RELATIONSHIP BETWEEN AGE AND EXTERNAL FACTORS – Chi-Square

H_0: There is no significant relationship between age and external factors.

H_1: There is a significant relationship between age and external factors.

2. REGRESSION ANALYSIS (SIMPLE LINEAR) Impact of age on compensation & performance factors

H_0: Age is not a useful predictor of compensation & performance factors.

H_1: Age is a useful predictor of compensation & performance factors.

PROCESSING OF DATA

The primary objective of the present analysis is to study the reasons for employee turnover and its implication on the colleges. The composed data were processed with the help of Excel and SPSS and is presented in the form of tables, charts, graphs and pie charts. For the analysis of data, standard statistical tools like percentage analysis, chi-square test, cross tabulation and Friedman Chi-square test were used. Finally, inferences, conclusions, and suggestions were drawn and are placed in the appropriate places in the respective chapters. Findings are elaborated, and bibliography is given at the end.

RESULTS AND DISCUSSION

AGE OF THE RESPONDENT

TABLE 4.1

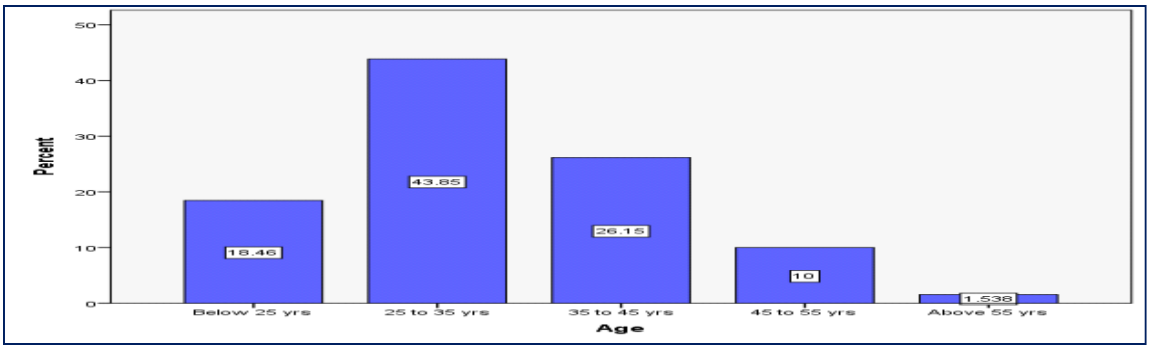
S.No	*Age*	*Frequency*	*Percent (%)*
1	Below 25 yrs	24	18.5
2	25 to 35 yrs	57	43.8
3	35 to 45 yrs	34	26.2
4	45 to 55 yrs	13	10.0
5	Above 55 yrs	2	1.5
	Total	**130**	**100.0**

Source: Primary Data

Interpretation:

It is clear from the above table that out of 130 respondent majority of them, i.e. 57 respondents belong to the age group of 25 to 35 years which comes around 44%. Approximately 26% of the total respondents, i.e. (34 respondents) belong to the age group of 35 to 45 years. 24 respondents belong to the age group of below 25 years which comes around 19%, Around10% of the respondents arepertaining to the age group of 5 to 55 years, and only two respondents belong to the age group of above 55 years.

CHART 4.1



NO JOB SECURITY

TABLE 4.2

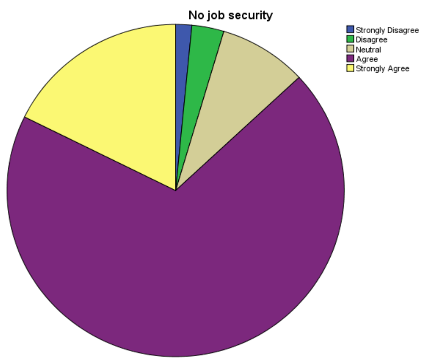
S.No	*No job security*	*Frequency*	*Per cent*
1	Strongly Disagree	2	1.5
2	Disagree	4	3.1
3	Neutral	11	8.5
4	Agree	90	69.2
5	Strongly Agree	23	17.7
	Total	**130**	**100.0**

Sources: Primary data

Interpretation:

As illustrated in Table 4.2 above, a total of 86.9 (69.2+17.7) per cent of the respondents participated in this study are agreed Less training to the employees affects the employee turnover affects the employee turnover, while 4.6 (3.1+1.5) per cent of the respondents were not satisfied, and 8.5 per cent are neutral in their response.

CHART 4.2



3. NO PROMOTION

TABLE 4.3

S. No	*No promotion*	*Frequency*	*Percent (%)*
1	Strongly Disagree	0	0
2	Disagree	22	16.9
3	Neutral	35	26.9
4	Agree	64	49.2

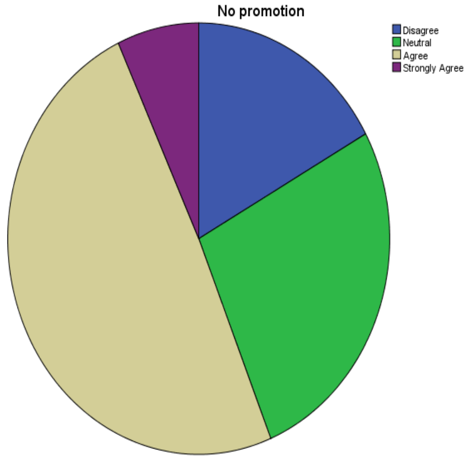
5	Strongly Agree	9	6.9
	Total	**130**	**100.0**

Sources: Primary data

Interpretation:

As illustrated inTable 4.3, a total of 56.1 (49.2+6.9) per cent of therespondents participatedin this study are agreedno promotionaffects the employee turnover affects the employee turnover, while 16.9 (16.9+0) per cent of the respondents were notsatisfied, and 26.9 per cent are neutral in their response

CHART 4.3



LESS EMPLOYEE RECOGNITION

TABLE 4.4

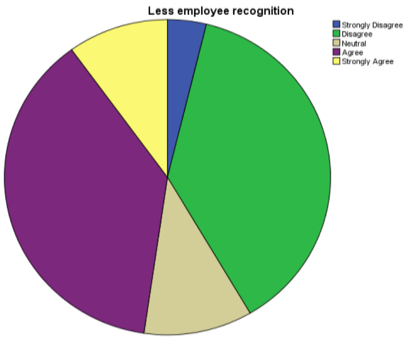
S. No	*Less employee recognition*	*Frequency*	*Percent (%)*
1	Strongly Disagree	5	3.8
2	Disagree	49	37.7
3	Neutral	14	10.8
4	Agree	49	37.7
5	Strongly Agree	13	10.0
	Total	**130**	**100.0**

Sources: Primary data

Interpretation:

As illustrated inTable4.4, a total of 47.7 (37.7+10) per cent of therespondents participatedin this study are agreed less employee recognition affects the employee turnover, while 41.5 (37.7+3.8) per cent of the respondents were notsatisfied, and 10.8 per cent are neutral in their response.

CHART:4.4



STATISTICAL FINDINGS AND INTERPRETATION

1.Out of 130 respondent majority of them, i.e. 57 respondents belong to the age group of 25 to 35 years which comes around 44%. About 26% of the total respondents, i.e. (34 respondents) belong to the age group of 35 to 45 years. 24 respondents belong to the age group of below 25 years which comes around 19%, Around 10% of the respondents are about the age group of 5 to 55 years, and only tworespondents fit into the age group of above 55 years.

2.Pearson Chi-Square value = 0.979 is higher than the significance level α=0.05, so the null hypothesis (H0) is accepted, in other words, the alternative hypothesis (H1) is rejected.

Thus it is concluded that there is no significant difference between age and external factors.

3.The p-value =0.000 is lower than α=0.05 we shall reject the null hypothesis. There exists enough evidence to conclude that Age is a useful predictor of compensation & performance factors hence college management should consider while determining compensation and performance to avoid employee turnover.

CONCLUSION

It is observed that the talent of employees shifting from one college to another because of high employee turnover currently faced by the education sector and can be attributed to the rapidly move forward the rules and regulation to work as a professor in the college, which have resulted in a widened gap between the availability of standard candidates and demand of candidates in the colleges. Some factors contribute to employee turnover namely low salary, no promotion, the culture of the organisation, the nature of the job, poor leadership, little inspiration and high expectations from the situation. In this research revealed that more labor turnover incurred in self- financed colleges due to less satisfaction level of employee.

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INFLUENCE OF VISUAL MERCHANDISING ON SALES EFFECTIVENESS IN THE RETAIL STORES IN THENI

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ABSTRACT

The study focuses on influence of visual merchandising on sales effectiveness in the Retail stores. Visual merchandising is the retail practice of designing and executing in store display in order to engage shoppers and increase sales. Nowadays, visual merchandising became one of the major tools of business promotion which is widely used to attract customers and increase sales among the retailers in the retail stores. The study was conducted among the different retail stores. The investigation was a descriptive study. The data were collected from 100 samples which covered five retail stores like Textile shop, super market shop, mobile shop, book shop and fancy shop. The major findings indicate that a majority of visual merchandising – exterior factors influenced in textile shop are posters & signs which are highest scores (55.18) and in mobile shops are also posters & signs which are highest scores (52.5). In visual merchandising – exterior and interior factors influenced when compared with selected retail stores as a result we found in exterior factors of promotional offers display (R3=0.7) shows highest positive degree of correlation and in interior factors of creative product display and lighting and colors (R2=0.7 & R4=0.75) shows highest positive degree of correlation. More than to identify the visual merchandising factors of interior and exterior which is influenced in the different retail stores which provides satisfaction of the customers and to find out the sales effectiveness of retail stores. The study analyzed that the most of retailers are agreed visual merchandising techniques or tools impulsive in all the retail stores and it helps to motivate the buying behavior of the customers.

Keywords: *visual merchandising, exterior & interior factors influencing, retail stores.*

Introduction

Retail is the process of selling consumer goods or services to customers through multiple channels of distribution to earn a profit. Retail is the final stage of any economic activity. By virtue of this fact, retail occupies an important place in the world economy, so that retailing includes all the activities involved in selling goods or services to the final consumers for personal, non-business use. For this accomplishment, a retailer is a person, agent, company or organization, which is instrumental in reaching the goods, merchandise or services to the ultimate consumer. Retailers perform specific activities, such as anticipating customer's wants, developing assortments of products, acquiring market information and financing. Most modern retailer's typically make a variety of strategic level decisions including the type of store, the market to be served, the optimal product assortment, customer service, supporting services and the store's overall market positioning. Merchandising is the activity of promoting the sale of goods at retail, whereas the activities may include display techniques, free samples, on the spot demonstration, pricing, shelf talkers, special offers and other point-of-sale methods. Visual merchandising takes into account how the products come across to consumers as they interact with them in a retail setting and applies certain techniques to make those interactions as impactful as possible. Nowadays, visual merchandising became one of the major tools of business promotion which is widely used to attract customers and increase sales among the retailers in the retail stores. The purpose of this study is to determine the exterior and interior factors of visual merchandising that influencing which helps to increase the sales effectiveness in retail stores and to find the customer buying decisions.

Objectives

1. To study on the highly influential visual merchandising elements applied in different kind of retail stores like textile shop, mobile shop, fancy shop, departmental shop and book shop.
2. To find the influencing factors helps to increase the sales effectiveness in retail stores.
3. To determine exterior and interior factors of visual merchandising that influence

customer buying decision.

4. To explore if buying choices are made before reaching the store or based on visual displays in the store.

Methodology

Descriptive research design was adopted for this study. Thus the study respondents comprised of 100 retailers, Out of 100 respondents, 27 from textile shop, 23 from fancy store, 22 from mobile shop, 19 from book shop and 9 from super market shop were selected a sample using purposive sampling method comes under non-probability sampling. The primary data were collected from the 100 retailers in five different retail stores by using of interview schedule. Data were analyzed using frequency, percentage, Henry Garrett's ranking and Charles Edward spearman ranking method.

Results and Discussions

The results of the analyzed data are tabulated and discussed below:

Table No.1: Demographic details collected from respondents in retail stores

S.No	Name of the retail store/ Demographic details	Textile shop		Fancy store		Mobile shop		Book shop		Super market shop	
		N	%	N	%	N	%	N	%	N	%
1	**Gender**: Male	20	74	11	48	20	91	15	79	9	100
	Female	7	26	12	52	2	9	4	21	0	0
	Total	**27**	**100**	**23**	**100**	**22**	**100**	**19**	**100**	**9**	**100**
2	**Age**: 25-35	6	22	6	26	14	64	11	58	4	45
	35-45	9	33	10	43	8	36	4	21	2	22
	45-55	7	26	4	18	0	0	4	21	3	33
	Above 55	5	19	3	13	0	0	0	0	0	0
	Total	**27**	**100**	**23**	**100**	**22**	**100**	**19**	**100**	**9**	**100**
3	**Educational Qualification:** Higher secondary	1	4	7	30	8	36	7	37	1	11
	UG degree	20	74	17	30	11	50	7	37	6	67
	PG degree	3	11	1	5	2	9	2	10	1	11
	Other category	3	11	8	35	1	5	3	16	1	11
	Total	**27**	**100**	**23**	**100**	**22**	**100**	**19**	**100**	**9**	**100**

The table shows that gender wise, a higher majority of the respondents such as textile shop 74% are Male, fancy store 52% are Female, mobile shop 91% are male, book shop 79% are male, and super market shop 100% are male. Age wise, a higher majority of the respondents such as textile shop 33% are 35-45 years, fancy store 43% are 35-45 years, mobile shop 63% are 25-35 years, book shop 58% are 25-35years and super market shop 45% are 25-35years. Educational qualification wise, a higher majority of the respondents such as textile shop 74% are UG degree, fancy store 35% are other category, mobile shop 50% are UG degree, book shop 37% are both higher secondary and UG degree and super market shop 67% are UG degree. Hence in the vast majority of the retail stores male was occupying their business, their age limit was within 25 to 35 years, their educational qualification was most of us UG degree, so that it competent to manage the sales level in sound position.

Table No.2: Visual merchandising techniques preferring and its features driving the consumers inside in retail stores

S.No	Name of the retail store/ visual merchandising techniques and features	Textile shop		Fancy store		Mobile shop		Book shop		Super market shop	
		N	%	N	%	N	%	N	%	N	%
1	**Visual merchandising techniques most preferring in retail stores:** Store exterior/window display	7	26	13	57	7	32	2	11	1	11
	Posters and signs	6	22	6	27	5	23	10	53	3	33
	Promotional offers display	11	41	2	8	6	27	1	5	2	23
	Store layout	3	11	2	8	4	18	6	31	3	33
	Total	**27**	**100**	**23**	**100**	**22**	**100**	**19**	**100**	**9**	**100**
2	**Visual merchandising features driving the consumers inside in retail stores** Store exterior graphics and signage	0	0	1	4	1	5	1	5	0	0
	Window display setting	9	33	9	39	3	15	4	21	2	22
	Brand name and logo	3	11	9	39	6	26	9	47	2	22
	Promotional offers display	15	56	4	18	12	54	5	27	5	56
	Total	**27**	**100**	**23**	**100**	**22**	**100**	**19**	**100**	**9**	**100**

The table shows that the retail stores which was highly preferring the visual merchandising techniques in textile shop 41% are promotional offers display, fancy store 57% are store exterior/ window display, mobile shop 32% are store exterior/ window display, bookshop 53% are posters and signs and super market shop 33% are posters and signs & store layout, whereas its features driving the consumers inside in retail stores like in textile shop 56% are promotional offers display, fancy store 39% are window display setting & brand name and logo, mobile shop 54% are promotional offers display, bookshop 47% are brand name & logo and super market shop 56% are promotional offers display. Hence in the extreme majority of all retail stores preferred the visual merchandising techniques in retailer point of view are store exterior/ window display and posters & signs and its features driving the consumers point of view arrived inside in retail stores are promotional offer displays.

Table No.3: Explore of the customers often their buying choices in the retail stores

S.No	Name of the retail store/ Explore of the customers often their buying choices	Textile shop		Fancy store		Mobile shop		Book shop		Super market shop	
		N	%	N	%	N	%	N	%	N	%
1	**Features inside the store display noticed by the customer:**										

	Video display	3	11	0	0	5	23	0	0	0	0
	Music and lightings	12	44	1	4	2	9	4	21	2	22
	Mannequin styling	2	7	2	9	1	5	1	5	4	45
	Creative product display	10	38	20	87	14	63	14	74	3	33
	Total	**27**	**100**	**23**	**100**	**22**	**100**	**19**	**100**	**9**	**100**
2	**Often the customers visit in retail stores:** Once a week	4	15	2	9	0	0	2	10	5	56
	More than a week	5	18	13	57	1	5	7	38	2	22
	Once a month	4	15	4	17	1	5	8	42	1	11
	Only on offer day	14	52	4	17	20	90	2	10	1	11
	Total	**27**	**100**	**23**	**100**	**22**	**100**	**19**	**100**	**9**	**100**
3	**Know about a new product arrival in retail stores:** Through display of the product	1	4	11	48	3	14	2	10	1	11
	Through offers	12	44	2	9	4	18	3	16	2	22
	Through announcement/ advertisement	5	19	2	9	9	41	3	16	3	33
	By enquiring sales person	9	33	8	34	6	27	11	58	3	34
	Total	**27**	**100**	**23**	**100**	**22**	**100**	**19**	**100**	**9**	**100**
4	**Store elements enhance merchandise display & attract customer purchase decision:** Tent cards	4	15	5	21	7	32	6	32	1	11
	Banners	6	22	2	9	2	9	2	10	2	22
	Floor vinyl	12	44	14	61	11	50	9	47	4	45
	Graphics	5	19	2	9	2	9	2	11	2	22
	Total	**27**	**100**	**23**	**100**	**22**	**100**	**19**	**100**	**9**	**100**

The above table shows that the highest majority in most influencing features inside the store display noticed by the customer is textile shop 44% are music and lightings, fancy store 87% are creative product display, mobile shop 63% are creative product display, bookshop 74% are creative product display and super market shop 45% are mannequin styling. Often the customers visit in retail stores is textile shop 52% are only on offer day, fancy store 57% are more than once a week, mobile shop 90% are only on offer day, bookshop 42% are once a month and super market shop 56% are once a week. For knows about a new product arrival in retail stores is textile shop 44% are through offers, fancy store 48% are through display of the product, mobile shop 41% are through announcement/ advertisement, bookshop 58%

are by enquiring sales person and super market shop 34% are by enquiring sales person. Store elements enhance merchandise display & attract customer purchase decision shows that textile shop 44% are floor vinyl, fancy store 61% are floor vinyl, mobile shop 50% are floor vinyl, bookshop 47% are floor vinyl and super market shop 45% are floor vinyl. Hence overall majority of every retail stores explored the customers buying choices was most influencing the visual merchandising techniques to impulse for purchasing decision whereas the retail stores displayed their product in creative look when the time of offer day collection and gave importance for designing their floor sheet as vinyl due to attraction and satisfaction of customers' needs.

Table No.4: Visual merchandising –Exterior factors influenced in retail stores- Textile shop and Mobile shop were applying Henry Garrett Ranking method

S.No	Name of the retail store/ Visual merchandising –exterior factors influenced in retail stores	Textile shop		Mobile shop	
		Garrett's Score	Rank	Garrett's Score	Rank
1	**Exterior factors influenced in retail stores :** Store exterior /Window display	51.85	II	51.81	II
	Posters and signs	55.18	I	52.5	I
	Promotional offers	49.44	III	50.22	IV
	Store layout	45.55	V	51.36	III
	Store exterior graphics/ signage	47.96	IV	44.09	V

From the above table shows that the visual merchandising-exterior factors most influenced in textile shop are posters and signs as it highest scores is 55.81, the next most selection are store exterior / window display as it scores is 51.85, third selection are promotional offers as it scores is 49.44, fourth selection are store exterior graphics/ signage scores as it scores 47.96 and the last factors are store layout as it scores are 45.55. Like that in mobile shop are posters and signs as it highest scores is 52.5, the next most selection is store exterior / window display as it scores is 51.81, third selection are store layout as it scores is 51.36, fourth selection are promotional offers as it scores is 50.22 and the last factors are store exterior graphics & and signage as it scores is 44.09. Hence the above said statistics clearly indicated that exterior factors most influenced in textile shop and mobile shop is posters and signs as such these results got same as from table no.2 i.e. visual merchandising one of the techniques most preferring in retail stores. If suggests that it is necessary to improve the store layout in textile shop and store exterior graphics/ signage in mobile shop to get attention of the customers in above retail stores.

Table No.5: Charles Edwards's ranking method using to comparing different kinds of retail stores(X_1) with for all exterior factors of visual merchandising

S.No	Name of the retail store/ Visual merchandising –exterior factors influenced in retail stores	Textile shop (X_1)	Fancy store (X_1)	Mobile shop (X_1)	Book shop (X_1)	Super market shop (X_1)	ΣD^2	RANK
		D^2 $(R_1-R_2)^2$	D^2 $(R_1-R_2)^2$	D^2 $(R_1-R_2)^2$	D^2 $(R_1-R_2)^2$	D^2 $(R_1-R_2)^2$		
1	**Exterior factors influenced in retail stores :** Store exterior /Window display (Y_1)	1	1	1	4	0	7	R1=0.65

	Posters and signs (Y_2)	0	9	0	9	1	19	R2=0.05
	Promotional offers (Y_3)	0	4	1	1	0	6	R3=0.7
	Store layout(Y_4)	9	1	4	0	16	30	R4=-0.5

The above table said statistics clearly indicated that exterior factors most influenced the following values which are ranking between different retail stores and all exterior factors.

X_1&Y_1 = R1 = 0.65, Thus there is a positive degree of correlation between X_1&Y_1.

X_1&Y_2 = R2 = 0.05, Thus there is a positive but less degree of correlation between X_1& Y_2. X_1&Y_3 = R3 = 0.7, Thus there is a positive degree of correlation between X_1& Y_3.

X_1&Y_4 = R4 = -0.5, Thus there is a negative degree of correlation between X_1& Y_4.

Hence overall calculated values of exterior factors whereas X_1& Y_3 (R_3=0.7) is too nearby the value of r_{k} = 1. So that exterior factors of promotional offers display is the highly influenced by all the retail stores as such these results got same as from table no.2 i.e. visual merchandising one of the features driving the consumers inside in retail stores. If suggests that it is necessary to improve the store layout to get attention of the customers in all retail stores.

Table No.6: Charles Edwards's ranking method using to comparing different kinds of retail stores(X_1) with for all interior factors of visual merchandising

S.No	**Name of the retail store/ Visual merchandising – interior factors influenced in retail stores**	**Textile shop (X_1)**	**Fancy store (X_1)**	**Mobile shop (X_1)**	**Book shop (X_1)**	**Super market shop (X_1)**	**ΣD²**	**RANK**
		D² (R_1-R_2)²	**D² (R_1-R_2)²**	**D² (R_1-R_2)²**	**D² (R_1-R_2)²**	**D² (R_1-R_2)²**		
1	**Interior factors influenced in retail stores :** Video display (Y_1)	1	1	4	1	4	11	R1=0.45
	Creative product display (Y_2)	0	1	1	4	0	6	R2=0.7
	Mannequins styling (Y_3)	4	1	4	1	4	14	R3=0.3
	Lighting and colors (Y_4)	0	0	0	1	4	5	R4=0.75

The above table said statistics clearly indicated that interior factors most influenced the following values which are ranking between different retail stores and all interior factors.

X_1&Y_1 = R1 = 0.45, Thus there is a positive degree of correlation between X_1&Y_1.

X_1&Y_2 = R2 = 0.7, Thus there is a positive degree of correlation betweenX_1& Y_2.

X_1&Y_3 = R3 = 0.3, Thus there is a positive degree of correlation between X_1& Y_3.

X_1&Y_4 = R4 = 0.75, Thus there is a positive degree of correlation between X_1&Y_4.

Hence overall calculated values of interior factors whereas X_1& Y_2 and X_1& Y_4

($R2=0.7$ & $R4=0.75$) is too nearby the value of $r_k = 1$. So that interior factors of creative product display and lighting and colors are the highly influenced by all the retail stores as such these results got same as from table no.3 i.e. visual merchandising one of the features(creative product display) inside the store display noticed by the customer. If suggests that it is necessary to improve the mannequins styling to get attention of the customers in all retail stores.

Table No.7: Visual merchandising techniques extend sales strategy in retail stores

S.No	Name of the retail store/ visual merchandising techniques extend sales strategy	Textile shop		Fancy store		Mobile shop		Book shop		Super market shop	
		N	%	N	%	N	%	N	%	N	%
1	Increase	10	37	13	57	16	73	7	37	6	67
	Moderate	8	30	8	35	6	27	8	42	2	22
	Average	9	33	2	8	0	0	3	16	1	11
	Decrease	0	0	0	0	0	0	1	5	0	0
	Total	**27**	**100**	**23**	**100**	**22**	**100**	**19**	**100**	**9**	**100**

The above table shows that most of the satisfaction level in textile shop 37% are increase, fancy store 57% are increase, mobile shop 73% are increase, bookshop 42% are moderate, super market shop 67% are increase. Hence most of the retail stores accepted to extend sales strategy by applied visual merchandising techniques in their shops. If suggests that in book shop retailers has to be improvement for applying visual merchandising techniques in their shop so that extend sales strategy.

Recommendations

1. It is necessary to improve the store layout in textile shop and store exterior graphics/ signage in mobile shop to get attention of the customers.
2. In exterior factors, it is necessary to improve the store layout to get attention of the customers in all retail stores.
3. In interior factors, it is necessary to improve the mannequins styling to get attention of the customers in all retail stores.
4. In book shop retailers has to be improvement for applying visual merchandising techniques in their shop so that extend sales strategy.

Conclusion

This study is mainly conducted to identify the visual merchandising factors of interior and exterior which is influenced in the different kinds of retail stores and which provides satisfaction to the customers. The study enables to find out the sales effectiveness of retail stores interior and exterior factors and the drawback of the facility provide to the customers. The study analyzed that the most of retailers are agreed visual merchandising techniques or tools impulsive in all the retail stores and it helps to motivate the buying behavior of the customers. This research is a fact finding and rewarding exercise to the research. After analyzing the various problems and findings, the researcher offered suitable suggestions for better Retailer's satisfaction can only fulfilled, they establish their store layout and also have available source,and it will helps to succeed in the near future.

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"A STUDY ON CHALLENGES FACED BY EMPLOYEES WORKING FROM HOME DURING COVID-19"

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ABSTRACT

Most of the people are working from home for the first time because of COVID-19. Others are more seasonal workers. The main objective of the study is to analyze the effectiveness of work from home, and to find out how much of works can be finished from home than office. Is there any challenges faced by the employees who is working from home. For this study used Quantitative data collection. Due to the pandemic, most if not all workers experienced work from home. Hence work from home has become a policy priority for most governments. The main purpose of the study is to find out the situation faced by both male and female during their work from home. In doing so, the policies must be made keeping in mind the practicality for both employers and employees. We can also investigate if this work arrangement will remain as a transitory element responding to the exceptional circumstances, or whether it could be a permanent arrangement or not. From the study found out that almost all people work from home enjoyed their work as well as enjoying with their family.

Key words: *Challenges- Pandemic-exceptional –work arrangement*

Introduction

The novel corona virus (COVID-19), a pandemic sweeping across the globe, has challenged to reconsider a wide variety of practices, from work, to leisure, to basic travel and daily tasks. Not only has this had individual impacts, but it has also impacted countries as a whole. COVID- 19 is a new disease, since December 2019 it has begun circulating in the human population. It is part of the corona virus family. In India recently reported 3,13,32,159 cases, and happened death of 4,20,043. The overall Covid-19 caseload has topped 200 million, while the deaths have surged to more than 4.25 million and vaccinations soared to over 4.25 billion with reference to the recent update. The need of physical distancing and restriction on inward and outward movement from a state to other is required to block the rapid spread of virus which in turn limit the scope of business. Nearly every organization is caught unprepared to respond to this extra ordinary challenge. Many employers, if not all, are trying to explore the work from home (WFH) as a potential substitute to prevailing work arrangements in foreseeable future. Hence, Employers Federation of India (EFI), which is serving the cause of employers since 1933, decided to come up with a document on WFH to facilitate its members, clients and partners regarding WFH to respond to the prevailing crisis or for those who find it as a chance to restore the current jobs or co-operative work from home along with the current working pattern as a hybrid model.

Work from Home

During the COVID-19 has ensured that, employers and employees, everyone has some sort of idea about WFH; however, it largely varies based on different perceptions. In academics also there is no consensus over one definition of WFH. It is often interchangeably used as online work; however, there lie some inherent differences between the two. Work from home can be constructed as a subset which not only include working from home, but working from any place which is convenient for the employees.

Work from home is an alternate way of organizing task that may be defined as the work which can be performed from home (away from the traditional workplace such as factories or offices) and enables employees to access their labour activities through the use of information technology. It may be for a temporary period or for the long-term durations as an alternate to the traditional way of doing work. World of work is dynamic, and it goes through transformation regularly. However, there are some epoch moments which revolutionize the process of work and bring a tectonic shift in the way the work was done before. One such moment was the

Industrial Revolution in Europe. Before the initial stage of Industrial Revolution, works were performed at home as most of the employers were business people and business was family oriented. India's world-famous handicraft, jewelers making of stones, carving work in ivory, wood, stone and marble, work of ironsmith, spice production all were family enterprises and hence performed at home. After industrial revolution, the production process moved from house premises to big factories and workers also moved from their home-based business venues to the factory outlet. This was continuing for over 200 years.

Work from home - Benefits

Convenience

Working from home is most convenient for women. They can setup the environment to suit your taste and working condition at different times. You can gather as many tools as you want, arrange them as you want, based on what you feel will be best for you at any moment as against the rigid environment an office provides. To put in simple words, it makes you feel at home.

It is economical

Working from home saves the company the cost of setting up an office space and saves the worker the cost of transportation. Except for companies that cater for the commuting of their staff, a large percentage of workers' salary that can be diverted to other important things is spent on transportation. Also, when the company deposit the huge amount spent on real estate to let's says advertising, that means more profit for the business.

It balances work and social life

Some offices have strict rules for workers, not allowing visitors during working hours but people who is working from home are not bound by that rule. Staying behind a desk from 9 to 5 and even longer for some co-operation. Sometime the worker of some 'spare' time to attend to other social functions which they can easily squeeze in if they were working from home.

Unnecessary office rules are avoided

Working from an office means the workers will have to work under some 'office/work ethics', some of which are not necessary. Dress codes, office arrangements and other things that do not actively contribute to productivity can easily be put aside while the worker focuses on what really matters.

Effectiveness of work can be increased

Time saved from commuting, adjusting to the working environment, setting up work environment in turn helps in improving the efficiency of the work done. In very congested commercial cities like Bengaluru, India and Lagos, Nigeria, commuters spend more than 3 hours stuck in traffic a day. Since work is done at home, there are no 'office hours', the worker is always in the 'home', and can work as long as they want to, which produce more result than the work from office.

It gives extra health benefits

Consumption of fast food, the stress from hectic commuting, exposure to industrial hazards are some of the possible cases that can affect the health of workers gathering in a 'working environment'. This is not to say work from home is totally free from health hazards, but since the worker is more used to be in their homes, they can control the environment for improved health.

It saves from toxic work environment

Some offices don't provide the right psychological environment for increased productivity. From hostile colleagues to demanding bosses, or harsh social pressure the conventional working environment exposes one to; workers will be at greater advantage working from home.

It gives more family time

The rise of neglected families due to parents spending all their time at work is no longer news. Working from home on the other hand, keeps gives parents time to still relate with their children.

Disadvantages of Working from Home

Distractions

Work from home, if not properly managed, robs the work performed by the worker. Although it brings ease to the worker, some of the benefits highlighted can be disadvantages to the work to be done. More family time will means less work being done, for instance. Distractions by the kids for working women, unavoidable visitors or guest other house hold activities are some of the distractions.

No accountability

Except there is strict virtual supervision, work from home will not give that much output as it would have been received from working in a conventional environment. Although it is possible to hold some selected authorities, tomonitor and supervise the work from home people it may not be as effective as direct supervision from the higher authority.

Reduced socialization

The process of commuting, going to a restaurant at lunch, and the office environment in itself, helps workers meet new people and socialize, which will in turn increase their productivity in the job. Working from home on the other hand, limits the worker to only the relationships they have around them. There are slighter chances of meeting new people working from home

No ready team available

Workers will have to send mails or establish some sort of communication media (at extra cost) to communicate with their team virtually. This, although can serve the purpose of communication, does not give the bond that physical communication brings. Making a zoom call cannot be like turning your chair and talking to the person at the desk behind you.

Easy loss of motivation

There is no physical presence of peer workers and supervisors to control and monitor us, it may seems to be alone in a work space, while working from home. If this is so and a daunting task is faced, the worker can get easily discouraged from their lack of progress. This is against the presence of a physical companion cheering on the worker in the case of working in the conventional working environment.

No work mindset

Lastly, working in a conventional work environment gives a mindset that pushes the worker to work. A practical example of this was manifested while I was writing this article. It took about four hours to write the benefits of work from home, writing from my bed, but once I left my bed and took work seriously, I finished the article in less than twenty minutes. If I was in an office environment, who knows if it would have taken even lesser. Anyway, that’s just a clear example of what being in a work environment can do, and that’s what an office environment provides.

Background of the study

This study mainly focused on the problems and advantages of work from home during the pandemic. Random survey conducted to analyse the situations faced by each employees doing their job from home. For getting the accurate result prepared a structured questionnaire and data collected through online mode. Data analysed by preparing chi-square test and percentage analysis.

Objectives of the Study

1. The main objective of the study is to analyze the effectiveness of work from home
2. To analyze the challenges faced by employees while working from home

Scope of the study

To find out whether working from home or working from office is more suitable to complete large volume of work.

Hypothesis

H_0 – There is no association between working from home and effectiveness of work

H_1- Working from home is more comfortable than working from office

Research Methodology

For this study primary and secondary method were used. Primary data collected through Questionnaire distributed in Google form. Only 120 members were responding through the online form. During this pandemic situation we couldn't collect data directly from the people. So limited people only supported for this study.

Data Analysis

For analyzing the data Percentage and

Observed	Expected	(Obs-exp)	(obs-exp)^2	(obs-exp)^2/Exp
25	19.83	5.17	26.78	1.347
28	28.33	-0.33	0.108	0.004
10	14.16	-4.16	17.30	1.22
5	5.6	-0.6	0.36	0.06
10	15.16	-5.16	26.62	1.756
22	21.66	0.34	0.115	0.005
15	10.83	4.17	17.39	1.605
5	4.33	0.67	0.44	0.103
Total				4.49

Chi- square analysis has been used.

Result & Discussion

SIMPLE PERCENTAGE ANALYSIS:

AGE WISE CLASSIFICATION OF RESPONDENTS

The following table describes the age wise classification of the respondents

Age Group	No. of respondents	Percentage
20-30 years	50	41.6%
30-40 years	30	25%
40 Above	40	33.33%
Total	120	100

From the above table we can understand that the persons belonging to 20 to 30 age group is more comfortable than the other age groups working from home. 41.6% of the category is in 20-30 age group were satisfactory compared to other group.

EDUCATIONAL QUALIFICATION BASED ANALYSIS

Qualification	No. of respondents	Percentage
Post graduate	70	58.33%
Technical	20	16.66%
PhD	4	3.33%
Other	26	21.66%
Total	120	100

From the above table regarding educational qualification, we can find that 58 more percentage of the members is post graduated. They are also working from home. They said that they couldn't feel any difficulties in working from home till the day. They are comfortable compare to work from office.

Difficulties in work from home

Gender	Not too difficult	Some what	Not at all	Very difficult	Total
Male	25	28	10	5	68
Female	10	22	15	5	52
	35	50	25	10	120

$$X^2 = \Sigma (O-E)^2/E$$

From the above analysis degrees of freedom is 3. Level of significance is set as 5 %. The calculated value is less than the table value. Calculated value is 4.49 Table value is 7.815.

So the null hypothesis will be accepted. There is no association between work from home and effectiveness of work. Equal importance can give for both works from home and work from office.

Comfort on work from home

Gender	Comfortable	Uncomfortable	Some what	Very comfortable	Total
Male	20	12	22	10	64
Female	25	8	13	10	56
	45	20	35	20	120

Chi-square Analysis

Observed	Expected	(Obs-exp)	$(obs\text{-}exp)^2$	$(obs\text{-}exp)^2/Exp$
20	24	-4	16	0.66
12	10.66	1.34	1.79	0.17
22	18.66	3.34	11.15	0.59
10	10.66	-0.66	0.43	0.04
25	21	4	16	0.76
8	9.33	-1.33	1.768	0.19
13	16.33	-3.33	11.089	0.68
10	9.33	0.67	0.448	0.05
Total				3.14

From the above analysis we got the value 3.14. But the table value is 7.815. So the null hypothesis will be accepted and Alternate hypothesis will be rejected. There is no association between work from home and effectiveness of work.

Conclusion

We are going through the critical situation. Covid-19 affected the life of every people who is working in various fields. Someone lost their job due to the pandemic. Some people working in private companies, schools and government sectors have to opt for work from home. But government employees don't have any issues related with work from home. They can go directly to office in alternate days. From this study we can say that work from home is most suitable for women, because they can work as well as manage their home too. Men are also enjoying their work from home, because they can manage their family. But bachelors are not very comfortable to work from home. They couldn't enjoy their life with their friends.

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A STUDY ON THE INFLUENCE OF WOMENS EDUCATIONAL QUALIFICATION IN THEIR GOLD INVESTMENT

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ABSTRACT

*This study aims to examine the influence of **women's educational qualification** in their **gold investment** and also assesses the investment behavior of women based on their qualification. Women are **financially independent** nowadays; they are more aware of the choices and opportunities to convert their savings into investment and in that gold occupy a first place. Gold ornaments have become an important investment avenue to the investors especially for women. Also it is believed that gold jewelry provides maximum satisfaction to majority of the women. This study gives clear picture of gold investment of women in Chennai city. The objective of the study aims to understand the gold investment options available for the women to raise their gold and to create awareness among women investors on various gold investments opportunities. Sample size is 50 and Random sampling technique has been used. Source of the study is based on both primary data and secondary data. Primary data is collected with help of questionnaire. The study result shows that whether literate women or illiterate women whoever they may be women always be inclined to invest more on gold ornaments rather than gold bonds or any other gold investment possibilities due to various motive and also most of the women are not aware about this gold bonds and other possible gold investment opportunities and its significance.*

Keywords: *Women's Educational Qualification, Gold Investment, Financially Independent.*

INTRODUCTION

Gold has retained its value throughout the age. Women and gold are integral. Since ancient times gold investment is considered as a tradition and culture of people or society. There are various forms of gold such as gold jewellery which creates demand over and above gold bars or gold coins etc. Gold clearly meets this extensively accepted definition of money. Gold represents potency, prosperity, opinionated power, and has always been a symbol of success and timeless appreciation. Gold is more than an investment; it is an ethnically significant metal which has found a place in women's hearts and homes alike.

In India gold always been a favourite option especially for women. Due to many influencing factors gold is one of the most preferred investments in India. Presently, Investing in gold jewellery needs high involvement and action of taking part in analysing various elements like quality, brand, design, purity, etc., because of rapid increase in price. Maximum of women are attracted to gold jewellery in nature. But the opinion of women towards gold is changing continuously. Women are well educated and well developed nowadays; they are concerned and well informed about investment opportunities available to them. Even they are financially independent they can convert or turn their savings into investment.

There is a misconception always; whether the women are educated or uneducated, married or unmarried, employed or unemployed they always go for gold jewellery to invest. This study is based on the women's perception towards gold investment and how their educational qualification influences them to make gold investment.

REVIEW OF LITERATURE

DYAH SRI WULANDRI, HUMAIDI, YULIARTI REZEKI (2019) "Influence of Environmental Factors and Individual Gold Jewelry Buying Decision against in Banjarmasin" Researchers of this study aims to analyze the factors that influence the purchase decision of gold jewelry. The research is based on purposive sampling technique. Primary data is collected through 220 respondents. Researchers used t-test, f-test, and co-efficient of determination to analyze the data. Based on the data analysis they concluded that environmental factors like culture, personal, individual factors like consumer resource, motivation, life style, learning and behavior influencing the purchasing decision of gold jewelry in the Banjarmasin city and also they found that majority (68%) of women purchase and use the gold jewelry then men (32%).

SARASWATHY MURALIDHARAN, DR. MANASA NAGABHUSHANAM (2020) "

INFLUENCE OF DEMOGRAPHIC FACTORS ON GOLD INVESTMENT DECISIONS WITH REFERENCE TO CHENNAI CITY" Researchers in their study aims to analyze the demographic factors of the investors namely gender, age, monthly income and expenditure and their association with various types of gold investment. Cross sectional survey design is used and the study was conducted on 100 respondents. Primary data is collected through questionnaire. Hanry Garret Ranking Technique is used to study the relation between the demographic of the investors and their choice of the form of gold. Majority of the investors choosing ornaments followed by bar/coins, gold ETF's, gold bonds. Chi-square test was used to study the relationship between various demographic variables and the quantum of investment in gold. From the analysis they concluded that there is no significant relationship between demographic variable like gender, age, marital status and investment in gold but income of an individual and monthly savings has a definite impact on the amount invested in gold.

DR.SELVARAJ AND S. SUDHA (2021) "Women investors perception towards gold investment". The researchers made an attempt to examine the women investor's perception towards gold investment. The researcher aimed to identify the awareness level of women investors. The research is based on survey method and primary data had been used in the study. Primary data is collected through questionnaire from 185 respondents. Kendall's coefficient concordance (w) and chi-square were used by the researchers for data analysis and interpretation. On the basis of their results, they found that the women gold investors give first preference to gold jewelry as an investment option. The researchers concluded that there is no association between women's demographic profile and their level of awareness in gold investment and occupational status of the respondents significantly associates with the level of satisfaction they get.

DR. VEERTA TANTIA, GAUTAM.N, A.M NITISH TAMMAIAH (2017) "A study on working women investing on gold ornaments rather than gold bonds". Researchers of the study examine the pattern of working women investing in gold ornaments rather than other alternative investment pattern and investment opportunities. The study is a descriptive study. The researcher used primary source of data that has been collected through questionnaire. The researcher gathered data from 150 respondents who were working in private company (IT Sector). Percentage analysis, charts, cross percentage analysis, chi-square test are the statistical tools used by the researcher. The researcher concluded that women tend to invest more on gold ornaments rather than gold bonds due to many reasons and most of the women are unaware of gold bonds.

SHAHANA PARVEEN, DR. DEEPA SAXENA (JUNE 2017) "A study on buying behavior of women towards gold jewelry in Rewa city". The researcher's main aim was to study the preference of women towards buying gold jewelry in Rewa city. Sample size of the study was 50. Statistical tools used by researcher were factor analysis and analysis of variance (ANOVA) method. The data were coded and prepared for analysis using Statistical Package for the Social Science. The objective of the study was to analyze the brand awareness and various factors affecting buying behavior of women towards traditional and modern jewelry with respective to marital status. The researcher concluded that the majority of the respondents are more conscious in the quality of gold and most of the respondents look forward to customer service from jewelry shop.

SRUTHY MADHAVAN, DR. SREEJITH MADHAVAN (2020) "A Study on gold purchase preference and consumption values among women teachers in Kerala". The objectives of the researchers are to identify the gold purchase preference of women teachers and to segment the women teachers based on purchase preference and to identify the factor that influences gold consumption. Sample size of the study is 100. The researcher used primary data. Major findings of the study revealed that most preferred form of gold product is gold jewelry. Women teachers are segmented into high investment preference and low investment preference. Finally, there is no significant difference in all values except social emotional value.

DR.M. NISHAD NAWAZ AND MR.SUDINDRA V.R "A STUDY ON VARIOUS FORM OF GOLD INVESTMENT" 2013 Researchers of this study aimed to understand the various forms of the gold investment options for investors, factors needs to be aware of and know how investing in gold, pros and cons of various form of investments and to assist investors in creating awareness about various gold investment options. For the purpose of study the primary data and secondary data has been collected, the data has been collected from 50 respondents in Bangalore and the convenience sampling had been used. From this study the researchers found that, many investors still prefer jewellery, gold coins, gold bullion bars forms of investment.

OBJECTIVES OF THE STUDY

- The study aims to understand the gold investment options available for the women to raise their gold.
- To examine the influence of women's educational qualification on gold investment
- To analyse the perception of women towards gold investment
- To identify the factors that is considered by the majority of the women while investing in gold ornaments.

RESEARCH METHODOLOGY

The study is based on both primary data and secondary data. Primary data is collected through the structured questionnaire and secondary data with the help of journals, books and websites. Respondents of the study are 50. Random sampling technique has been used. Percentage analysis and chi-square test has been used with the help of SPSS.

RESEARCH GAP

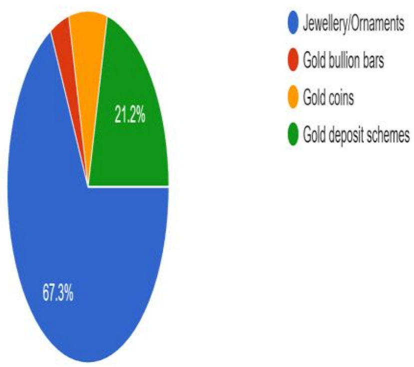
In the earlier research, researchers have concentrated more on the investment options available to the investors in general and by considering all the demographic factors such as age, gender, monthly income, monthly expenditure and etc., more focus was not given specifically to women's educational qualification and their gold investment. In this research this gap has been fulfilled by studying the influence of women's educational qualification on their gold investment decision.

LIMITATIONS OF THE STUDY

1. Geographical location of the study restricted to Chennai city.
2. Respondents of the study is 50 which is very low.
3. Due to lack of time detailed study could not be done
4. Study focusing only on women investors.

DATA ANALYSIS AND INTERPRETATION

TO UNDERSTAND THE GOLD INVESTMENT OPTIONS AVAILABLE FOR WOMEN.



INTERPRETATION

From the above pie chart it is understood that majority **(67.3%)** of the women investors choose to buy gold ornaments. This shows that they are not interested in other possible choices like gold bullion bars, gold coins, and gold deposit schemes available.

TO EXAMINE THE INFLUENCE OF WOMEN'S EDUCATIONAL QUALIFICATION ON GOLD INVESTMENT

H0: There is no association between educational qualification and women's gold buying behavior

H1: There is association between educational qualification and women's gold buying behavior

Chi-Square Test			
	Value	**df**	**Asymp. Sig. (2-sided)**
Kind of gold buyer	9.654[a]	9	.379
Source of gold investment advice	9.003[a]	6	.173

Source: Primary Data

INTERPRETATION

Above Chi-square test results show that the calculated value of kind of gold buyer and source of gold investment(i.e. 0.379 and 0.173 respectively) are greater than the significant value (i.e. 0.05) therefore null hypothesis (H0) is accepted. Hence there is no association between educational qualification and buying behavior of women.

TO ANALYSE THE PERCEPTION OF WOMEN TOWARDS GOLD INVESTMENT

H0: There is no association between income of the respondents and their perception towards gold investment

H1: There is association between income of the respondents and their perception towards gold investment.

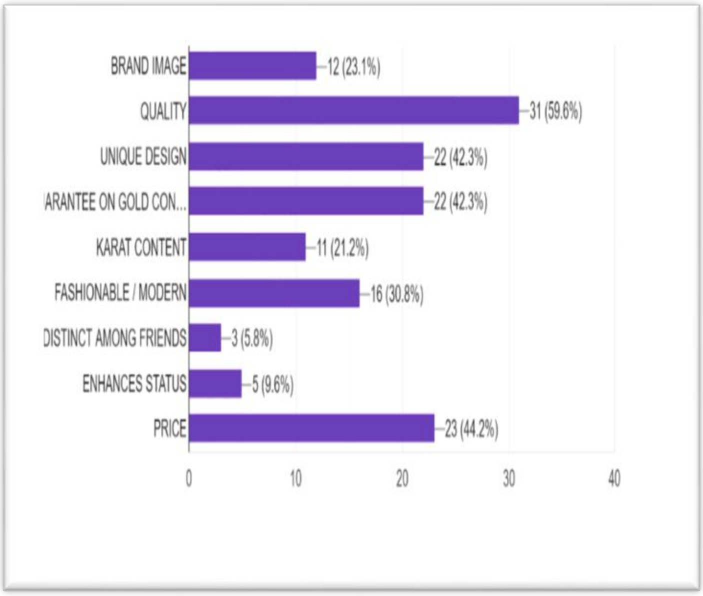
Chi-Square Tests			
	Value	**df**	**Asymp. Sig. (2-sided)**
Perception towards gold investment	38.209[a]	9	.000
Percentage of income invested in gold	14.169[a]	9	.116

Source: Primary Data

INTERPRETATION:

From the above chi-square test, it can be understood that the calculated value of perception towards gold investment (i.e.0.000) is lesser than significant value (i.e.0.05). Therefore null hypothesis (H0) is rejected. Alternative hypothesis (H1) is accepted. Hence there is association between income of the respondents and their perception towards gold investment. Further, the result shows that the calculated value of percentage of income investing in gold (i.e. 0.116) is greater than the significant value (i.e. 0.05). Therefore null hypothesis (H0) is accepted. Hence there is no significant relationship between income of the respondents and their percentage of income investing in their gold investment.

TO IDENTFY THE FACTOR THAT IS CONSIDERED BY MAJORITY OF THE WOMEN WHILE INVESTING IN GOLD ORNAMENTS.



Source: Primary Data

INTERPRETATION:

From the above chart, it can be understood that majority of the women (59.6%) are consider the quality of the jewelry at the time of purchase. This shows that a lot of importance is being given to the quality than other factors.

CONCLUSION

There are numerous gold investment options obtainable. Such as digital gold schemes, gold bullion bars, etc., but majority of the women always go for gold jewelry to invest. From the study it is found that there is no association between educational qualification of the women investors and their buying behaviour i.e. their investment decisions. Whether they are under graduated or post graduated there is no influence of their education in their gold investment. Majority of the women investors desire to buy gold ornament. This shows that they are not that much aware of alternative options available to them. Women have become financially independent because majority of the women respondents are employed and are in a position to invest on their own. The study shows that there is association between income of the women investors and their perception toward gold investment but there is no association between incomes of the women respondents and their percentage of income invested in gold. From the results it can be seen that women though educated are more interested in gold ornaments than the other options available (gold coins, gold bullions bars, gold deposit schemes). Hence awareness needs to be created among women regarding the various gold investment options like Digital gold, Gold Exchange Traded Funds, Gold Mutual Funds, Sovereign Gold Bonds, etc., As far as the Manufacturer and sellers of the gold jewelry are concerned they need to make sure the jewelry is of high quality as it is the quality for which women give lot of importance and also women should be concerned and informed about other possible investment options to turn their saving into investment. Further, future research in the same topic can be extended by concentrating in other investment options available to women investors other than gold and in other geographical locations with added respondents.

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PRE AND POST COVID – 19 IMPACT ON INDIAN STOCK MARKET WITH SPECIAL REFERENCE TO NSE - NIFTY 50

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ABSTRACT

Global pandemic COVID – 19 has affected adversely the economic sectors of countries universally. Indian financial markets also reacted to these disruptions and sharp volatility was witnessed. This paper attempts to analyse the impact of COVID – 19 on the Indian Stock Market with special reference to NSE NIFTY 50. NIFTY 50 comprises of 50 Stock indices representing 13 sectors of the economy. For the purpose of the study, three periods were identified i.e., Pre – Lockdown (i.e., Period ranging from 1st January 2020 to 23rd March 2020), Lockdown (24th March 2020 to 30th May 2020) and Post –Lockdown (1st June 2020 to 15th April 2021). Event study methodology has been applied for observing daily closing stock prices and volume of trade during these period. The paper aims to educate the market participants about the volatility prevailing in stock market thereby enabling them to make safer decisions relation to investments during the ongoing pandemic. The study also has made a comparative analysis of NIFTY 50 Index over the three identified periods, Pre-Lockdown, Lockdown and Post-Lockdown. Findings of the study reveals the existence of extreme volatility in NSE Nifty 50 during these periods.

Key words: *COVID – 19, Stock Market, India, NSE, NIFTY 50*

INTRODUCTION

COVID – 19 outbreak and its announcement as a pandemic by WHO posed a major threat to the world economy and its financial markets. The impact of this deadly virus is felt by more than 200 countries. As of 17th April 2021, there are approximately 140 million reported cases and 30,00,000 deaths. The spread of this deadly virus has put the whole world in jeopardy and is expected to create long lasting effects on the health of the people and the stock market too. This has led to the plunge of global financial markets and the growth forecasts have also been brought down. The world has experienced such deadly diseases earlier too, such as, Spanish Flu in 1918 and SARS in 2013. However the situation now is completely different and cannot be compared to them especially in relation to the reaction in stock markets.

The first case of COVID -19 was identified in Wuhan city, Hubei Province, China in December 2019. But its outbreak was so quick that it happened to be announced as a Pandemic by World Health Organisation in the mid of March 2020 paving way to be a global health emergency and economic downturn. Many countries including India announced strict policies relating to quarantine, Lockdown etc., as a measure to fight this pandemic. Almost all economic activities were suddenly shut down causing enormous economic impact all over the world not sparing the developed economies too. Financial Market risk increased exponentially owing to the fear and uncertainty attributed to the Pandemic.

The first case of COVID – 19 in India was reported on 27th January 2020 in Kerala. However it took a span of 41 days to identify first 50 cases spread in 12 states across 18 cities and districts. As the death toll started rising, the Prime Minister of India Shri. Narendra Modi announced a 21 day Lockdown for the entire country on 24th March 2020 as a preventive measure and to break the chain of infection. However the Government of India extended the Lockdown till 30th May 2021. On 30th May 2021, the Lockdown restrictions were slowly lifted in a phased manner except for the containment zones.

Two major stock indices of India are BSE SENSEX and NSE NIFTY. The impact of COVID – 19 was severely felt by both the exchanges – Bombay Stock Exchange (BSE) and National Stock Exchange (NSE). This paper attempts to analyse the impact of COVID – 19 on Indian Stock Market with special reference to NSE NIFTY 50.

AN OVERVIEW OF NIFTY 50

NIFTY 50 is a diversified stock index comprising of 50 stock indices representing 13 sectors of our economy such as Automobiles, Banking, Consumer Durables, Financial Services, Fast Moving Consumer Goods (FMCG), Health care, Information Technology, Media & Entertainment, Metals, Oil & Gas, Pharmaceuticals, Private Banks, Public Sector Banks and Real Estate. The fifty companies representing the sectors in Nifty 50 are shown in the following Table.

Company Name	**Industry**
Adani Ports and Special Economic Zone Ltd.	SERVICES
Asian Paints Ltd.	CONSUMER GOODS
Axis Bank Ltd.	FINANCIAL SERVICES
Bajaj Auto Ltd.	AUTOMOBILE
Bajaj Finance Ltd.	FINANCIAL SERVICES
Bajaj Finserv Ltd.	FINANCIAL SERVICES
Bharat Petroleum Corporation Ltd.	OIL & GAS
Bharti Airtel Ltd.	TELECOM
Britannia Industries Ltd.	CONSUMER GOODS
Cipla Ltd.	PHARMA
Coal India Ltd.	METALS
Divi's Laboratories Ltd.	PHARMA
Dr. Reddy's Laboratories Ltd.	PHARMA
Eicher Motors Ltd.	AUTOMOBILE
Grasim Industries Ltd.	CEMENT & CEMENT PRODUCTS
HCL Technologies Ltd.	IT
HDFC Bank Ltd.	FINANCIAL SERVICES
HDFC Life Insurance Company Ltd.	FINANCIAL SERVICES
Hero MotoCorp Ltd.	AUTOMOBILE
Hindalco Industries Ltd.	METALS
Hindustan Unilever Ltd.	CONSUMER GOODS
Housing Development Finance Corporation Ltd.	FINANCIAL SERVICES
ICICI Bank Ltd.	FINANCIAL SERVICES
ITC Ltd.	CONSUMER GOODS
Indian Oil Corporation Ltd.	OIL & GAS
IndusInd Bank Ltd.	FINANCIAL SERVICES
Infosys Ltd.	IT
JSW Steel Ltd.	METALS
Kotak Mahindra Bank Ltd.	FINANCIAL SERVICES
Larsen & Toubro Ltd.	CONSTRUCTION
Mahindra & Mahindra Ltd.	AUTOMOBILE
Maruti Suzuki India Ltd.	AUTOMOBILE
NTPC Ltd.	POWER
Nestle India Ltd.	CONSUMER GOODS

Oil & Natural Gas Corporation Ltd.	OIL & GAS
Power Grid Corporation of India Ltd.	POWER
Reliance Industries Ltd.	OIL & GAS
SBI Life Insurance Company Ltd.	FINANCIAL SERVICES
Shree Cement Ltd.	CEMENT & CEMENT PRODUCTS
State Bank of India	FINANCIAL SERVICES
Sun Pharmaceutical Industries Ltd.	PHARMA
Tata Consultancy Services Ltd.	IT
Tata Consumer Products Ltd.	CONSUMER GOODS
Tata Motors Ltd.	AUTOMOBILE
Tata Steel Ltd.	METALS
Tech Mahindra Ltd.	IT
Titan Company Ltd.	CONSUMER GOODS
UPL Ltd.	FERTILISERS & PESTICIDES
UltraTech Cement Ltd.	CEMENT & CEMENT PRODUCTS
Wipro Ltd.	IT

Source: NSE website

REVIEW OF LITERATURE

Many empirical studies have been undertaken worldwide both in advanced and emerging economies to examine the impact of COVID – 19 on stock markets.

Nippani and Washer (2004) analysed the effect of SARS on Canadian stock exchange markets and eight Asian stock exchanges. The leading stock indices with the S&P 1200 global stock index within the SARS epidemic period and within the non-SARS period were used for the study. The Mann-Whitney test and t-test statistics were used. The study revealed an unexpected finding that SARS epidemic did not inflict negative effect on the countries' stock markets except for China and Vietnam.

Chen, Jang and Kim (2007) analysed the impact of SARS on Stock performance of Taiwan's Hotel Industry and found that the stock values of Hotel industry drastically fell by about 29% during the SARS epidemic period. The study utilised the Event study approach for the purpose of analysis.

Arin et.al., (2008) attempted to study the impact of unexpected disastrous events on financial markets and found that whenever such an event occurs financial investors are persuaded to exit the unstable market and they start searching for more stable financial investments.

Dr. Sajjan Choudhuri (2020) in his study analysed the phases of COVID – 19 that resulted in the downfall of NSE Nifty and the trend after the initial announcement of Lockdown for 21 days. He analysed the historical data of NIFTY 50 for the period 1st January 2020 to 17th March 2020 and found that the stock markets officially entered into the bearish trends. The Nifty 50 fell from 12202 points to 8967 points during the study period.

Zaky Machmuddah et. al., (2020) studied the Stock market reaction to COVID – 19 by observing stock prices of customer goods before and after the COVID-19 pandemic using event study and the comparison test for a period of 3 months before and 3 months after the occurrence of the pandemic and found that there was a significant difference between the daily closing stock price and volume of stock traded during these periods.

OBJECTIVES OF THE STUDY

- To understand the functioning of Indian Stock Market particularly the NSE index

– NIFTY 50 pertaining to the Pre, During and Post – Lockdown period.

- To analyse the impact of COVID – 19 on performance of Indian Stock Market (NIFTY 50) during the segregated period.
- To present concrete suggestions and recommendations based on the study conducted.

RESEARCH METHODOLOGY

Event study methodology has been adopted to investigate into the market reactions and to test the reaction of stock markets to the outbreak of COVID – 19 and related announcements. It is a statistical method used to assess the impact of a particular event over time. This methodology elicits the impact of the events on the magnitude and direction of changes in stock prices, indices etc., Moreover this is very versatile.

Secondary data i.e., Historical data of NIFTY 50 index has been extracted from NSE website, COVID – 19 related information has been drawn from WHO website and other data have been gathered form articles, magazines and newspapers.

Moving Average trend line has been used to depict the changes in the indices over the given period of time. Moving average merely smooths the fluctuation in the data. It also works well when the data has a definite rhythmic fluctuation pattern. 2 point Moving Average trend line has been used for the study.

ANALYSIS AND INTERPRETATION

The analysis part of the study has been classified into 3 segments.

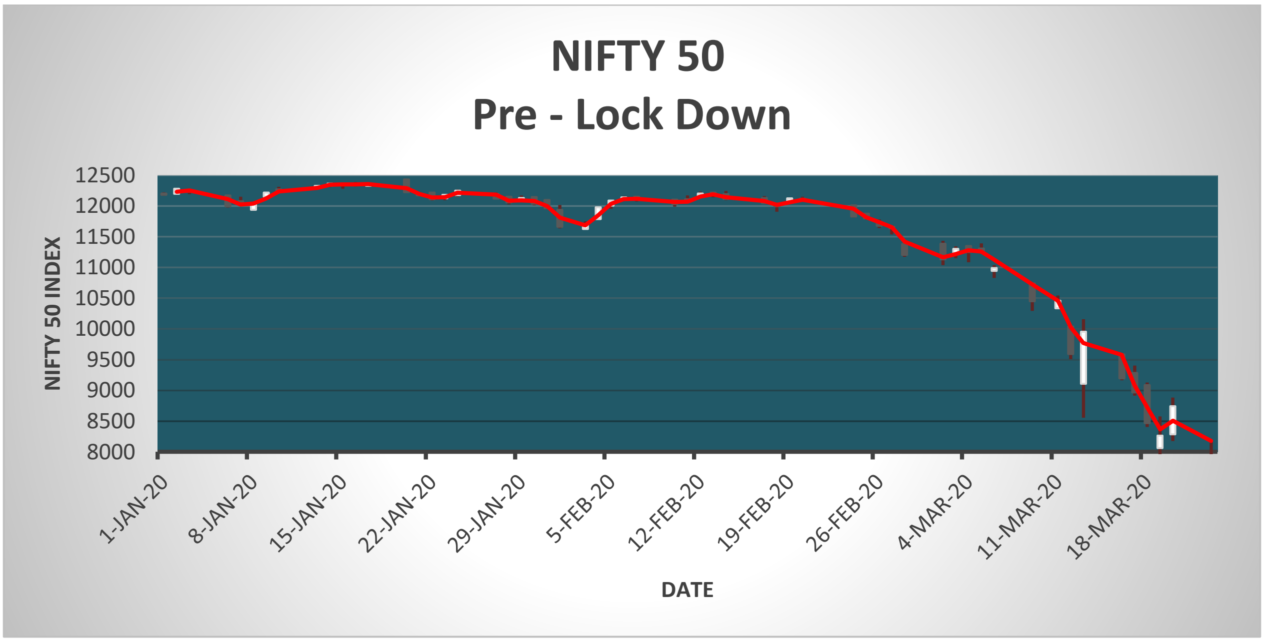
First segment: Pre- Lockdown phase (Period from 1st January 2020 to 23rd March 2020)

Second segment: Complete Lockdown phase (Period from 24th March 2020 to 30th May 2020)

Third Segment: Post- Lockdown phase (Period from 1st June 2020 to 15th April 2021)

PRE LOCK-DOWN PHASE

Fig: 1 Time plot of NSE Nifty 50 prices before the announcement of Lockdown



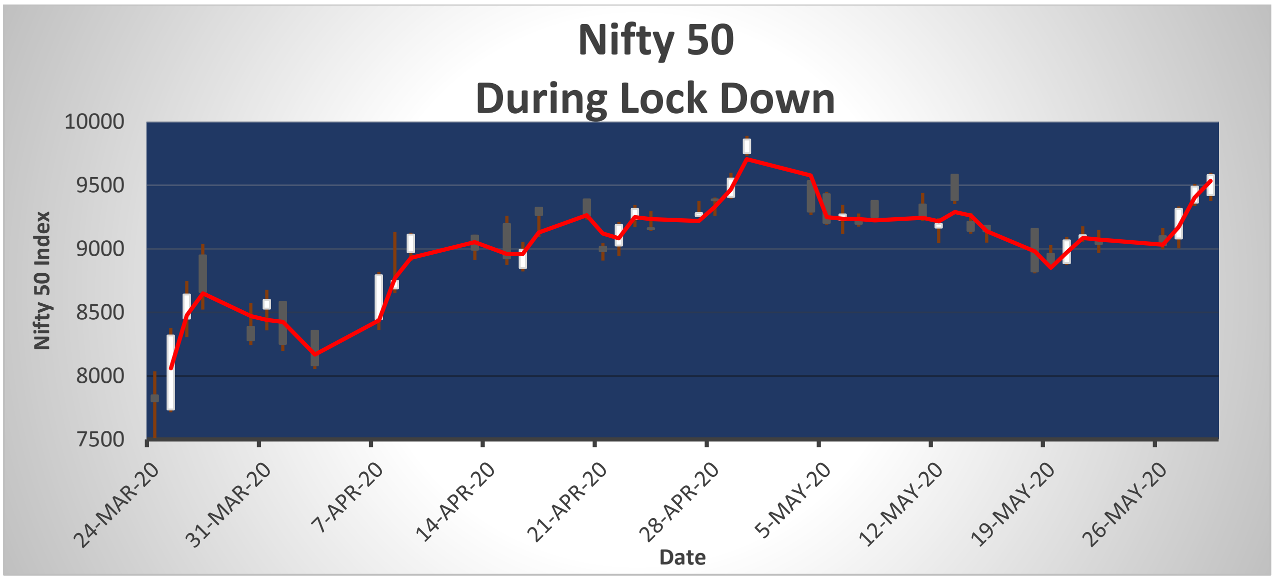
Data Source:* *www.nseindia.com

Figure: Authors' own computation (using MS Excel)

This chart represents the time plot of NSE Nifty 50 during the Pre-Lockdown phase. In the month of January 2020, the indices are positive without huge volatility. After the first case was reported on 27th January and due to the fear of uncertainty and , the prices drifted drastically down to the bottom of the steep at the end of March 2020. This clearly depicts markets cannot withstand uncertainty and unexpected disastrous events which will always negatively impact its performance.

LOCKDOWN PHASE

Fig 2: Time plot of NSE Nifty 50 prices after the announcement of complete Lockdown



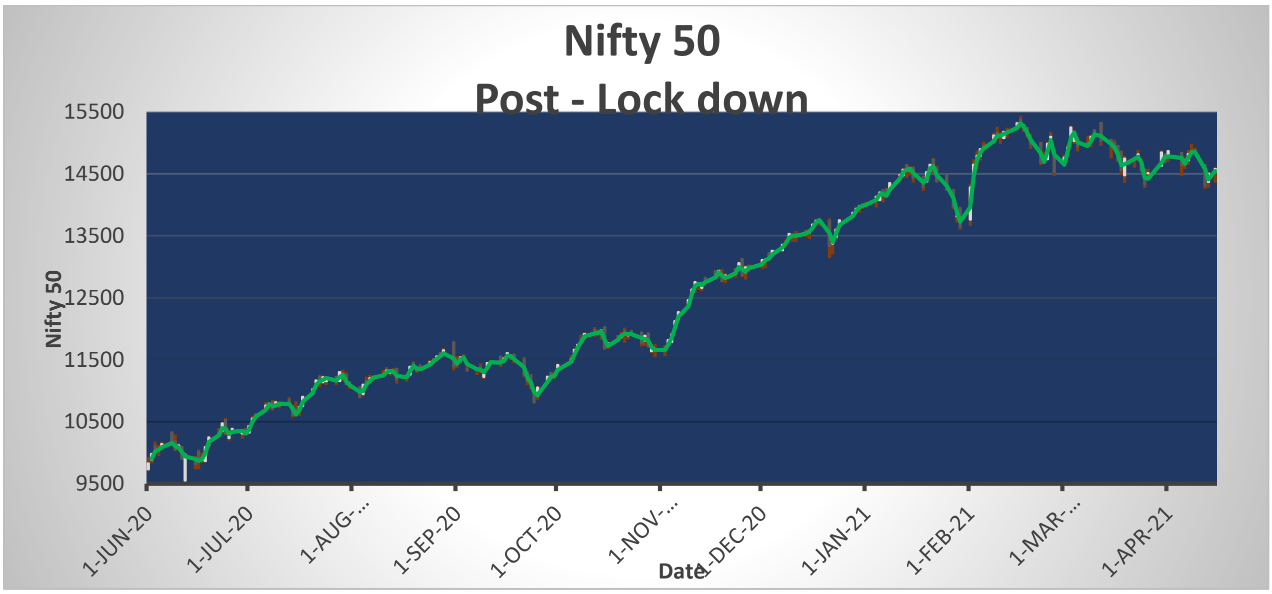
Data Source: www.nseindia.com

Figure: Authors' own computation (using MS Excel)

This chart represents the time plot of NSE Nifty 50 during the Complete Lockdown phase. Here it is evident that the stock market has started positioning itself to withstand such unexpected events. Though it had made a huge downfall and entered into the bearish trends during the Pre-Lockdown phase, the prices started moving in positive trends except for the most affected sectors like Automobiles and Real Estate. However the market experience high volatility during the phase.

POST LOCK-DOWN PHASE

Fig 3: Time plot of NSE Nifty 50 prices Post-Lockdown



Data Source: www.nseindia.com

Figure: Authors' own computation (using MS Excel)

This chart represents the time plot of Nifty 50 prices after unlock procedures were announced by the Government of India. Though the number of affected coronavirus cases increased, the negative sentiment towards the market took a back seat owing to the announcement of stimulus packages from the Government. This facilitated the investors to regain confidence in the Indian stock market and the market started rallying reaching its all-time high during this phase.

CONCLUSION

Novel coronavirus COVID – 19 has negatively impacted the economy of the whole world especially the global financial markets. Though the Pre-Lockdown phase experienced huge downfall owing to the negative sentiments and fear of the investors, the market bounced back during the Lockdown phase and Post-Lockdown phase to reach its all-time high. The announcement of stimulus plans (Atmanirbhar Bharat Abhiyan) a Rs.20 lakh Crore economic package to aid our country out of the COVID – 19 crisis and the introduction of vaccines have gone a long way in infusing the confidence of investors in the Indian Stock Market. Now that the fear of 2nd wave of COVID – 19 is at the peak, Market has started experiencing high volatility again. On 11th April 2021, investors lost around Rs. 8 lakh crore wealth as both BSE and NSE came under pressure of selling amidst surge in the coronavirus cases. India's VIX (Volatility Index) rose from 16.17% to 22.99%.

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HUMAN RESOURCE MANAGEMENT PRACTICES IN THE TIRUCHENGODE AGRICULTURAL PRODUCERS COOPERATIVE MARKETING SOCIETY, TIRUCHENGODE

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ABSTRACT

This article describes the relationship between human resource practices and employee's recruitment selection process in agricultural producer cooperative marketing society. The research reviews relevant literature to identify elements of HR practices that influence human resources process. Over the past decade, the way in which people are managed and developed at work has come to be recognized as one of the primary factors in achieving improvement in agricultural producer cooperative marketing society.

Keywords: *Agricultural Producer Cooperative Marketing Society, HR Practices, Cooperative Marketing.*

Introduction

The concept of HRD in cooperatives means all the planned information, education, training, mobilization and manpower Management activities undertaken by cooperatives so asto create economically efficient and a capable organization providing services required by their members. HRD acts as a booster to strengthen the efficient working of cooperative societies.

Meaning of HRM

Human Resource Management is deeply concerned with developing and unleashing expertise and with the dynamic issues related to individual and organizational change. Human Resource Management (HRD) is the framework for helping employees develops their personal and organizational skills, knowledge, and abilities and also includes opportunities as employee training; employee career Management so that the organization and individual employees can accomplish their work goals.

Human resource management in co-operatives

Effective Incorporation of the following Focused HRD Activities is done by the Co- operatives:

- Recruitment and placement of personnel.
- Personnel Management and career planning.
- Systems of individual performance measures.
- Training and skills up gradation.

To strengthen rural infrastructure planned training and education programs need to be conducted by the government so that latest technological and management techniques can be incorporated in the working of cooperatives operating in rural areas.

Need for the study

To sustain the growth and also to stimulate the growth further, it is apparent that all efforts should be made to develop human resources in all cooperative organizations. Unlike private enterprises, the scope of human resource Management in the cooperative organizations is wider in the sense that the co-operatives for their Management will have to develop the ordinary members, the members of the Board and also the employees. As a further perspective, the cooperatives will also have to think to develop the prospective members who may enter thecooperative organizations in future. The task of human resource Management is much difficult in a co-operative organization than in a private enterprise where the main focus of Management is confined only to the employees. Hence this paper mainly concentrates on implementation of HRD in cooperatives.

Objectives of the Study

- To study the HRD policies followed in agricultural producer cooperative marketingsociety in study area.
- To study the perceptions of officers and clerks relating to HRD policies.
- To suggest suitable actions for improving HRD practices in cooperatives

Data sources

The study is mainly based on secondary data which is collected from Committee's Reports, Journals, Newspapers and also personal opinion of the different authors and experts.

Research Design

This study describes the existing HRM programme and procedures adopted in recruitment selection process. So, the research can adopt "Descriptive research design". As forthat the researcher has made an attempt to study different factors involved in selection process and its causal relationship with basic variables. The aim is to obtain complete and accurate information in the said studies. The research design must make enough provision for protectionand maximum reliability.

Method of Sampling

In this article, the researcher has chosen a method of design namely "probability sampling" which is relatively get in to descriptive research under this method, every element of population enjoys equal chance of being selected and also, the researcher has chosen a type of designing namely "simple or stratified random sampling" under this type, no specific principle/basis is followed with selection the sample element.

Sample Size

To study the effectiveness of training and Management in agricultural producer cooperative marketing society, researcher has concentrated employees only. I have chosen the sample size (120) under lottery techniques with replacement method of sampling.

Collection of Data

There are several ways of collecting the appropriate data depends on cost, time and other resources.

Data Analysis and Interpretation

The results of the analysis of the collected data are presented below

Table-1 shows that majority of the respondents 43 Per cent aged between Above 50 years, while those of up to 41 years was represented by 27 per cent. The age group of between 31 and 40 years was found to be 18per cent. The age group upto30 years was represented by only 13 per cent. It is interesting to observe that respondent in the age group of 50 years were found large in numbers.

Table-2 gives the results of distribution of respondents by their level of education, it revealed that 30 per cent of the respondents comes under up to graduate education of education, 21 per cent of the respondents had post-Graduate education followed by 21 per cent had Diploma and other education and 13 per cent were Up to Higher Secondary Level.

Table-3 shows that 47 per cent of the respondents belongs to monthly income up to Rs. 20,001 to 30,000, 43 per cent of the respondents belongs to monthly income between Above Rs.30,000, 11 per cent of the respondents earn monthly Up to Rs 20,000. It is concluded that large number of respondents getting monthly income between Rs. 20,001 to 30,000.

It is inferred from the Table-4 that the mean satisfaction score reveals that the respondents have higher satisfaction towards the team Transfer to place right person in right place (3.79) and Addressing competency gap by training programme (3.71). However, the respondents have Sufficient retirement benefits to employees (3.45) and Matching of salary with duty and responsibility(3.42).Out of the 120 respondents, 44 per cent of respondents highly satisfied, 33 per cent of respondents satisfied, 15 per cent ofrespondents neither satisfies nor dissatisfied, 18 per cent of respondents dissatisfied and 21 per cent of respondents highly dissatisfied with the Reliability of selection process in agricultural producer cooperative marketing society. It is concluded that employees of agricultural producer cooperative marketing society are satisfied towards the Reliability of selection process among the all level of employees.

Suggestions

The agricultural producer cooperative marketing societies are meant for fulfilling the social and economic objectives. The orientation of this sector is towards the socialism. Hence, the employees are at the centre of these agricultural producer cooperative marketing society. Hence, on the basis of the findings of this study, it is suggested, that the management should consider the opinion of employees in the preparation of HRD policy and it should be properly communicated to all the employees to gain their confidence. The agricultural producer cooperative marketing society need to follow systematic and reliable selection process so thatsociety gets the right person for right job. The agricultural producer cooperative marketing society need to assess the need for training of employees. The training for Management of skills of employees should be conducted at local level or the employees should be sent to training institutions at various places. The training programme should aim at filling the competency gap of employees and it should be directly related to their job. While promoting the employees, the merit and experience should be considered along with the seniority

- ✓ Government is committed to supporting co-operative education and training that meets ever changing co-operative movement needs.
- ✓ Review the current co-operative curriculum and develop an appropriate one in collaboration with Ministry of Education and sports.
- ✓ Develop and implement comprehensive member education and trainingprogram.
- ✓ Develop training materials to facilitate delivery of effective member education.
- ✓ Hold public lectures and panel discussions on co-operative issues.
- ✓ Conduct of Training, Seminars, Pilot Studies, etc.
- ✓ Practice the HRD activity continuously in the organization.
- ✓ Transparent policy for recruitment of staff.
- ✓ Establishment of separate HRD department and Conduct of Training, Seminars, PilotStudies, etc.

- ✓ Organizational restructuring of cooperatives.
- ✓ Framing necessary structural and policy change in line with cooperative philosophy.
- ✓ Periodic evaluation and feedback.
- ✓ Undertake member awareness and education programs.

Conclusion

HRD in the organizational context is the process of organizing and enhancing the physical, mental and emotional capabilities of individuals for productive work. Cooperatives need to ensure that members and employees are regarded as human resources important for the sound Management of the cooperative enterprise. The part of human resource management that specifically deals with training and management of the employees. Effective training is an investment in the human resource of an organization, with both immediate and long-range returns. Cooperatives are value-based, member-based, member-owned and democratically controlled. The primary purpose of a cooperative is to satisfy the social and economic needs of its members.

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Table 1: Age Wise Classification of the Respondents

Sl. No.	Age	Frequency	Percentage
1	Up to 30 years	15	13
2	31 to 40 years	21	18
3	41 to 50 years	32	27
4	Above 50 years	52	43
Total		120	100

Source: Computed from Primary data

Table 2: Education Wise Classification of the Respondents

Sl. No.	Education	Frequency	Percentage
1	Up to Higher Secondary Level	16	13
2	Graduate	43	36
3	Post-Graduate	36	30
4	Diploma and others	25	21
Total		120	100

Source: Computed from Primary data

Table 3: Monthly Income Wise Classification of the Respondents

Sl. No.	Monthly Income	Frequency	Percentage
1	Up to Rs 20,000	13	11
2	20,001 to 30,000	56	47
3	Above Rs.30,000	51	43
Total		120	100

Source: Computed from Primary data

Table 4: Respondents' Level of perceptions of employees on HRD policies

Perceptions regarding	Highly satisfied	Satisfied	Neither satisfiesnor dissatisfied	Dissatisfied	Highly Dissatisfied	Total	Mean
Consideration of employee opinion inHRD policies	12	22	15	32	39	120	2.47
	10	18	13	27	33	100	
Communication of HRD policies to all employees	26	41	14	13	26	120	3.23
	22	34	12	11	22	100	
Fairness and impartialityin recruitment process	17	25	14	30	34	120	2.68
	14	21	12	25	28	100	
Reliability of selection process	33	28	18	16	25	120	3.23
	28	23	15	13	21	100	
Scientific selection process for selecting employees	30	38	17	19	16	120	3.39
	25	32	14	16	13	100	
Relationship of training to	45	37	15	10	13	120	

work in the bank	35	30	13	12	11	100	3.76
Knowledge and skill as the focus of the training	31	40	19	16	14	120	
	26	33	16	13	12	100	3.48
Addressing competency gap by training programme	37	40	20	17	6	120	
	31	33	17	14	5	100	3.71
Proper assessment of training needs	23	28	30	20	19	120	
	19	23	25	17	16	100	3.13
Fairness of the salary payment to employees	40	25	30	19	6	120	
	33	21	25	16	5	100	3.62
Rewarding employees showing good performance	20	15	40	31	14	120	
	17	13	33	26	12	100	2.97
Promotion based on need and rewards to employees	25	21	30	14	30	120	
	21	18	25	12	25	100	2.98
Evaluation of employee potential to give promotion	30	13	20	36	21	120	
	25	11	17	30	18	100	2.96
Informing career opportunities to employees	15	10	40	25	30	120	
	13	8	33	21	25	100	2.63
Promotion to accept challenges	35	25	30	20	10	120	
	29	21	25	17	8	100	3.46
Fast track promotions to high performing employees	12	18	13	50	27	120	
	10	15	11	42	23	100	2.48
Promotion based on performance	18	28	35	36	3	120	
	15	23	29	30	3	100	3.18
Promotion of employeeson the basis of seniority	30	25	15	40	10	120	
	25	21	13	33	8	100	3.21
Transfer to place right person in right place	45	25	35	10	5	120	
	38	21	29	8	4	100	3.79
Matching of salary with duty and responsibility	25	36	26	30	3	120	
	21	30	22	25	3	100	3.42
Rewarding efficient employees withincentives	21	26	40	25	8	120	
	18	22	33	21	7	100	3.23
Sufficient retirement benefits to employees	36	20	40	10	14	120	
	30	17	33	8	12	100	3.45

Source: Computed from Primary data

A SURVEY OF INTERNET OF THINGS ON COMMUNICATION TECHNOLOGIES

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ABSTRACT

The Internet of Things (IoT) is a talented technique that is apt to reform and attach the worldwide by means of various elegant devices in the course of faultless connectivity. The present requirement for Machine Type Communications has the consequence in a diversity of communication techniques with varied service requirements to attain the recent IoT revelation. New current mobile standards such as Long Term Evolution has initiated for phone devices except that are not fine matching set for reduced power as well as small data rate equipments like the IoT devices. To tackle the problem, there is a variety of talented IoT standards. In 5G wireless network, predominantly intends to meet the restriction of earlier mobile standards in addition to be a possible key enabler for further IoT. In the proposed article, the Internet of Things application requisites together with the related communication techniques are analyzed. In addition, the 3GPP mobile based (LWPA) Low Power Wide Area clarifies to sustain as well as facilitate the innovative service condition for hugeto significant IoT cases were argued. This article proposed a complete assessment associated to rising and facilitating techniques with major interest on 5G networks which has envisioned in carrying the increase for facilitating the IoT.

Keywords *— Fifth Generation Networks, IoT, Long Term Evolution, Machine Type Communications.*

Introduction

The upcoming technology of mobile network is an enhancement in the architecture in which the messages has been linked that is available all over the place and at all time to the entire world. In the close proximity, the upcoming Internet of Things will develop into a very significant ingredient of the life. For the improvement of the IoT devices, novel architecture in mobile network is necessary. Away from fourth generation, several significant demands or objectives which are required to concentrate are better security of data, reduced latency, enlarged capacity and improved data rate when communicating. To shift on to a subsequently stage of fifth generation network with ultra bandwidth, it has require a redesigning, restructuring and rethinking of our approach in the direction of wireless architectures.

What presently situation in the method of the Internet of Things is an alienated methods. For instance, we have Blue Tooth, Ultra Wide Band, we have short-range communications systems, Radio Frequency Identification, etc., and this might be a challenging in the upcoming years if we speak about a bigger representation like a elegant city, where a integrated framework for constant link is essential. Fifth generation is a high-quality chance to offer this integrated framework. The earlier mobile generation techniques rely on supposed to be orthogonal multiple access. This technique will be not easy to hold up for upcoming Internet of Things applications. We would have a group of strategies, and we will have to allocate time slots devoted to every of them. However in the ending, this is a comfort that we will not afford, because the amount of obtainable bandwidth resources and time slots has been inadequate. This is because multiple orthogonal access can't work for the fifth generation. Contrast with fourth generation systems, fifth generation mobile network is askip for larger frequencies which is simpler to attain larger bandwidths.

Existing Research of both IoT and 5G

Internet of Things handles with reduced power devices that interrelate with every other by the means of Internet. The idea [1-6] of the Internet of Things has made the notification of the investigation community with the objective to make sure that smart transportation system, smart-phones, tablets, washing machines, smart appliances, wearable sensors etc., in addition to additional things are related to a general interface with the capability to correspond with everyone. Internet of Things has connects the "Things" along with it facilitate machine to machine communication [7], that has meant for communication of data among the mixed devices devoid of individual interference. In accordance to this, it will be attainable by means of a medium with flawlesscommunication [8].

In accordance to prediction as of Ericsson, it has approximated that concerning 29 billion of elegant equipment has been linked across the worldwide by 2021, by way of greater than 20 billion of the devices has been linked in the course of machine to machine communication and customer electronic equipment [9]. Investigation has also exposed that approximately 8 billion of the equipments has been attached by mobile technologies for instance second generation, third generation and fourth generation that are presently being utilized for Internet of Things however not completely utilized for Internet of Things appliances and LPWA [10] techniques along with an income of approximately 5.4 trillion dollars has been produced through the complete Internet of Things segment internationally [11]. The present requirement for applications of Machine Type Communications like smart water system [23], remote monitoring systems and maintenance [20-22], elegant grid [15-19], smart cities [14], surveillance and smart building [13], and elegant community [12] etc., has bring about enormous associated equipments that create a main examination concerns in requisites of ability for presently organized along with upcoming networks for communication [24].

For example, the LTE standard has visualized primarily for wireless broad band. During this perspective, the IEEE group 802.11ah improved the mobile communication progression to maintain the Machine to Machine applications. In the midst of these are Wi-Fi/IEEE802.11, ZigBee [26] and Bluetooth Low Energy 4.0 [25] to hold up small range communication for Machine Type Communications. LPWA techniques such as LoRa [29], SigFox [28] and Ingenu Random Phase Multiple Access [27] etc., are capable techniques working in the unlicensed ISM spectrum band to supply reduced power as well as extensive range communication as ownership solution.

IoT with new radio 5G enhancement

Existing techniques has revealed that the future fifth generation mobile communication have to supply for the enormous operation of Internet of Things with billions of linked elegant sensors and objects which has been a worldwide illustration of the real world along with to carry the condition of task critical Internet of Things cases, that has need real time reactions and computerization of active procedures across various field of functions such as process control system, vehicle to vehicle, high speed motion, and as well as vehicle to infrastructure.

In fifth generation novel radio network that has presently under concern is anticipated to provide for both enormous and Critical Internet of Things cases as the requirement for equipment communications persist to raise broadly for linking a enormous amount of elegant devices with the reimbursement of utilizing mobile networks. In contrast of this, additional improvements are presently being established in machine to machine communication and Narrowband - Internet of Things systems as mentioned in the present Third Generation Partnership Project Release 14 for mobile Internet of Things, being the initial normative stage for fifth generation standards. Presently, Third Generation Partnership Project equivalence is functioning towards specified that additional improvements of key performance indicators has established into present fourth generation mobile network to make sure that the fifth generation wireless network is intended as of scratch with the intention of provide accommodation to the increasing span of the Internet of Things cases into the marketplace, as well as reducing the price of increasing new mobile networks.

In Third Generation Partnership Project Release 14, a few of the predictable key performance enhancements and features for Machine-to-Machine and Narrowband-Internet of Things systems emphasized for enormous along with Critical Internet of Things applications to be believed for conversation are momentarily commenced as follows

- Market Knowledge Enabler
- Band support for Narrowband-Internet of Things Release 14
- Expansions for Cellular Internet of Things Release 14
- Narrowband-Internet of Things Radio Frequency constraint for co-existence through Code Division Multiple Access networks
- Development of Narrowband-Internet of Things
- Common development to Machine-Type Communications

A. Expansion in support of Cellular Internet of Things Release 14

The necessitate to make sure with the purpose of a enormous amount of Machine Type Communications consumer devices are resourcefully maintained and to furthermore deal with interrelated problems to charge critical Machine-Type Communications applications are element of the predictable developments to Fifth Generation Mobile Network radio access techniques. The upcoming model transfer of Machine-Type Communications connectivity clarification in subsequent generation mobile networks has to make sure that task critical Machine-Type Communications applications such as, different range of data throughput, mobile healthcare system, which necessitate tremendously small latency performance as well as ultra high consistency, industrial automation are well maintained. The “moving ambulance” case for example has estimated to make sure that life serious medical care has arranged for the patients though minimizing the delay while moving the patients in the occurrence sight to the hospital for therapeutic consideration. While the case necessitates, where such ambulances have well linked to the hospital with instantaneous broadcast of therapeutic investigation which may comprises of video communications and/or more resolution images. As a result, necessitate for real time process update is significant from the hospital division which afford the medical treatment within the ambulance. For CIoT, Release 14 Third Generation Partnership Project has believed the subsequent ability prerequisites as improvement to Cellular Internet of Things: Inter-RAT mobility to and from Narrowband-Internet of Things, efficient contact service among user device and service ability revelation function , Reprocess of inheritance broadcast/multi cast system, General Packet Radio Service support for Non- Internet Protocol small data by means of services capability exposure function and agreement of make use of coverage improvement. It has obviously studied that in Third Generation Partnership Project previous Release 13, coverage improvement was concentrated, however Release 14 establishes this potential simply to customers who are entirely sign up to this service of coverage improvement in addition to efficient contact among user devices and services capability exposure function as an improvement for acknowledgement of communication send as well as deliver so as to notice the loss of information in the progression of communication.

In finale, a number of developments have been made in the Cellular Internet of Things domain by means of the Long-Term Evolution enrichments of small complication equipments that have been established for Machine-Type Communications applications. Nevertheless, there has a requirement to get on additional investigation and improvement which will begin and improve connectivity solutions that are depends on Fifth Generation Mobile Network for Machine-Type Communications cases. This would definitely help the Internet of Things model and everywhere connectivity for mixed equipments across verticals like electronic commerce, public safety, industrial automation system and smart healthcare system.

B. Enrichment to Machine-Type Communications

Although Cellular Internet of Things has a capable technique which maintains the condition of Machine-Type Communications to the customers and assists a chance for wireless service operative in requisites of income generation, there has a necessitate to more develop and improve Long-Term Evolution equipment for Machine-Type Communications. Considering this, the Third Generation Partnership Project standardization projected an extra complication diminution scheme that has been utilized to attain Machine-Type Communications. In Rel. 14, developments were presently being believed to maintain downlink communications that will enlarge Rel. 13 One CellPoint to Multipoint so as to sustain multicast communication for Enhanced Machine-Type Communications as well as improved coverage region. For a variety of Internet of Things applications, this might be significant that the location of equipment is well-known. Consequently, there has necessitate to estimate and develop MTC interrelated to transmission and reception of measurements in time difference. This would also make sure that the User Equipment complications as well as consumption of power for the experimental difference in time arrival are measured. To advance the high information rates for improved Enhanced Machine-Type Communications, additional contemplation comprises of raising the Transport Block Size, sustain HARQ acknowledge packed and capable of 15 DL HARQ procedures and at last make sure that Voice over Long-Term Evolution enrichment for Enhanced Machine-Type Communications equipments would be attained. The intend of these developments has to make sure that exposure of Voice over Long-Term Evolution for half duplex Frequency Division Duplex along with Time Division Duplex User Equipments are competently improved and maintained.

C. Enrichment of Narrowband-Internet of Things(NB-IoT)

NB-IoT has appeared as Third Generation Partnership Project regular based mobile solution in Release 13 for optimized network systems, small device consumption of power, ultra low equipment cost, sustain for huge amount of small throughput equipments, little delay sensitivity and enhanced interior coverage are capable to maintain the non real time voice as well as to assist the ultra low rate for the present requirement of Internet of Things. General cases for Narrowband-Internet of Things contain applications like environment control system, smart cities and constructions and asset tracking etc. This has more enrichments into the Third Generation Partnership Project – Long Term Evolution features for NB-IoT is to enlarge the hold to new power classes, mobility and link variation enrichments, multi cast as well as location positioning that are predictable to be consider in Release 14 for Fifth Generation New Radio network so as to make sure with the intention of market driven requirement of MTC is attained resourcefully.

Multicast: One CellPoint to Multipoint that has measured in Release 13 has to be enlarged so as to facilitate downlink communication (both firmware and software up gradation, delivery of group message) are holded for improved Narrowband-Internet of Things.

Service Continuity and Mobility enrichments: These enrichments to NB-IoT permit linked mode mobility, at the similar time improve service stability and avoid Non-Access Stratum recovery while allowing for the User Plane along with Control Plane solutions devoid of negotiating the consumption of power for the user devices.

New Power Classes: New Classes that may direct to the beginning of New User device through a power level of 15 dBm have to be estimated. According to the last estimation, a signaling method has been expanding for lesser highest power transmits that has been suitable for little form factor battery for wearable. This furthermore proposed to enlarge highest transportation sizes of block by allowing for 1352 downlink bits as well as 1800 uplink bits for which it will facilitate User Equipment into the release to carry highest data rates, decreased delay as well as consumption of power.

D. Markets Technology Enablers

The Fifth Generation Mobile Network has been regarded as the upcoming communication models which assure to present the prospect to plan a Third Generation Partnership Project network that has been simply maximized to carry the linked devices as well as services. Third Generation Partnership Project is presently analysis the Release 14 in the direction of potential Fifth Generation service necessities that are predictable to cover up over 80 cases below the Markets Technology Enablers as talented chance for subsequently generation communication networks. These recently established cases cut across a broad range of new markets from the Internet of Things to vehicular contact along with control, catering for new services like device stealing anticipation as well as revival, industrial automation, tangible internet and drone control system. In some applications the Internet of Things has been sustained by existing systems, there is a necessitate for growth in terms of network slicing, network flexibility, sufficient sustain for dissimilar access technologies and proficient resource deployment which required to be executed into the prospect Fifth Generation radio network that has not voluntarily retrofitted into previously useful and accessible networks. Based on the various manufacturing white papers, the purpose of the prospect Fifth Generation mobile network has an original network model which is anticipated to make sure that various service scopes are competently and successfully maintained.

Table 1. Review of management problems in the Internet of Things

Management problems	**Brief explanation**
Management in system configuration	- Network connectivity - Functionality of self-configuration - Devices setting up process - Reconfiguration network
Monitoring of System	It is significant to identify the function and location of related thing in their down-time, sleep condition (mode), running system, etc. so as to recognize their present location of service. - Network topology - Notification of system - Monitoring of network condition
Preservation of linked devices	In view of the heterogeneity of the IoT which engages enormous amount of linked things, this will be significant to observe as well as notice the existence of malfunction. Consequently, this was necessitating to a software defined method which has been utilized for perceiving as well as scheming the occurrence of malfunction in linked things. Additional protection problems to be

	seemed are revising software, protocol version recognition along with updating of patches.
Linked devices performance	It is significant to make sure that suitable examining solutions are established for evaluation of system performance as this may avoid the happening of several malfunctions in future. This happens to very vital while allowing for applications that are set up in isolated areas.
Management of energy efficiency	This make sure that the consumption of energy level of the system devices were competently observe includes: - Sufficient information on the level of energy like predictable life span of linked devices. - Energy resources management.
Security and Privacy	In view of the resource inhibited environment of Internet of Things, fundamental protection challenge require to be measured are verification, endorsement, and access control. Additional safety interrelated problems to be deal by means of uninterrupted interactions. For instance, taking into consideration the circumstances where linked devices would have to be access by operative applications as well as software devoid of individual interference, as a result, there is require to make sure that severe safety policy are imposed to avoid linked things from enlightening very important and confidential messages to unofficial devices or being utilized impishly. Consequently, severe isolation must be imposed.

Figure 1 shows the projected novel enrichments of service prerequisites for Fifth Generation mobile networks which have competently and successfully carry numerous service dimensions. At last, we conclude with more investigation on the Third Generation Partnership Project New Radio for the rising Internet of Things standards, Fifth Generation mobile network intend at facilitating the fundamental requirements as well as Key Performance Indicator s that are necessary for upcoming Fifth Generation new service necessities to allow the Internet of Things cases.

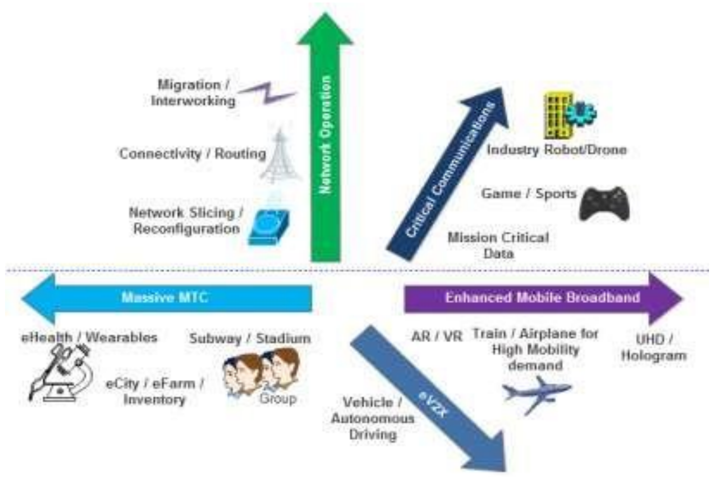

Fig. 1. Markets Technology Enablers - New Service Dimension

Conclusion

The present anticipation and upcoming development of the Internet of Things is capable to facilitate new services as well as quality of experience across the customer society and extremely demanding in the similar time because of the resource controlled environment in the network that was forced the examining group of people to make sure that the necessities for enormous exploitation of Machine-Type Communications applications are attained for worldwide related things. The article have analyzed the distinctive characteristics of the present state-of-the-art of Internet of Things standard communications, together with the cellular-based Low Power Wide Area eMTC, EC GSM IoT, Narrowband-IoT, and non-cellular LPWA technologies with major focus on Fifth Generation Mobile Network. For upcoming development of the Internet of Things, it is thus suggested to extend a context aware congestion control scheme for lightweight Constrained Application Protocol/User Datagram Protocol - based Internet of Things network to maintain the exponential traffic enlargement prototype of the visualized Fifth Generation mobile networks for Machine-Type Communications applications.

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ADOPTION OF CONSUMER BEHAVIOR THROUGH NETNOGRAPHY

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ABSTRACT

Internet is the world to all of us. Internet is now blood to our daily life. In a click of a fingertip we can find anything from anywhere. From a needle to aero plane everything is available online and we all are very much dependent upon the online websites. The internet provides us the experience of shopping from the comfort of our homes. When we observe people in the online environment it is called as netnography. It is a term given by Robert. V. Kozinet. This is an observational method where participation depends on the researcher. Netnography can be applied to any online website, chartroom, forum, groups, communities etc. Even the marketer's also called it as a secret weapon to marketing. It focuses on providing the information regarding the online communities and their interaction. Many big companies are using this tool for better understanding of their consumer and providing them the best services.

KEYWORDS: *Netnography, Online communities, Communicating tool, Consumer behavior, E-retail.*

INTRODUCTION

Everyone around the world is internet geek these days. People love to spend their time on social media interacting with friends, relatives and new people. According to the choice of the people they join some online communities and they interact and participate in the conversations. In the online communities people tend to create, share and also express their feelings, thoughts and ideas. All this happens on virtual communities through internet. The backbone of these virtual communities is strong communication medium that are synergic in nature. Individuals, business organisations, communities all interact in this environment. Traditional media and social media are both different in many ways. Social ladder is easy to reach, convenient and one can have immediate reaction and response to anything. Whenever people use internet they spend good amount of time on social media. And this is the reason that social media is very popular. Social media helps in sharing the information and knowledge and also gives great career opportunities with great monetary benefits.

The market scenario is changing rapidly with the help of social media. The brands not only advertised by advertisements but also it ensures the presence through programmes and new trends. The main attraction of this change is that product is readily available through fingertips and it will knock the door within a very short span of time through online order. Social media is a free and an open area for complimentary exchange of ideas and expressions related to products, brands and companies.

Netnography

Netnography is the combination of internet and ethnography. And ethnography is the study of culture. It relates to the study where researcher observes the society so that the cultural aspects can be explored. On the other hand we can say that netnography is the stream of ethnography which allows the researcher to study the individual behaviour through internet. This technique is much faster, simpler and less expensive than traditional ethnography. (Robert .V. Kozinets
Netnography follows six overlapping steps:

- Research Planning
- Entrée
- Data Collection
- Interpretation
- Ensuring Ethical Standards
- Research Representation

Netnography has many exclusive supremacy for the marketers. The amalgamation of the Internet's valuable information carrying capacity and the carrying away of individual social signs, means that the research seeker is provided with rich lode of information. This has several positive outcomes:

- Greater approachability to the broader section of consumers.
- Greater linkage in research.

- More financially feasible and time saving than the traditional techniques.
- Greater potential and workability for observation and analysis.
- The reflective quality of wired communication.

E-retail Segment

It is generally referred to the way people shop online or take online services for shopping. Nowadays online shopping is becoming very popular among most of the people. Some of the researcher's call it as retail therapy too as it helps in reducing the stress. People love to enjoy home-based services from a single click. From groceries, gardening, clothes, footwear, books, furniture, electronics etc is available to order online. Many E-retail companies are catering these doorstep services. Marketers are coming up with new ideas and choices for the consumers. New tactics has been evolved and implemented for increasing the sale of the products. Even new products has been introduced in the market considering the online scenarios.

OBJECTIVES

- To explore the E-retail segment through netnography.
- To understand consumer buying behavior with respect to E-retail segment.

METHODOLOGY

The methodology used for this study is netnography. The researcher indulges in submerged and synergy in networked communities related to E-retail segment.

LIMITATIONS

- 2-3 networked societies is considered for the research
- The research focuses only on the lifestyle segment.
- The data and the information collected in the synergy are treated as legitimate.

REVIEW LITERATURE

In this paper "Appraising Netnography: Towards Insights About New Markets In The Digital Tourist Era", the researcher inculcated that netnography is a natural technique for exaggerating online contribution and it plays valuable role in understanding of new growth of market and change in the market of the traveling.(Mao-Ying WU & Philip L. Pearce) 2013.

In the research paper "Using Netnography Research Method to Reveal the Underlying Dimensions of the Customer/Tourist Experience", highlighted that different questions being asked to the customers constitutes the experience face by the customers. Research was done on the travel industry of Egypt and interpreted the findings of the customers. (Ahmed Rageh & T.C Melewar 2012).

In the research paper " A Netnography Of War Heritage Sites Online Narratives: User Generated Content And Destinations Marketing Organisations Communication At Comparison", suggested that to evaluate the evidence of the sharing of knowledge within the communities which are virtual by nature about the sites of war heritage to examines the narrative of the customer. (Anna Irimias 2018)

In the research paper titled "Applying Netnography To Market Research: The Case Of Online Forum" reviewed that we must explore the ways and techniques of the netnography to understand the importance of the electronic word of mouth on the decision making process of the customers. Researcher concluded with the implication of the techniques of netnography for both academic research and marketing application.(Jiyao Xun & Jonathan Reynolds,2010)

In the research paper "The Construct Lifestyle In Market Segmentation The Behaviour Of Tourist Consumers", reviewed that consumers are now a day's getting more personalized regarding their choices. They are less elaborated by the socio-cultural factors. As the market is versatile by nature, so the consumers need depth knowledge for each and every aspect of the segmented target market.(Ana 2002)

In the research paper "The internet impact on purchase: Insights from Portugal", described in two stage process i.e. First is alternatives for evaluation and second is buying trends. Research elaborated the availability of touristic products and searching the value on the purchasing behaviour of the customers. In nutshell researcher concluded the different trends in consumer behaviour and technology adopted by Portugal's.(Carmen M,Ana S & Alessandro I. 2015)

In the research paper " A review and analysis of literature on Netnographic research", inculcated that it explores the electronic word of mouth and trends of consumer behaviour by the way of ethnographic research via online. The study concluded a descriptive review and depth analysis of literature based on academic on netnography. The research also includes the citation, content and different articles of the author.(Michael B, Vijai K & Hanna S.2016)

KEY FACTORS OF ONLINE CONSUMER BEHAVIOUR

While studying the online consumer behaviour the three main factors bind the online communities. Firstly, the network between the community members plays an important role. In other words we can say that it is the sense of belongingness that helps binding the communities. Secondly, it is the amalgamation of ethics and values that the members of the community possess and share with each other. Thirdly, it is more or less the responsibility of the members towards each other and towards the community.

Netnography is the main technique that is being used for this study. It is being used to explore and analyze the value and motif. It is also known that there has been a constitutional shift in the E-retail (lifestyle) segment.

For the research purpose, three lifestyle communities were chosen upon. They were amazon, flipkart and Snapdeal. Amazon was selected out of these as it has highest amount of online traffic. Approximately 100 new threads that are being discussed every day. This community has more than 1000 members out of which almost 950 members take active participation. The member's shows great respect and decency towards each other and always ready to help each other.

It uses a very simple method of network analysis. In these kind of online communities generally the participants are opinioned, minglers and shoppers. People in the age group of 20-40 years are more active in this community specially the females.(Muchazondida Mkono.2012).

Netnography is a technique in which researcher observers and participate if necessary. For this study also researcher was immersed in the virtual community for more than 15 weeks (between February and May 2021) and read hundreds of threads. Besides this several books, blogs, journals, write ups related to lifestyle segment were also studied. Out of hundreds of threads only 250 threads were downloaded and studied. Prior to downloading the threads were categorized as relevant and non-relevant. Say for example "Most valuable online platform in India and world and all items are great and beautiful working wow excellent service too", "It's my favourite online shopping platform. I love it everything is available here. It's very good. Service is also very good" were considered. The threads which were rich in the content and descriptive in nature were given the most importance.

Manual analytical coding and hermeneutic interpretation was used for data analysis and interpretation of findings. The most difficult thing for the researcher was the interpretation of the data as its mostly long winded. It was very necessary for the researcher to have proper knowledge and information about the particular virtual culture.(Kozinets, 2006)

For any research sampling plays an important role. And in netnography it is the utmost important thing as a part of the technique. It is very important to choose the threads carefully and utilize them according to the purpose of the study.

RESULT AND FINDINGS

a) A Better Understanding

E-retail is very important aspect of life nowadays. It include different facet like encouragement, going back and connecting with people etc. Online shopping has become an interesting hobby for the young generation now. Covering new heights, new tastes, continents the list goes on with the wisdom. Now online shopping has changed its mood and it has becomes a greater stress reliever.(Almquist E & Kennith J 2000). Weekends are getting more are more attention as companies are providing special discounts. People meet new people, learn new culture, ethics and they try to understand their emotional quotient also. It included the threads like

- "Amazing services, very fast and safe delivery."
- "I love all the products on amazon. I can shop easily any products under a roof. Products quality is so good also there is no delay in delivery".
- Good services by amazon, probably one of the best sellers worldwide. I love the way their services are delivered to each and every customer".

b) Culture and Community

Culture and community can be linked to the social class and passion in the society. Some participants used the threads like

- Good product and really useful, autocut option is an added feature
- Good material and very sturdy. Blades are well designed and does the work. The string also has a good mechanism better than PIGEON.
- I was looking for this for a long time and finally found it here with very good condition.

It was also observed that participants also ask for recommendations, advice and suggestions for the particular products like

- How long is the tripod, will i be able to click pictures while standing if my height is 5.6
- Can we use hot plate for cooking something else???
- The plastic jar unbreakable as its by wonderchef??

c) Anotherness

E-retail segment has a tremendous scope in the virtual world. The participants on amazon provide a deep rainbow of experiences and feelings. They have been discussing on the forum about the different products, trends, discounts etc. This all shows that shoppers lead the society as culture plays an important role in dominating the purchase behaviour of the participants.

d) Value Creation

Virtual communities help to share the experiences, ideas, feelings with the people of same interests. Sense of belongingness helps the communities build strong relationship between the members. Community members act as brand ambassadors of goodwill of the communities.

CONCLUSION

All over the world people have accepted the virtual communities as a major part of their lives and lot of research can happen in the area of studying the consumer behavior related to lifestyle segment using netnography. Netnography is a technique which helps to release many aspects which are occurring naturally in the online medium. This kind of data and information cannot be obtained by focus interviews or personal discussions. It is a mixture of factors like joy, expectations, experiences, happiness, online awareness etc.

This study reveals that members on the amazon are very active in nature. The community's members actively participate support each other and are very passionate about every aspect of the discussion. This helps the participants in encouraging and spreading their skills across the community.

Netnography is a secret tool for the marketers to have the customer insights and can obtain useful and important information which can be similar to the information provided by the lead users. (Robert .V. Kozinets.2010) This information is in the form of uninterrupted and accessible form.

Careful evaluation of the online data is very important to understand the connection between the various virtual communities. Hence, virtual communities give practical and remarkable opportunities for marketing.

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INTERFACING OF AD9833 WITH RASPBERRY PI3 FOR PURE TONE AUDIOMETRY WITH TESTING OF SIGNALS PERFORMANCE

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ABSTRACT

In audiometry applications and projects, there is a need to generate periodical signals like sinusoidal, square and triangle wave forms. This paper describes a simple and accurate method for the generating periodical signals. The AD9833 (DDS) interfaced with Raspberry Pi for the generate periodical signals namely sinusoidal, square and triangle form. The applications of these signals for pure tone audiogram test for hearing. The software for this audiometer is implemented in Python platform.

***Keywords** - audiometry, periodical signals, Raspberry Pi and Python software.*

Introduction

The block diagram of Interfacing of AD9833 with Raspberry pi3 for pure tone audiometry consists of blocks, i.e. Raspberry Pi, AD 9833, LM 386 and Speaker.

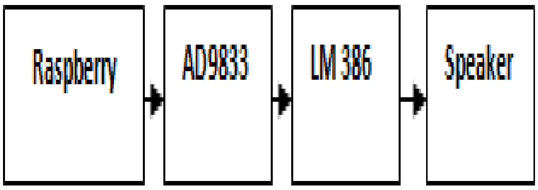


Figure. 1: Interfacing of AD9833 with Raspberry pi3 for pure tone audiometry

i. Raspberry Pi (Computer Board)

The Raspberry Pi 3 is the third generation model of Raspberry Pi. This is a nano computer, based on the ARM processor, mechanically compatible system having modules of processor, memory, eMMC Flash (on non-Lite variants) and supporting power circuitry [1]. Which provides leverage to the user for compute rial Operations of the Raspberry Pi, hard ware and software. These modules also have extra IO interfaces over and above what is available on the Raspberry Pi model A/B boards, opening up more options for the designer.

ii. AD9833 (DDS)

The AD 9833 is a programmable waveform generator (DDS) capable of producing sinusoidal signals square and triangular waveforms. It will consume low power. Frequency, phase is software programmable, allowing easy tuning without external components. It has 28 bit frequency register with a 25 MHz clock rate provides resolution of 0.1Hz and with a 1 MHz clock rate, the resolution of 0.004 Hz achieved[2].

iii. LM386 (Audio Amplifier)

The LM386 is audio frequency amplifier it consumes less power. Which is commonly used in small audio signal amplification and operating voltages are in this range from 4V–12V or 5V–18V. It is possible to control the volume by a variable Potentiometer for gain 20 to 200. It has features of battery operation, minimum external parts, wide supply voltages range, low quiescent current, drain of 4mA, voltage gains from 20 to 200, ground referenced input and self-centering output quiescent voltage [3].

iv. Speaker

The Speaker is to produce audio output and speaker is transducer that converts electrical input into sound waves.

Circuit Diagram:

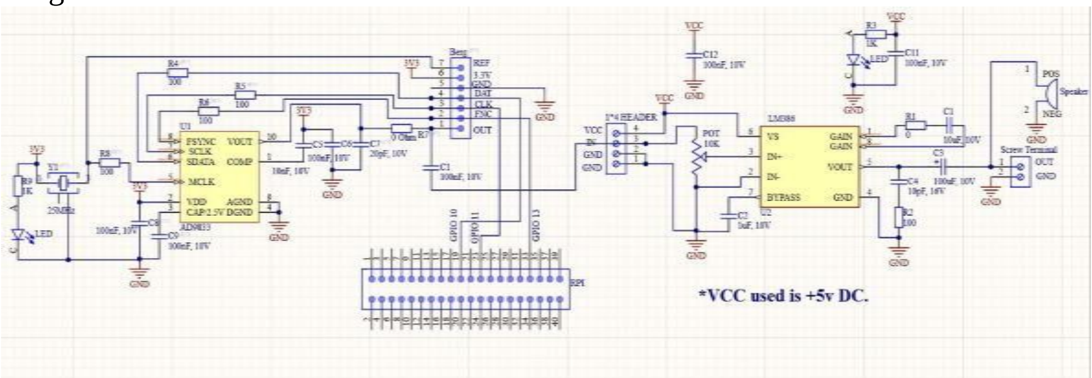


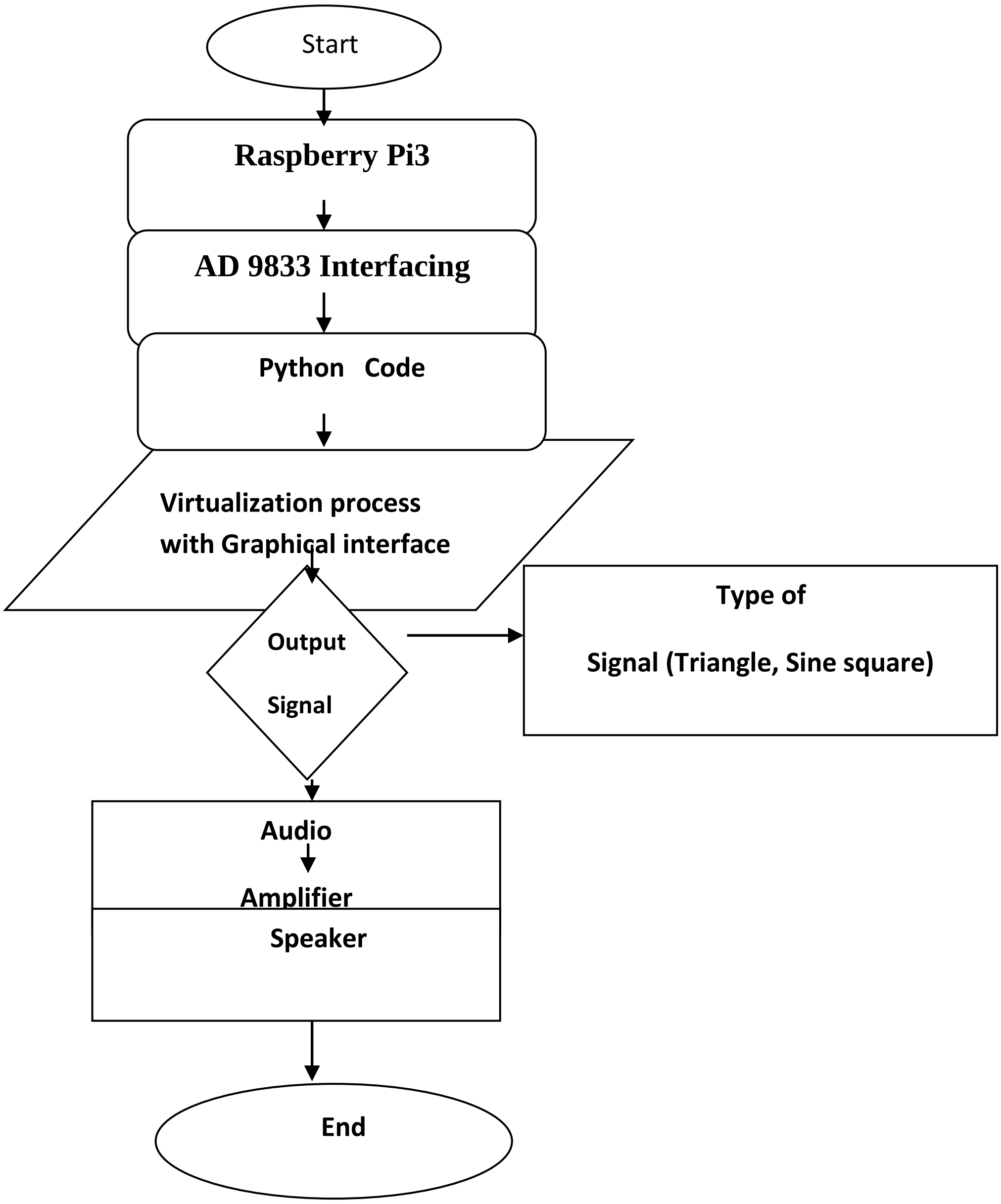
Figure 2: shows the serial interface between the AD9833 and the Raspberry Pi.

Interfacing of AD9833 with RPI

For SPI, three cables are connected between Raspberry Pi and AD9833. The Raspberry Pi GPIO10 (Pin 19) line is a MOSI (Master out salve in) is connected pin 6 SDATA Serial Data Input of the AD9833. This one is a 16-bit serial data- word is applied to input to select the sinusoidal output. GPIO11 (Pin 23) line is a SCLK(Serial Clock) is connected AD9833 (Pin7) SCLK(Serial Clock) Input. Data is clocked into the AD9833 on each falling edge of SCLK. The GPIO13 (Pin 33) line is a PWM 1 (Pulse width Modulation) is connected FSYNC of AD9833 for active low control input. The AD9833 (pin 8) FSYNC Active Low Control Input. FSYNC is the frame synchronization signal for the input data. When FSYNC is taken low, the internal logic is informed that a new word is being loaded into the device. The output of AD9833 is connected to the LM386 to amplify and drive the signal. Output of LM386 is connected to the speaker or Head Phone.

Software Coding

The program is implemented through Python software, Python is an example of a language that does everything right within the domain of things that it’s designed To do and the amazing thing about Python is that one can write an application on one platform and use it on every other platform that you need to support. In contrast to other programming languages that promised to provide platform independence, Python really does make that independence possible. In this case, the promise is as good as the result one canget [4].



#!/usr/bin/python import spidev import time import RPi.GPIO as GPIO import sys, getopt

'''Run script
#python dds1PhaseArg.py -f 200
-p 90 -s sine '''
FSYNC1=19
spi1=spidev.SpiDev()

'''Run script
#python dds2PhaseArg.py -f 200
-p 90 -s sine '''

#this method is responsible for sending data through SPI bus defsend_data1(input):
#time.sleep(1/100000) tx_lsb = input & 0xFF tx_msb = input>>8 GPIO. out put(FSYNC,GPIO.LOW)
#Set FSYNC LOW
spi1.xfer([tx_msb,tx_lsb])

#GPIO.output(FSYNC,GPIO.HIGH)
#Set FSYNC high print(input)
#time.sleep(1/1000)

def setFreqPhase1(freq_out,phase,si gnal): #24
Two28 = 268435456 #this value equal to the 2^28
#calculation for the frequency

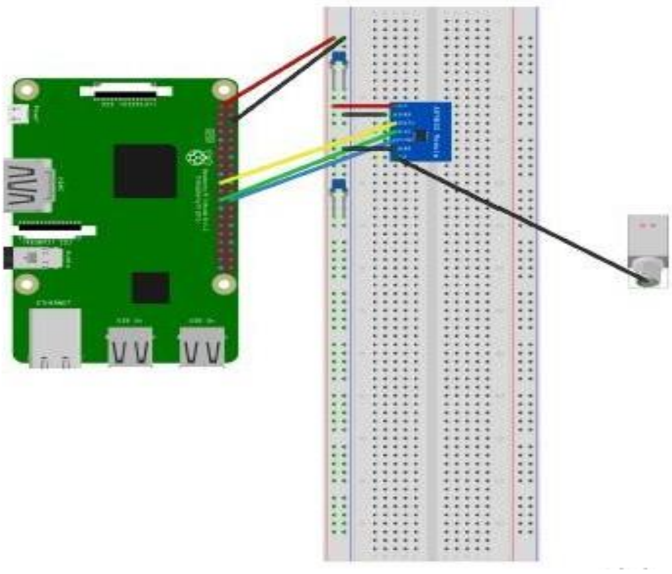
freq_word=int(round(float((freq _out/2) * Two28)/25000000))
print(freq_word) #frequency word divide to two parts as MSB and LSB.
# 3FFF ->0011 1111 1111 1111
LSB = (freq_word & 0x3FFF) # FFFC ->00 1111 1111 1100
0000 0000

MSB = (freq_word & 0xFFFC000)>>14
#DB15 and DB14 are set to 0 and 1
LSB |= 0x4000
#DB15 and DB14 are set to 0 and 1
MSB |= 0x4000
#DB15, DB14,DB13 = 110 DB12
=x
#respectively, which is the address for Phase Register 0.
#The remaining 12 bits are the data bits and are all 0s in this case
phase |= 0xC000
#0x2100 - Control Register
GPIO.output(FSYNC1,GPIO.LOW)
#Set FSYNC LOW
send_data1(0x2100)

GPIO.output(FSYNC1,GPIO.HIGH)
GPIO.output(FSYNC1,GPIO.LOW)
#sending phase #send_data(phase) #sending LSB and MSB send_data1(LSB)
send_data1(MSB)

GPIO.output(FSYNC1,GPIO.HIGH)
GPIO.output(FSYNC1,GPIO.LOW)
send_data1(phase)

GPIO.o utput(FSYNC1,GPIO.HIGH)
GPIO.output(FSYNC1,GPIO.LOW)
if signal == 'sine': send_data1(0x2000)
#0x2000- for sine wav , 0x2002
- for tiangle wav 0x2020- square wave
if signal == 'square': send_data1(0x2028)
if signal == 'triangle': send_data1(0x2002)
GPIO.out put(FSYNC1,GPIO.HIGH) #Set FSYNC LOW
def main(argv): input Frq = 100
inputPhase = 0 input Signal = 'sine' try:
opts, args = getopt. getopt(argv,"hf:p:s:",["ifrq=","iphase=","I signal="]) except getopt. Getopt Error:
print 'ddsArg.py -f
<input freq> -p <input phase> -s
<input signal>'
sys. exit(2)
for opt, arg in opts: if opt == '-h':
print 'ddsArg.py -f
<input freq> -p <input phase> -s
<input signal>'
sys. exit()
elif opt in ("-f", "-- ifrq"):
# to use Raspberry Pi board pin numbers
GPIO. set mode(GPIO.BCM) GPIO.set up(FSYNC1,GPIO.OUT)
#preparing SPI #spi=spidev. SpiDev() spi1.open(0,1) spi1.max_speed_hz=976000 spi1.mode = 0b00 setFreqPhase1(input Frq, Input Phase, input Signal) time. sleep(1)
if
input Frq = int(arg) elif opt in ("-p", "--iphase"):
input Phase = int(arg) elif opt in ("-s", "--isignal"):
input Signal = arg print input Frq, input Phase,
input Signal '''application, with Data,clk, function, vcc& ground connections'''
GPIO.set warnings(False)
to use Raspberry Pi board pin numbers
GPIO.set mode(GPIO.BCM) GPIO.set up(FSYNC1,GPIO.OUT)
#preparing SPI #spi=spidev.SpiDev() spi1.open(0,1) spi1.max_speed_hz=976000 spi1.mode = 0b00 setFreqPhase1(input Frq, Input Phase, input Signal) time. sleep(1)
if



This section focus on the circuit to generate periodic signals and the Python program as the interface between the user and the generator. This makes easier the writing on the registers. A circuit wiring of the AD9833 on the Raspberry Pi is described below :

Figure 3 : AD9833 Interfacing with Raspberry PI

To use the generator, a constant voltage is needed. The fixed voltage 3.3V is used from the Raspberry Pi. Three cables are used for the communication between the two devices using SPI. There is no MISO cable because the waveform generator did not send data to the Raspberry Pi, the communication between them is unilateral.

B. Python program

To change the characteristics of the output signal, it is needed to send 16-bits words to the AD9833. These words contain the parameters needed to the manipulation of the registers. However, perform this task is not straightforward. For example, to change the frequency of the signal, it is necessary to send three words: one as a control word, which is used as a message to the AD9833 to say that is wanted to change the frequency register. The two last words contain the 28 bits of the

There are also two cables for the ground (one analog and other digital), which are connected to the ground of the Raspberry Pi. The signal generated by the AD9833. It is also necessary to uncouple the power supply using two capacitors of 0.1 µF and 10 µF. Those capacitors are used to reduce the Power supply noise in the output signal.

frequency value, spitted as the 14 MSBs and the 14 LSBs. Thus, a Python program was written in order to make these modifications on the output signal easier. Firstly, it was working only in console, but the second version of it was written and added a graphical interface and allow the support of CSV file (we can load a CSV file and save a configuration in this format). When launching the program, it is possible to choose the working mode. The graphical interface is presented below.

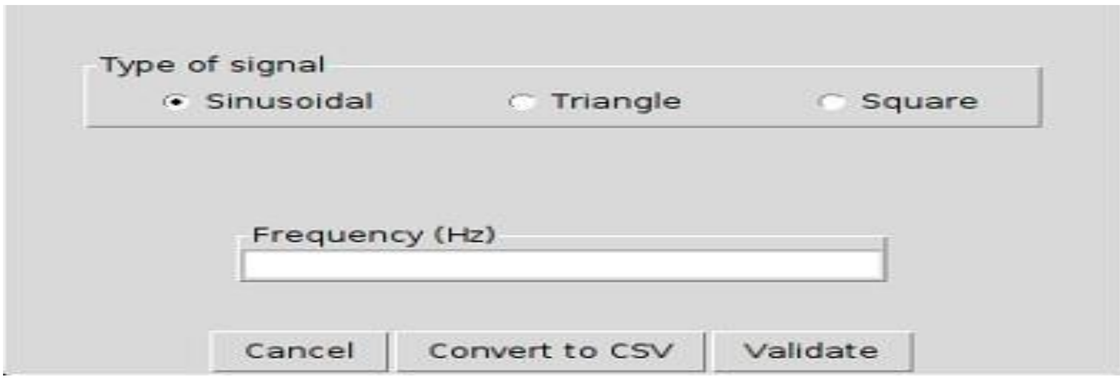


Figure. 4 : Graphical interface

The interface is simple: there are just two parameters, the type of signal and the frequency. These parameters can be easily changed without re launching the program or unplugging the generator. It is just needed to pay attention to the GPIO ports: the program just load one SPI interface (more precisely, the SPI0 interface). If the cables are not connected to the good ports, the messages will not be send. Even working on graphical mode, console mode or by importing a CSV file, the program finally call a function, which transform the data into binary words and then send them. The function is separated two cases: the first case is the sinusoidal and triangle one, and the second is the square one. That is because this type of signal is controlled by two bits in the control register, which named OPBITEN and MODE (bits 5 and 1). When the OPBITEN bit is at 0, the output is fixed by the value of the MODE bit. Conversely, when the OPBITEN is at 1, the output of ADC1 is not connected to the output of the generator, but this is the value of the MSB. This generates a square wave, which is useful as a coarse clock.

OPBITEN MODE OUPUT

0 Sinusoidal wave
1 Triangle wave
0 Square wave
1 1 Square wave

Fig. 4 : Summary table of the OPBITEN and MODE bits. These two cases create two different words, which are called "Control words", then the program will send two other binary words which set the frequency by changing the value of the frequency register. There are two frequency registers on the AD9833, but using the other one is not necessary in this case. Moreover, changing the frequency register can be done just by changing the value of the bit 11, the FSELECT bit, in the control word. The frequency word is calculated using the following equation: word = f req fclk ×228 Where f req is the frequency of the output signal, and fclk the frequency of the clock. The factor 228 is because the frequency is transformed into a word of 28bits.

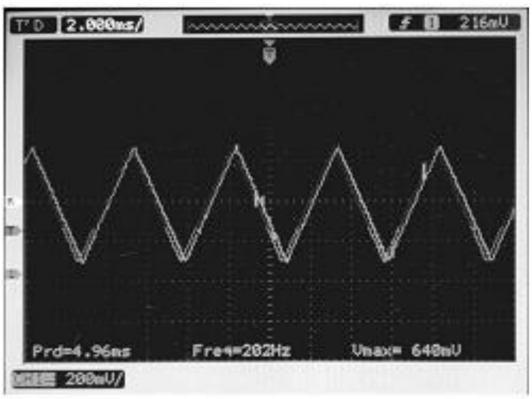
Results and Possible Improvements

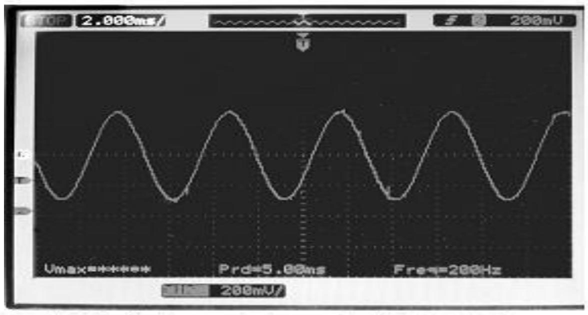
After setting up the electrical circuit, as it is described in the Fig. 4, some tests were done by observing the output signal on an oscillator.

Output waves

Activate the GPIO ports and the SPI protocol on the Raspberry Pi settings is necessary here, whitout them the generator will not work. Then some tests were done with the different modes of the program. Examples of the generated waves are presented below.

Figure. 5 : Sinusoidal output





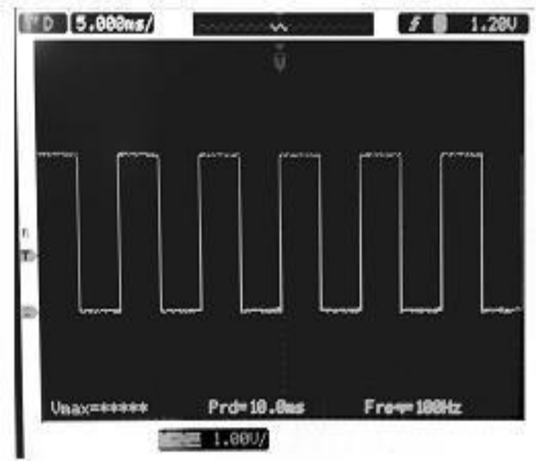


Figure. 6 : Square output

Figure. 7 : Triangle output

The results show that the generated signals are noisy. The following subsection shows ways to reduce the noise.

A. Improvements

This subsection shows some improvements that can be made on the system, both in hardware and software

Generated signal

As it was said in the subsection IV.A, there is noise on the signal, but it can reduced by using filtering some methods. Indeed, the form of the output signal is known, the theatrical signal.

Python program

The Python program can be also upgraded: changes on the graphical interface to make it more complete, by adding management of the phase of the signal for example. For the console mode, a more convenient interface can be created. On the second version, to change the settings of the output signal it is necessary to restart the entire program. So, it is possible to create an interface similar to the graphical interface but working in the terminal. Finally, it is possible to add features to change every setting of the AD9833 and use it with its full potential.

Virtualization

The main problem here is that the device cannot be shared over the network. It is connected to the Raspberry Pi using GPIO ports, but not USB. Another micro- controller can be added as an intermediary between the Raspberry Pi (or the server) and the generator. That micro-controller will be connected to the USB port, and then it can be shared over the network. For example, a STM32 or an Arduino can be used. Instead of sharing the generator directly, the micro-controller is shared. However, it is needed to make drastic changes in the program to make it work on the micro-controller. The other solution is to use a SPI-USB interface. This kind of device is cheaper than a micro-controller and the changes on the Python program will be less important.

Conclusion

In Conclusion, the AD9833 offers a cheap way to generate different types of periodic signals, combined to a Raspberry pi, research work can be done easily. The conventional function generator cannot be develop after 3 MHZ. The AD 9833 gives high quality, low distortion, precision frequency can be programmed. this ideal device can generate pure sin wave for pure tone audiogram.

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HUMAN RESOURCE MANAGEMENT PRACTICES ADOPTED IN HOTELS IN HYDERABAD.

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Introduction

Human Resource management is the effective management of people in the organization, and it helps to bridge the gap between employee's performance and organization's objectives. The main purposes of human resource department are recruitment and selection, wages and salaries, performance analysis, training, and development and human resource planning[i]. Tourism is travel for pleasure or business and staying places outside their usual environment for leisure. Tourism is the important economic activity and provide lot employment opportunity[ii]. Among the different elements of tourism, accommodation is the major one. The accommodation and food for the tourists are provided by hotels in the tourism destination. The tourist's satisfaction depends upon the care taken by the hotel employee. The performance of the hotel employee depends on how the organization strategically manage human resource. By realizing the importance of human resource in the in hotels, the study is planned to find out the human resource management practices adopted in hotels in Hyderabad, the queen of hill station situated in western ghats.

Objectives: To analyze the profile of the employees working in the Hotels in Hyderabad

To find out the selection procedures followed in the Hotels.

To assess the employee's satisfaction towards recruitment process adopted by the organization.

To assess the employee's satisfaction towards relationship with others within the organization, current job, working environment, job security etc.

To understand the employee appraisal system followed in the organization.

To examine the source for determining the performance of the employee.

To measure the efficacy of the motivational and improvement course conducted.

Method of the study: Using the standard questionnaire, the needed information was collected and tabulated and statistically analyzed. Table. Percentage and diagrammatic analysis have been applied in this study. In addition to analyze the attitude and opinion of the employees regarding the selection procedure and the level of job satisfaction, ranking technique have been adopted and weighted average have been used for arriving scores for the rank.

Period of study: The study was confined to a period from November 2019 to January2020 and Collection of secondary data and primary data was carried out during this period.

ANALYSIS AND INTERPRETATION

1. PROFILE OF THE EMPLOYEES:

1.1 GENDER

Out of 100 employees examined, it is observed that 76 percent are male, and 24 percent are female.

TABLE 1 GENDER

Gender	No. of Employee	Percentage (%)
Male	76	76
Female	24	24
Total	100	100

Source: Primary data

The above table shows that most of the employees working in hotels are male.

1.2 AGE OF THE RESSPONDENTS

Employees working efficiency is declines with age. Age is an important factor which helps in human resource planning.

Out of 100 employees surveyed , 28 % are in the age group between 20 and 30 years, 34 % are in the age ranging from 31 to 40 years, 22 percent are in between 41 and 50 years and other ae above 50 years of age.

TABLE 2 AGE

Age Range	Number of Respondents	Percentage (%)
20-30	24	24
31-40	37	37
41-50	23	23
Above 50	16	16
Total	100	100

Source: Primary data

The table shows that most (61 per cent) of employees are having age between 29 and 40. It is implied that the middle age group have efficient working force for the service industry.

1.3 MARITAL STATUS

Of the 100 respondents surveyed, married employees are 61 percent and 39 percent are unmarried.

TABLE 3 EMPLOYEE MARITAL STATUS

Employee Marital status	No. of Respondents	Percentage
Married	61	61
Unmarried	39	39
Total	100	100

Source: Primary data

The study indicates that the majority of the employees are married. It is inferred that married employees will have family commitments and they may not leave the organization.

1.4 EXPERIENCE:

Out of hundred employees interacted, 33 per cent are having experience less than 5 years, 28 per cent are having experience of 5 to 10 years. 23 per cent are having experience of 11 to 15 years and the remaining 16 per cent are having experience more than 20 years.

TABLE 4 YEARS OF EXPERIENCE

Experience in years	Number of Respondents	Percentage (%)
>5	33	33
5 – 10	28	28
11 – 15	23	23
Above 20	16	16
Total	100	100

Source: Primary data

The above table implies that the most (51 per cent) of the employees are in having working experience of 5 to 15 years. It is inferred that the experienced employees will contribute better services to organization.

1.5 EDUCATION

Since the education plays an vital role in the decision-making method the study also analyses the educational status of the respondents. Of the 100 respondents surveyed, 22 per cent are professionals, 38 per cent has completed schooling, 26 per cent are graduates and 7 per cent completed higher education and the remaining 7 per cent are comes others categories like no formal education etc.

TABLE 5 EMPLOYEE EDUCATION

Details	No of	Percentage

	Respondents	
Professional	22	22
School	38	38
College Graduation	26	26
Higher Education	07	07
Others	07	07
Total	100	100

Source: Primary data.

The study implies that most (64 per cent) of the respondents are High school and College Graduates. It shows that educated persons will have well understanding about service issues. Only 6per cent respondents have no formal education. They belong to housekeeping department.

2. **RECRUITMENT AND SELECTION:**

2.1 SELECTION PROCESS:

Out of hundred employees surveyed, 55 per cent of the respondents are attended the preliminary interview, 45 per cent attended the selection tests, 100 per cent of the respondents attended employment interview, 51 per cent are subjected to reference and background analysis, 45 per cent are involved in selection decision, 30 per cent went for physical examination, 100 per cent are provided with job offer and 45 per cent are given employment contract.

TABLE 6SELECTION PROCESS

Selection procedure	No. of Respondents	Percentage (%)
Preliminary interview	55	55
Selection tests	45	45
Employment interview	100	100
Reference and background analysis	51	51
Selection decision	45	45
Physical examination	30	30
Job offer	100	100
Employment contract	45	45

The above table indicates that most of the employees have come across the selection procedures like preliminary interview, selection tests, employment interview, reference and background analysis and job offer.

2.2. RECRUITMENT POLICY OF THE ORGANISATION:

Out of 100 employees surveyed, 14 percent of the employees are highly satisfied about the recruitment policy of the organization, 54 per cent are satisfied with the recruitment policy, 25 per cent are moderately satisfied and 7 per cent have dissatisfied.

TABLE: 7 RECRUITMENT POLICY OF THE ORGANISATION

Particulars	No. of respondents	Percentage
Highly dissatisfied	0	0
Dissatisfied	7	7
Moderate	25	25
Satisfied	54	54
Highly Satisfied	14	14
Total	100	100

Source: Primary data

The study reveals that 54 per cent of the employees are fulfilled with the recruitment policy of the organization.

2.3 SELECTION PROGRAM CONSISTENT WITH HRM THEORY AND PRACTICE:

Of the 100 respondents surveyed, 80 percent of the employees admitted that the selection program is consistent with HRM theory and practice. Remaining 20 per cent of the respondents felt the program is not consistent with HRM theory and practice.

TABLE 8 SELECTION PROGRAM CONSISTENT WITH HRM THEORY AND PRACTICE:

Particulars	No. of respondents	Percentage
Yes	80	80
No	20	20
Total	100	100

Source: Primary data

The above table indicates that most of the respondents are agreed that the selection program are consistent with HRM theory and practice.

2.4 EMPLOYMENT POLICY CONSISTENT WITH THE PUBLIC POLICY:

Of the 100 respondents surveyed, 82 per cent of the respondents agreed that the employment policies consistent with the public policy. Remaining 18 per cent of the respondents felt the employment policy is not consistent with public policy.

TABLE 9 EMPLOYMENT POLICY CONSISTENT WITH THE PUBLIC POLICY:

Details	No. of employees	Percentage
Yes	82	82
No	18	18
Total	100	100

Source: Primary data

From the above , it is observed that most of the employees are agreed that the employment policies are consistent with the public policy.

2.5 RECRUITMENT BASED ON MERIT:

Of the 100 respondents surveyed, 61 percent of the employees granted that the recruitment is based on merit as “true”, 31 per cent says it is “sometime true” and remaining 8 per cent claimed it as “ not true”.

TABLE 10 RECRUITMENT BASED ON MERIT:

Particulars	No. of respondents	Percentage
True	61	61
Sometimes true	31	31
Not true	8	8
Total	100	100

Source: Primary data

The above table shows that most of the respondents are agreed that the recruitment is made based on merit alone.

2.6 RECRUITMENT IS MADE WITH NO DISCRIMINATION:

Of the 100 respondents surveyed, 51 percent of the employees participated in the survey agreed that the recruitment is made with no discrimination on the basis of caste, religion, linguistic background of the candidates as "true", 25 per cent says it is "sometime true" and remaining 24 per cent claimed it as "not true".

TABLE 11 RECRUITMENT IS MADE WITH NO DISCRIMINATION:

Particulars	No. of respondents	Percentage
True	51	51
Sometimes true	25	25
Not true	24	24
Total	100	100

Source: Primary data

From the above table it is noted that majority of the employees are agreed that recruitment is made with no discrimination.

2.7 TOP MANAGEMENT REVIEWS HUMAN RESOURCE PLAN: Of the 100 respondents surveyed, 55 percent of the respondents admitted that the top management reviews human resource plan every year as "true", 28 per cent says it is "sometime true" and remaining 17 per cent claimed it as "not true".

TABLE 12 TOP MANAGEMENT REVIEWS HUMAN RESOURCE PLAN EVERY YEAR:

Particulars	No. of respondents	Percentage
True	55	55
Sometimes true	28	28
Not true	17	17
Total	100	100

Source: Primary data

The above table indicates that most of the respondents are agreed that the top management reviews human resource plan every year.

2.8 SALARY FIXATION TO NEW EMPLOYEE:

Of the 100 respondents surveyed, 56 percent of the employees admitted that the salary of new employee, both internal and external wage structure are taken into account as "true", 29 per cent says it is "sometime true" and remaining 15 per cent claimed it as " not true".

TABLE 13 SALARY FIXATION TO NEW EMPLOYEE:

Particulars	No. of respondents	Percentage
True	56	56
Sometimes true	29	29
Not true	15	15
Total	100	100

Source: Primary data

It is observed from the above table that most of the respondents are agreed that the salary of new employee, both internal and external wage structure are taken into consideration.

2.9 TERMS AND CONDITIONS OF APPOINTMENT:

Of the 100 respondents surveyed, 60 percent of the employees participated in the survey agreed that the terms and conditions of appointment are clearly explained to every prospective employee well in advance as "true", 30 per cent says it is "sometime true" and remaining 10 per cent claimed it as " not true".

TABLE 14 TERMS AND CONDITIONS OF APPOINTMENT:

Details	No. of respondents	Percentage
True	60	60
Sometimes true	30	30
Not true	10	10
Total	100	100

Source: Primary data

From the above table, it is observed that most of the employees are agreed that the terms and conditions of appointment are clearly explained to every prospective employee well in advance.

2.10 ORIENTATION PROGRAM: Of the 100 respondents surveyed, 65 percent of the respondents agreed that the orientation program helps new employee to understand themselves and others as "true", 33 per cent says it is "sometime true" and remaining 2 per cent claimed it as " not true".

TABLE 15 ORIENTATION PROGRAM:

Details	No. of respondents	Percentage
True	65	65
Sometimes true	33	33
Not true	2	2
Total	100	100

Source: Primary data

It is observed from the above table that most of the respondents are agreed that the orientation program helps new employee to understand themselves and others.

JOB SATISFACTION

3.1 WORKING CONDITION OF THE ORGANISATION:

Of the 100 respondents surveyed, 14 percent of the employees are highly satisfied about the working condition of the organization, 58 percent are satisfied with the working condition, 21 percent are moderately- satisfied and 7 per cent have dissatisfied.

TABLE: 16 WORKING CONDITION OF THE ORGANISATION:

Details	No. of respondents	Percentage
Highly dissatisfied	0	0
Dissatisfied	7	7
Moderate	21	21
Satisfied	58	58
Highly satisfied	14	14
Total	100	100

Source: Primary data

The study shows that the majority (58 per cent) of the employees are satisfied with the working condition of the organization.

3.2 RELATIONSHIP BETWEEN MANAGEMENT AND UNION:

Of the 100 respondents surveyed, 8 per cent of the employees are highly cordial about the relationship between management and union, 50 per cent are cordial about the relationship between management and union, 32 per cent are moderately cordial and 10 per cent not cordial.

TABLE: 17 RELATIONSHIP BETWEEN MANAGEMENT AND UNION:

Particulars	No. of respondents	Percentage
Bitter	0	0
Not cordial	9	9
Moderate	33	33
Cordial	51	51
Highly Cordial	7	7
Total	100	100

Source: Primary data

The study discloses that the majority (51 per cent) of the employees are felt that there is a cordial relationship between management and union.

3.3. RELATIONSHIP BETWEEN EMPLOYEE AND MANAGEMENT:

Of the 100 respondents surveyed, 8 per cent of the employees are highly cordial about the relationship between management and employee, 53 per cent are cordial about the relationship between management and employee, 31 per cent are moderately cordial and 8 per cent not cordial.

TABLE: 18 RELATIONSHIP BETWEEN EMPLOYEE AND MANAGEMENT:

Particulars	No. of respondents	Percentage
Bitter	0	0
Not cordial	8	8
Moderate	31	31
Cordial	53	53
Highly Cordial	8	8
Total	100	100

Source: Primary data

The study discloses that the majority (53 per cent) of the employees are believed that there is a cordial relationship between management and employee.

3.4 COMPANY AND FAMILY MEMBERS AFFAIRS:

Of the 100 respondents surveyed, 6 per cent of the employees feels the level of affairs that the company provide to the family members as “very good”. 51 per cent of the employees feels the level of affairs that the company provide to the family members as “good” 25 per cent are fair and 18 per cent felt as ‘poor”.

TABLE: 19 COMPANY AND FAMILY MEMBERS AFFAIRS:

Particulars	No. of respondents	Percentage
Very poor	0	0
Poor	18	18
Fair	25	25
Good	51	51

Very good	6	6
Total	100	100

Source: Primary data

The above table indicates that most (51 per cent) of the employees are felt that the level of affairs between company and employee's family members are good.

3.5 JOB SATISFACTION: Of the 100 respondents surveyed, 12 percent of the employees are highly satisfied about current job, 58 per cent are satisfied, 30 per cent are moderately satisfied and none has dissatisfied.

TABLE: 20 JOB SATISFACTION:

Details	No. of employees	Percentage
Highly dissatisfied	0	0
Dissatisfied	0	0
Moderate	30	30
Satisfied	58	58
Highly Satisfied	12	12
Total	100	100

Source: Primary data

The above table exposes that the majority (60 percent) of the employees are satisfied about the current job.

3.6 JOB CHALLENGE:

Of the 100 respondents surveyed, 10 per cent of the employees felt that the current job is highly challenging, 52 per cent felt the job is challenging, 30 per cent felt as neutral and 8 per cent has felt as not challenging.

TABLE: 21. JOB CHALLENGE:

Particulars	No. of respondents	Percentage
None	00	00
Not challenging	08	08
Neutral	30	30
Challenging	52	52
Highly challenging	10	10
Total	100	100

Source: Primary data

The study exposes that the majority (52 per cent) of the employees are felt that the job is challenging.

3.7 JOB SECURITY: Of the 100 respondents surveyed, 15 percent of the employees are highly satisfied about the job security, 55 per cent are satisfied, 30 per cent are moderately satisfied and none has dissatisfied.

TABLE 22 JOB SECURITY:

Details	No. of employees	Percentage
Highly dissatisfied	0	0

Dissatisfied	0	0
Moderate	30	30
Satisfied	55	55
Highly Satisfied	15	15
Total	100	100

Source: Primary data

The study reveals that the most (55 per cent) of the employees are satisfied about the job security.

3.8 PROMOTION POLICY: Of the 100 respondents surveyed, 20 per cent of the employees are highly satisfied with the promotion policy of the company, 25 per cent are satisfied, 55 per cent are moderately satisfied and none has dissatisfied.

TABLE 23 PROMOTION POLICY

Details	No. of employees	Percentage
Highly dissatisfied	0	0
Dissatisfied	0	0
Moderate	55	55
Satisfied	25	25
Highly Satisfied	20	20
Total	100	100

Source: Primary data

The study reveals that the majority (55 per cent) of the employees are moderately satisfied with the promotion policy of the company.

3.9. PAY SYSTEM: Of the 100 respondents surveyed, 7 per cent of the employees are highly satisfied about the pay system, 31 per cent are satisfied, 52 per cent are moderately satisfied and 10 per cent has dissatisfied.

TABLE 24 PAY SYSTEM

Details	No. of respondents	Percentage
Highly dissatisfied	0	0
Dissatisfied	10	10
Moderate	52	52
Satisfied	31	31
Highly Satisfied	07	07
Total	100	100

Source: Primary data

The study unveils that the majority (52 per cent) of the employees are satisfied about the pay system adopted in the company.

3.10. SOCIAL RELATIONSHIP:

Of the 100 respondents surveyed, 15 percent of the employees are highly satisfied about the social relationship among the colleagues, 61 per cent are satisfied, 24 per cent are moderately satisfied and none has dissatisfied.

Details	No. of employees	Percentage
Highly dissatisfied	0	0
Dissatisfied	0	0
Moderate	24	24
Satisfied	61	61
Highly Satisfied	15	15
Total	100	100

TABLE 25 SOCIAL RELATIONSHIP

Source: Primary data

The study reveals that the majority (61 per cent) of the employees are satisfied about the social relationship among the colleagues.

3.11. MOTIVATION LEVEL:

Of the 100 respondents surveyed, 19 per cent of the employees are highly satisfied about the motivation level in the organization 51 per cent are satisfied with the level of motivation, 15 per cent are moderately satisfied and 15 per cent are dissatisfied.

TABLE 26 MOTIVATION LEVEL

Details	No. of respondents	Percentage
Highly dissatisfied	0	0
Dissatisfied	15	15
Moderate	15	15
Satisfied	51	51
Highly Satisfied	19	19
Total	100	100

Source: Primary data

The study reveals that the majority (51%) of the employees are satisfied about the motivation level in the organization.

3.12. COMMUNICATION SYSTEM: Of the 100 respondents surveyed, 12 per cent of the employees are highly satisfied about the communication system existing in the organization. 55 per cent are satisfied. 33 per cent are moderately satisfied and none has dissatisfied.

TABLE: 27 JOB SECURITY:

Details	No. of respondents	Percentage
Highly dissatisfied	0	0
Dissatisfied	0	0
Moderate	33	33
Satisfied	55	55
Highly Satisfied	12	12
Total	100	100

Source: Primary data

The research reveals that the majority (55 per cent) of the employees are satisfied about the job security.

TRAINING AND DEVELOPMENT

4.1. TRAINING AND DEVELOPMENT:

Of the 100 respondents surveyed, 12 percent of the employees are highly satisfied about the training and development program organized to the employee, 56 per cent are satisfied, 34 per cent are moderately satisfied and none has dissatisfied.

TABLE 28 TRAINING AND DEVELOPMENT

Details	No. of respondents	Percentage
Highly dissatisfied	0	0

Dissatisfied	0	0
Moderate	34	34
Satisfied	56	56
Highly Satisfied	12	12
Total	100	100

Source: Primary data

The research study reveals that the majority (56 %) of the employees are satisfied about the training and development program organized for the employee.

4.2 TRAINING INPUT: Of the 100 respondents surveyed, 100 percent of the respondents agreed that "specific job skills" is included as input in the training program, 55 per cent agreed "Education" was included as input in the training program, 84 per cent of the respondents agreed "Development" was included as input in the training program, 57 percent of the respondents agreed "Ethics" is included as input in the training program, 45 percent of the respondents agreed "Attitudinal change " is included as input in the training program , 43 per cent of the respondents agreed "Decision making" was included as input in the training program and 67 per cent of the respondents agreed "Problem solving technique" was included as input in the training program.

TABLE 29 TRAINING INPUT

Input detail	No. of Respondents	Percentage (%)
Specific job skills	100	100
Education	55	55
Development	84	84
Ethics	57	57
Attitudinal Changes	45	45
Decision making	43	43
Problem solving abilities	67	67

Source: Primary data

Majority of the employees responded the survey agreed that the program has included the input such as specific job skills,

4.3 TRAINING PROGRAM IMPORTANCE:

Of the 100 respondents surveyed, 100 per cent of the respondents grasped the importance of training program as " training improves job knowledge and skill" , 65 per cent realized as " training improves morale of work force", 55 per cent realized the importance of training program as " training improves relationship between boss and subordinate", 45 per cent understood as " training provides information for future need", 65 per cent realized the importance of training program as " training improves labor management relations", 45 per cent realized as " training helps in managing stress", 70 per cent realized as " training improves communication skills", 72 per cent realized as " training improves interpersonal skill".

TABLE 30 TRAINING PROGRAM IMPORTANCE:

Importance	No. of Respondents	Percentage (%)
Improves job knowledge and skill	100	100
Improve morale of work force	65	65
Improves relationship between boss and subordinate	55	55
Provides information for future needs	45	45
Improves labour management relations	65	65
Helps in managing stress	45	45

Improves communication skill	70	70
Improves interpersonal skill	72	72

Source: Primary data

Majority of the employees realized the training program helps to improves skills and knowledge, morale of work force, relationship between boss and subordinate, labour management relations communication skill and interpersonal skill.

PERFORMANCE APPRAISAL

5.1. APPRAISER: Of the 100 respondents surveyed, 75 percent of the respondents approved that the performance appraisal was conducted by respective managers and remaining 25 per cent of the respondents are agreed that their performance appraisal was conducted by the supervisors.

TABLE 31 APPRAISER:

Judge	No. of Respondents	Percentage (%)
Manager	75	75
Supervisor	25	25
Peer	0	0
Self	0	0
All above	0	0
Total	100	100

Source: Primary data

From the research study it is understood that performance appraisal was conducted to majority (75 per cent) of the respondents by Manager.

5.2. TIME INTERVAL:

Of the 100 respondents surveyed, 12 percent of the respondents admitted that the performance appraisal was conducted at interval of once in six months and remaining 88 per cent of the respondents are agreed that their performance appraisal was conducted once in a year.

TABLE 32 TIME INTERVAL:

Time interval	No. of Respondents	Percentage (%)
Once in a month	0	0
Once in three months	0	0
Once in six months	12	12
Once in a year	88	88
At any time	0	0
Total	100	100

From the above table it is understood that the performance appraisal was conducted to majority (88 per cent) of the respondents once in a year.

5.4. PERFORMANCE APPRAISAL SYSTEM:

Of the 100 respondents surveyed,11 per cent of employees are highly satisfied about the performance appraisal system of the organization, 55 per cent are satisfied, 28 per cent are moderately satisfied and 6 per cent have dissatisfied.

TABLE: 34 PERFORMANCE APPRAISAL SYSTEM

Details	No. of respondents	Percentage
Highly dissatisfied	0	0
Dissatisfied	6	6
Moderate	28	28
Satisfied	55	55
Highly Satisfied	11	11
Total	100	100

Source: Primary data

The above table indicates that most of the employees are express their satisfaction about the appraisal system.

5.5 JOB SATISFACTION:

The Job satisfaction element "Working condition" scored highest points (1306), followed by Current job (1304 points), Existing communication system (1296 points), Job security (1292 points), Social relationship among colleagues (1279 points), Motivation level (1276 points) Promotion policy (1275 points), and Pay system (1261 points).

HD-Highly Satisfied S – Satisfied

MS – Moderately Satisfied D – Dissatisfied HDS – Highly Dissatisfied

TABLE 35 OPINION ABOUT JOB SATISFACTION BY EMPLOYEES

	EMPLOYEES OPINION											
Satisfaction elements	HD (5)		S (4)		MS (3)		MS (2)		HDS (1)		Total	Rank
	Number	Score	Number	Score	Number	Score	Number	Score	Number	Score		
Working condition	18	90	195	780	142	426	5	10	0	0	1306	1
Current job	18	90	195	780	140	420	7	14	0	0	1304	2
Job security	17	85	185	740	151	453	7	14	0	0	1292	4
Promotion policy	12	60	175	700	169	507	4	8	0	0	1275	7
Pay system	16	80	157	628	179	537	8	16	0	0	1261	8
Social relationship among colleagues	12	60	176	704	171	513	1	2	0	0	1279	5
Motivation level	7	35	183	732	169	507	1	2	0	0	1276	6
Existing communication system	19	95	181	724	157	471	3	6	0	0	1296	3

From the above table the working condition, current job and communication system adopted is rated high. Promotion policy and pay system are rated low.

FINDINGS

- Majority of the employees in Hotels in the city of Hyderabad is Male.
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- It is observed from the study that majority of the employees age range is between 20 and 40 years.
- Most of the employees are married. It is understood that married employees will have family commitments and they may not leave the organization.
- The study shows that the majority (51 percent) of the respondents are in having working experience of 5 to 15 years. It is inferred that the experienced employees will contribute better services to organization.
- Regarding the education of the hotel employees, most of them are completed their high school education or college graduation..
- The study shows that the majority (54 per cent) of the workers are satisfied with the recruitment policy of the hotels.
- From the survey, it is noted that most of the respondents are agreed that the selection program are consistent with HRM theory and practice.
- Most of the hotel employees agreed that employment policies are consistent with the public policy.
- The research indicates that the employees are selected on merit basis and recruitment made with no discrimination.

- The top management review human resource plans every year and salary will be based on experience and qualification.
- Hotel employees agreed that the terms and conditions of appointment are clearly explained to every prospective employee well in advance.
- The study indicates that the orientation programme organized for new recruits helps to understand themselves and others.
- The study shows the working condition of the hotels is good and employees felt that there is a cordial relationship between management and workers union.
- The research indicates that the employees are felt that the level of affairs between company and employee's family members are good.
- The study shows that the majority (60 percent) of the employees are satisfied about the current job.
- The research reveals that the majority (52 per cent) of the employees are felt that the job is challenging.
- From the research it is observed that the majority (55 per cent) of the employees are satisfied about the job security.
- The study indicates that employees are moderately satisfied with the promotion policy of the hotels in Hyderabad.
- Hotel employees are satisfied about the pay system approved by the organization.
- The study observes that the social relationship among employees good.
- The study indicates that the employees are satisfied about the motivational level and job security.
- Majority of the respondents agreed that the program has included the input such as specific job skills, education, development, ethics and problem-solving abilities.
- Majority of the respondents realized the training program helps to improves skills and knowledge, morale of work force, relationship between boss and subordinate, labour management relations communication skill and interpersonal skill.
- From the study it is understood that the performance appraisal was conducted to majority (75 per cent) of the respondents by departmental supervisors.
- From the study it is understood that the performance appraisal was conducted to majority employees once in a year.
- From the study it is understood that the performance appraisal is being conducted once in a year and employees are satisfied about the appraisal system.

SUGGESTIONS

- ✓ Internal source is being prime source for recruiting employees; applicant's pool can be maintained for future reference.
- ✓ Advertisement can be effective; company can continue with the same.
- ✓ Recruitment is made on the basis of merit alone. The company can be maintaining the same to have right person for the right job.
- ✓ While fixing the salary of new employee, both internal and external wage structure are taken into consideration. Company can continue with the same.
- ✓ Need to improve cordial relationship between management and certain section of employees.
- ✓ Make the employee union to have more faith on company management.

RECOMMENDATIONS

- ➢ Social relationship among the colleague is friendly. Employees can maintain the same.
- ➢ Job security in the organization is satisfied by the employee. This is a good organizational strategy and same can be get maintained.
- ➢ Existing communication system is rated as satisfaction by the employees. But still there is room for improvement in the communication system adopted by the company.
- ➢ Issue based training program can be get arranged for the employees to improve their skills and update their knowledge in their professional working area.

- A special development program can be arranged for the executives in the organization.
- To improve the communication in the organization among the employees as well as between employees and elements in the external environment, training program can be arranged at regular interval.
- As a part of motivation to employees, company may grant to special bonus to the employees to do better work.
- The design of the orientation program can be modified in order to make new employees to understand about the organization culture, other employees and importance of customers for business development.
- Selection procedure can be made different for different categories of employees.
- Though few of the respondents felt there is no cordial relationship between company and management steps to be taken to improve the same.
- To improve the affairs between company and employee family members, company can help employees to find solution for the family problem.
- It is recommended that appraisal can be conducted within a team mutually so that the relationship and coordination level exist among the team can be get assessed.
- The performance appraisal can be conducted once in three months, which helps management to assess the employees contribution to the growth of the organization and as well as to facilitate the employee to involve much for the development of the organization.

CONCLUSION

Employees are important stakeholders of the organization and their contribution in the working area reflects on the overall performance of the organization. The study about HRM practices adopted by hotels in Hyderabad has made good findings and based on these , recommendations and suggestions were offered to improve the Human Resource Management practices to be adopted in Hotels of Hyderabad. By effectively implementing the suggestions and recommendations, the employee involvement and commitment for the organization development will be improved.

End note:

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[i] https://smallbusiness.chron.com/10-reasons-hr-important-organization-22424.html

[ii] https://en.wikipedia.org/wiki/World_Tourism_Organization