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Education and the Changing Scenarios

“Education is the most powerful weapon which you can use to change the world.” These words of Nelson Mandela are exactly true because all the changes in the society and the world at large are brought out by education. Education is a powerful tool for change. But today, the system of education also is changing. The change in the infrastructure, the change in the curriculum, the change in the teaching methods, the change in the accessibility of the teaching and learning method etc. are some of the examples of the changes happening in the education section. In short, we can say that the educational system is going through a change from top to bottom.

According to the New Educational Policy (NEP-20), the relevance of research becomes very relevant, and inevitable. According to Neil Armstrong (1930-2012), American astronaut famous for being the first man to walk on the Moon, “Research is creating new knowledge.” Albert Szent-Györgyi (1893-1986), a Hungarian pharmacologist who received the Nobel Prize in Medicine in 1937, tells, that “Research is seeing what everybody else has seen and thinking what nobody else has thought.” Taking these two references, we come to the conclusion that the research is something creates new information and knowledge from the existing factors that in general, nobody notices. In every advanced education system, there is always a special and unique place for research and research publications.

In this issue of *yuvista* International Multi Disciplinary Journal, there are ten research articles covering multi-disciplinary areas of research. Some of the articles are directly connected with education (Eg:- Article 1, 2, and 9), some are connected with business and marketing (Eg:- Articles 4, 5, 8, and 9), some other articles are connected with Banking, Leadership and customer engagement. If research is to create something new from the existing factors, we are proud to publish ten articles with different ideas and research results. Let these articles be the source of information and motivation for the whole research world.

Rev. Dr. Joseph Olikkalkoonal DSC., PhD

Chief Editor, *yuvista* International Multi Disciplinary Journal

OVERVIEW OF CURRENT TREND IN EDUCATION SECTOR THROUGH DIGITAL TRANSFORMATION IN INDIA

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ABSTRACT

The study is mainly focused on the overview and current trends of education in the India through digital transformation. The researcher has analysed the study through the secondary data only. In the study the author has narrate the opportunities, trends, limitations and challenges in digitalised transformation in educational industry. The study clearly shows the evaluation of digitalisation in education and banking sector also because these two sectors are boom in India after the digitalisation.

Keyword: *Digital Transformation, Educational Sector, Opportunity, Limitation, Challenge*
Current Trends of Education and Overview Of Digital Transformation In Education

INTRODUCTION

In India most emerging sector is education industry because current scenario every parent wants their children to be educated so they put much effort for their studies. In the research article about saving and investment in India most of the researcher said one thing the person who are working in private public and any other sector they save their money for two future purpose only

1. For their children's marriage
2. Children's higher educations. So our country all of them give more importance to the education.

Let split the situation into pre covid and post covid from one year many transformation was made in world wide.

Before covid we are all do our work in respective place we don't use the technology much more any sectors .in bank we are all go and deposit the money and withdrawn the money not use the UPI transaction more, education IT sector all the people are work in their respective places but after the covid around 2 month we don't have option do to the work on that time the digital transformation take a charge in all sectors especially in two major sectors one was banking industry and another one was Educational industry.

Those industries are boom like anything after that in India digital India take a charge people are make their transaction through UPI. Like that in educational industry there was a transformation through digitally it was new to everyone. After that the school

colleges and higher education institutes are make digital revolution in education industry. They started an online class to every student but one question is before covid also we have an online course in education industry the transformation is take a charge after a covid pandemic.



Figure 1: Digital transformation of education

OBJECTIVES OF STUDY

- To understand the overview of digital transformation in education sector.
- To focus the current trends of digital transformation in education industry

RESEARCH METHODOLOGY

The study is framed by the help of secondary data in descriptive nature this study can overview of the digital transformation of education industry.

What is a digital transformation?

Digital transformation is making a change and bridge the gap between the

environment, make hard work into smart work in education the DT will connect everything in single server in that all of us can interact, exchange the thought to other. It will make good relationship between the student and faculty in institution and help to grow the student and explore their knowledge and wisdom.

Why does digital transformation important to educators and institutions?

Before a decade all the students and faculty would went to institution to

take a concept as well as student are sitting in same class room listening the faculties lecturing but now a day it's totally changed because of digital transformation. Now the students are more knowledge about the technology in that the classrooms are play a vital role in education Digital transformation make a student as positive way to learn anything from anywhere from the world.

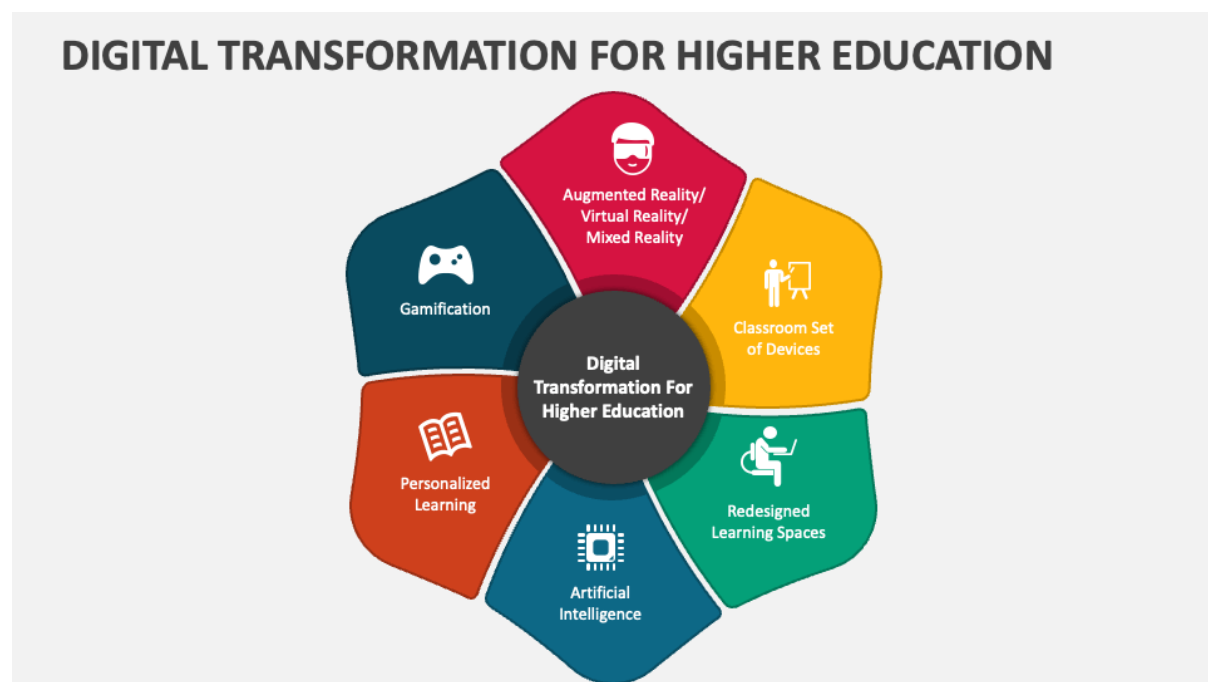


Figure 2: Digital transformation and opportunity

Opportunities of digital transformation in education

- Online classes
- Cost effective
- Learn and teach all over the world
- More resource for learning
- Easy management

- High quality of learning experience

LIMITATIONS AND CHALLENGES

- Consume more time for training
- Faculty don't know the student was listen or not
- Technical error may happen
- Lack of self-discipline
- Watching a computer harmful to eyes
- Spent some huge amount for learning devices
- It will make person as isolated

Current Trends of Digital Education

Digitalized classroom

Technology help the educators make the classroom to digital classroom it is the complete revolution in education sector because early of 2015 all student from college and school were listening the class with faculty interaction only but now all student have to listen the classes in anywhere because of technology in education after the 2021 there is huge transformation in the educational sector it make student to understand the concepts easier than traditional method of learning.

Video based learning.

Video based learning is wind age learning system but now we used in all

level of education modules where you remember earlier of 2005 KG students are learn the fruit and vegetables on this video based method but after long it merger with marketing strategy. In this the educator or instructor make a video regards the subject the student can easily access the video based content like more online education organisation byjus unacademy vedantu evn some educational institution makes video based class used for distance education.

Massive open online course (MOOCS) & Other distant learning programs

A massive open online course (MOOC) is an online course aimed at unlimited participation and open access via The web. India is considered to be the biggest market for moocs in the world after the USA. Since the Population of India is huge, massive open online course (MOOC) are said to gateways for a lot of Indians in Terms of bringing an educational revolution. Online distant learning programs give a great opportunity to avail High quality learning with the help of internet connectivity.

Learning Outside the Classroom Environment

Various technology trends in education keep changing the digital

world. Mobile-based devices have taken learning outside of the classroom. With learning and eLearning growing in popularity, students can learn at their own pace and time. This trend is expected to keep up as it is a convenient method of delivering as well as receiving the education. Designing mobile-first responsive content helps students to go through their courses anytime and anywhere.

Internet connection is no longer an issue with offline reading capabilities. eBooks can be embedded with many features to enhance the learning experience. Complete with annotation tools, bookmarks, hyperlinks, dictionary, search feature, an eBook makes learning more flexible. Most of the educational institutes today have adopted mobile learning into their learning ecosystems, benefiting students and teachers alike.

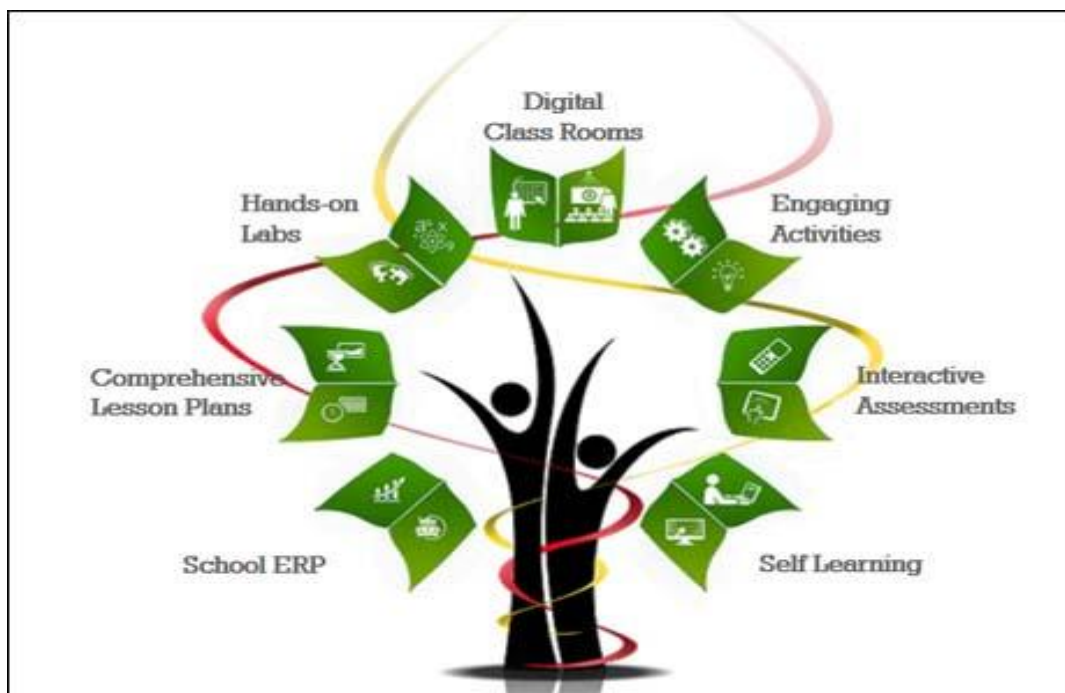


Figure 3: Current trends of digital education

CONCLUSION

Now a day all industry cannot run without technology but in education the technology makes educational revolution 4.0. today all of us learn the education from where ever we want and also people will do any courses in any country with in

his /her home itself so this much changes due to the help of technology and digitalisation. Now if any queries easily access internet and clear the doubt of the student not only student whoever have doubts so the study almost cover the

current trends in digital transformation of education industries

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A STUDY ON IMPACT OF LEARNING EXPERIENCE OF COLLEGE STUDENTS THROUGH DIGITAL CLASSROOM IN EDUCATION SECTOR

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ABSTRACT

The purpose of the study was how the students are impact on the digital class room from colleges the researcher can took a sample of 100 respondents and random sampling technique was used to data collection with the help of questionnaire .the statistical tool used to analyses and interpret the data from end of research the author was found most of the student are willing to digital classroom method on education system but the problem in digital classroom is isolated from others and technical issue faced by the students as well as teachers also so the education sector will improve the traditional to digital education system.

Keywords: *Digital Classrooms, Education Sector, Technology in Education and Digital Transformation*

INTRODUCTION

Education is the center of innovation because without knowledge people don't do nothing so power of education is the birth of technology. The technology was improved day by day in all industries like cinema food textiles ect but in education the growth of technology was more effective after the corona pandemic because before corona we are all usual do our work in respective places after corona we are all inside the home do our work on that time education industry have a revolution of technology through online education mode. Still it will continue after colleges and school reopened so it was a good initiative for education sector in the world.

OBJECTIVES

- To analyses the transformation of student in digital learning
- To know the impact of digital classroom in college campus

SCOPE OF STUDY

Past 100 years' humans are innovate more inventions by the help of technology through education because education is the initiate point of innovations. From the education give knowledge to the person to make new things to this world on the basis how the technology can transform this education sector to know the impact of digital classroom in colleges.

REVIEW OF LITERATURE

Pulkit (2020) In this study the researcher has said that in India is a place were more important to the education sector among the world. In India there more than 1.5 million schools and 65,000 colleges are here more than 300 million of students were studied in India. Indian education industry is ready to face major development in the after covid because India have world's biggest teen age people and biggest graduated country in the world.

R.Raja (2018) the researcher did a research on the importance of internet technology in education system in schools in Chennai and found that with the onset of latest technology like ICT, and other digital tools are very helpful to improve the knowledge of the students and also improve the lecturing of teachers In the school.

Dr. Radhika Kapur (2018) in this study the researcher have concentrate on the what

are problem faced by student and teachers in Indian education like importance of quality education, challenges in the traditional mode of Education system, lack of Student engagement etc. on the hand the author can observe that teacher can also need training to guide the students it was major mistake found in education system in india.

RESEARCH METHODOLOGY

Research methodology is the systematic frame work of the research; it is the procedure how the researcher will take over the full study.

From this study the researcher can use the descriptive research type random sampling method is used to collect the data with the help of questionnaire.

The sample size of the study was take from 100 students in the various colleges and the statistical tools are also being used. Percentage analyses and weighted average method.

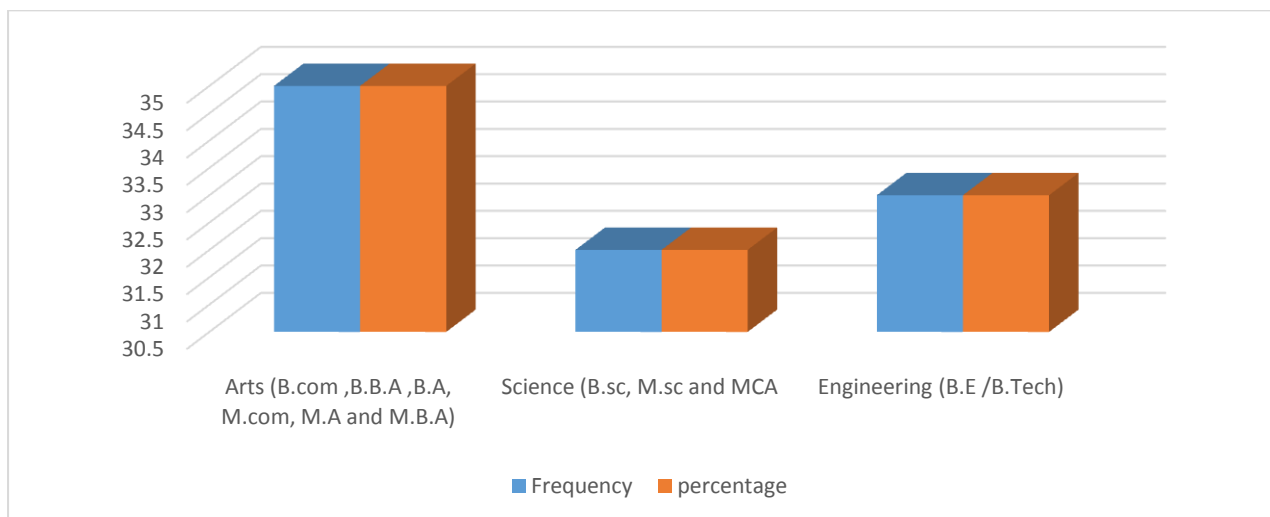
DATA INTERPRETATION

Branches of Student

| Particulars | Frequency | Percentage |
|--|------------|------------|
| Arts (B.com ,B.B.A ,B.A, M.com, M.A and M.B.A) | 35 | 35 |
| Science (B.sc, M.sc and MCA | 32 | 32 |
| Engineering (B.E /B.Tech) | 33 | 33 |
| Total | 100 | 100 |

INTERPRETATION

In higher education student have more option to select their branches from the above table 35% of students are from Arts (B.com, B.B. A, B. A, M.com, M. A and M.B. A), 32% of students are from Science (B.sc, M.sc and MCA and 33% of students are from Engineering (B. E /B.Tech).

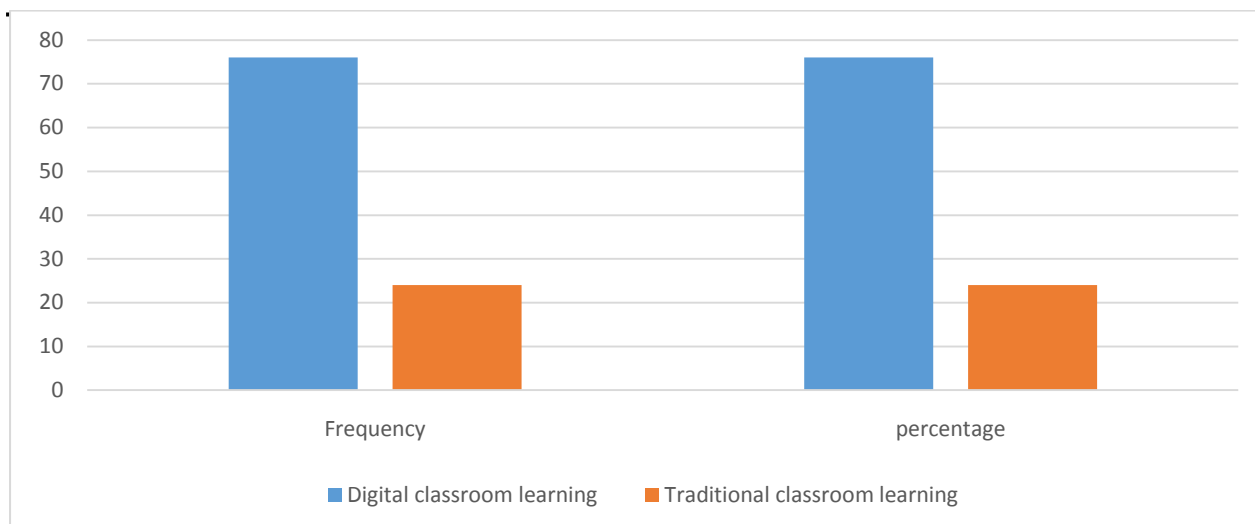


PREFERENCE OF EDUCATION CLASSROOM FOR LEARNING

| Particulars | Frequency | Percentage |
|--------------------------------|------------|------------|
| Digital classroom learning | 76 | 76 |
| Traditional classroom learning | 24 | 24 |
| Total | 100 | 100 |

INTERPRETATION

Methods of teaching is change from decade once on the basis 76% of students are most prefer the digital classroom learning and 26% of students are prefer traditional classroom learning.

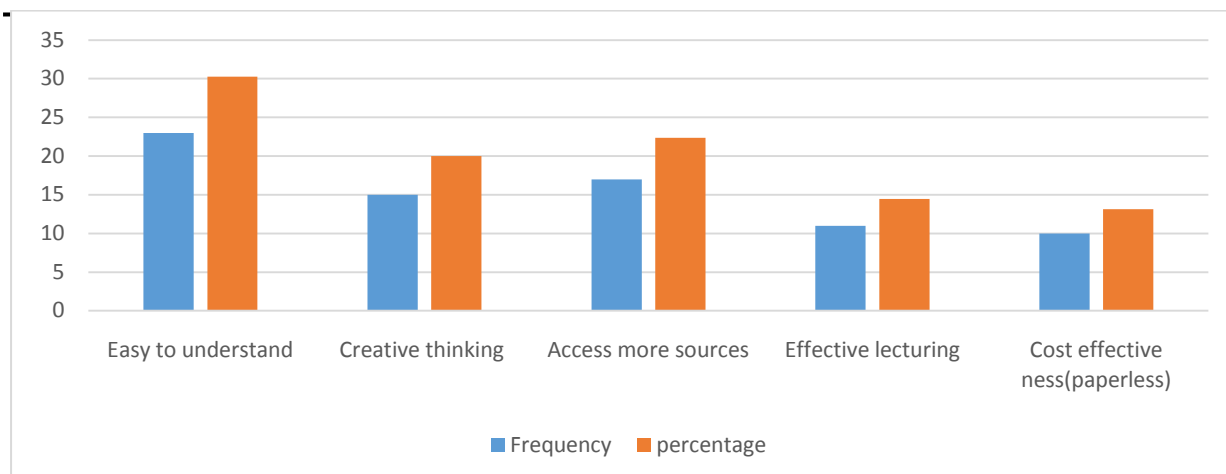


IMPACT OF DIGITAL LEARNING IN CLASSROOM

| Particulars | Frequency | percentage |
|--------------------------------|-----------|------------|
| Easy to understand | 23 | 30.26 |
| Creative thinking | 15 | 20 |
| Access more sources | 17 | 22.37 |
| Effective lecturing | 11 | 14.47 |
| Cost effective ness(paperless) | 10 | 13.15 |
| Total | 76 | 100 |

INTERPRETATION

From the above table 30.26% of students are say easy to understand the concepts in digital classroom,20% of students are said it give creative thinking,22.37% of students are says that we have access the resource at any time and clear our doudts,14.47% of students are said we have get effective lecture from subject tutors and 13.15% of students say it will make more cost effective.

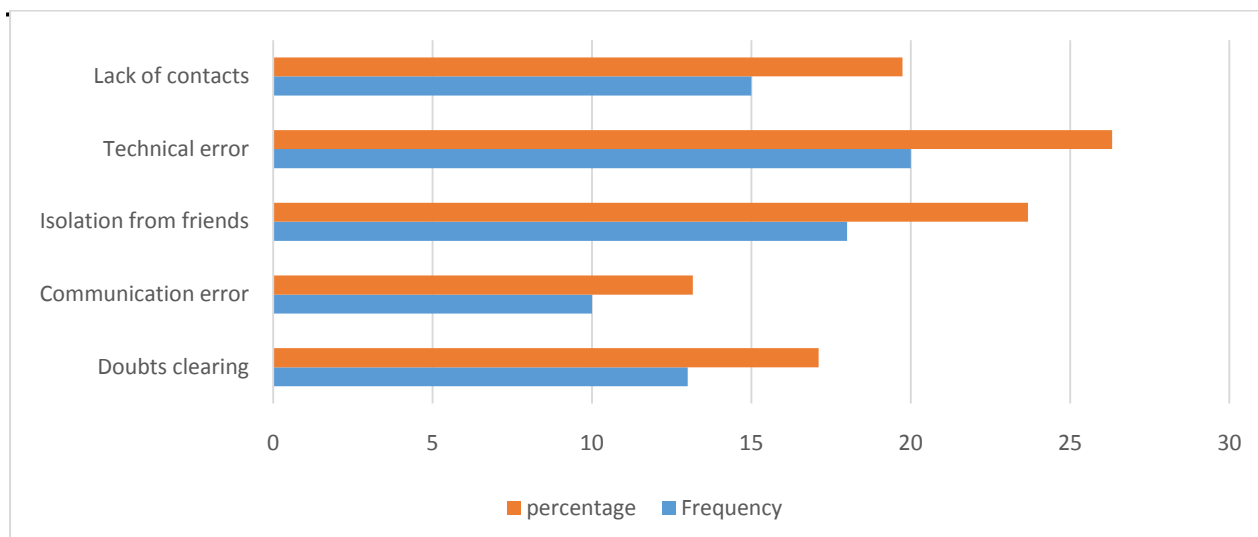


PROBLEMS FACED IN DIGITAL CLASSROOM

| Particulars | Frequency | Percentage |
|------------------------|-----------|------------|
| Doubts clearing | 13 | 17.11 |
| Communication error | 10 | 13.16 |
| Isolation from friends | 18 | 23.68 |
| Technical error | 20 | 26.32 |
| Lack of contacts | 15 | 19.74 |
| Total | 76 | 100 |

INTERPRETATION

Any kind of things may happen in this world it has two side positive and negative from the problems faced by students in digital classroom 17.11% of students are doubting clearing issues, 13.16% of students are facing communication error, 23.68% students are isolated from their friends, 26.32% of students are facing technical error during classes and 19.74% of students are facing lack of contact in digital classrooms.



FINDINGS

- Most of the (35%) students are from Branch of Arts (B.com ,B.B.A ,B.A, M.com, M.A and M.B.A)
- 76% of students are prefer the digital classrooms because they easily to understand the concepts
- The digital classroom can impact the students learning experience on that most of 30.26% of students are easy to understand the subjects
- Most of 26.32% of students are facing the technical error in the digital classrooms

CONCLUSION AND SUGGESTION

Education is most emerging sector in world because after LPG (1991) all of us can easily access the world in single electrical device. The great innovation of

human technology is AI. now a day without AI we can't pass the day because we can search one thing in internet the AI technology will show in front of use. From the study the digital transformation is more effective to the students as well as lecturers also it makes better way to approach the students make them a quick learner.

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STRENGTHENING INFRASTRUCTURE GOVERNANCE THROUGH SUSTAINED ROAD SECURITY MEASURES

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ABSTRACT

Strengthening of road transport and its governance .ie the application of corporate governance in the sector is the need of the hour .Even though India is in the verge of becoming the third largest economy and a developed country, still road transport is very significant and the nation is obliged to protect traditional resources for gaining a competitive edge in the war stricken modern world. To get a better understanding about the reality a lot of researchers have to be carried out in the field of road Governance .But unfortunately number of studies are very less in this vital area, Therefore researchers have conducted the research in the said area .Data about road governance and other vital statistics have been collected from the website of Ministry of Road Transport and its Annual Report for the year 2021-2022.Data have been collected as Primary data. Statistical Analysis techniques like Correlation analysis and Regression analysis have been carried out to get a better understanding about the research area. Researchers have fitted a correlation model and a significant Regression model between the dependent and independent variables.

Key Words: *Road Transport, Governance, Ministry of Road Transport, Annual Report, Road Governance.*

INTRODUCTION AND

STATEMENT OF PROBLEM

Road transport is a significant one with respect to the transportation, communication and logistics aspects related with commerce and industry in India. Allocated amounts are to be spend to get a better insight into the efficiency of the authorities. Besides scientific statistical analysis have to be carried to understand the relationship

between the Number of persons killed and Number of Two Wheelers, Number of Cars and Jeeps, Number of buses, Number of goods vehicles, Number of other Vehicles, Number of accidents and the Number of fatal accidents in India. That type of study will help the society and the government to understand the gravity of the problem and find its solutions.

OBJECTIVES

1. To understand the relationship between the amount allocated and the amount released by the Ministry of Road Transport and Highways from the Central Road & Infrastructural Fund(CIRF) for the development of roads in different States and Union Territories in India.
2. To understand the relationship between the Number of persons killed and Number of Two Wheelers, Number of Cars and Jeeps, Number of buses, Number of goods vehicles, Number of other Vehicles, Number of accidents and the Number of fatal accidents.

REVIEW OF LITERATURE

Infrastructure governance is crucial to make sure that public investment will lead to strengthening infrastructure resilience (“OECD recommendation on the governance of infrastructure,”n.d.). Recommendations on the governance of infrastructure provide guidance to make investment decisions. The recommendations include guarding fiscal sustainability, ensuring efficient procurement of projects and effective stakeholder participation, bringing efficiency in regulatory framework etc. OECD (2017) states in “ Infrastructure governance” , in Government at a

glance that infrastructure governance means interaction between government institutions and private sector users. The article shows that the key element for successful infrastructure development is strategic long term planning. Government should prepare a shortlist of priority projects based on cost-benefit analysis. But these processes are influenced by political motivation. Strong citizens or businesses influence investment decisions but in the funding and approval of projects they have no role.

Schwartz et al.(2020) found that meeting public investment needs is quite difficult. Infrastructure spending can be increased using various options but all these options have their own limitations. By cutting waste in infrastructure spending government can get much more out of the public funds they spend. Right institutions should be put in place to plan and implement project efficiently to meet priority investment needs.

Wegrich et al.(2017) states that infrastructure investments that channel funds towards constituencies do not offer high economic and social returns. They further found that existence of a good national infrastructure plan or use of cost benefit analysis or risk

management tools alone is not a reliable predictor of good infrastructure governance. Infrastructure governance remains inherently influenced by political logics. In order to manage reoccurring challenges, a more systematic engagement of particularly institutional factors is needed.

The observations found (“Why Infrastructure governance matters,”2020) delivery of services through economic and social infrastructure is one of the most important functions of government. Mere increase in infrastructure finance is not enough. Resources must be well spent. It also states that budget and budget tools should be used to ensure quality spending. Fiscal rules will help to improve planning, coordination and flexibility of capital budgets. They can help to place limits on government spending and debt accumulation to a great extent.

HYPOTHESIS

1. **H₀:** There is no correlation between the amount allocated and the amount released by the Ministry of Road Transport and Highways from the Central Road &Infrastructural Fund (CIRF) for the development of roads in different States and Union Territories in India.

2. **H₀:** There is no linear association between the Number of persons killed and Number of Two Wheelers, Number of Cars and Jeeps, Number of buses, Number of goods vehicles, Number of other Vehicles, Number of accidents and the Number of fatal accidents.

V. Methodology of the Study

Researchers have applied the following softwares to analyze the data. Both Correlation and Multiple Regression methods have been applied to analyze the data or prove the hypothesis. The researchers have applied the following software to analyze the data. Data collected from the website of the Ministry of Road Transport and Highways. Data has been collected during the period 2000-2001 to 2021-2022.

a. SPSS.

THEORETICAL FRAMEWORK

New and innovative programmes like Prime Minister’s Gati Sakthi Programme, Bharatmala (Annual Report 2021-2022,2022 .p.2) are the ambitious projects of Government of

India. Following are the important acts related with the research area.

1. The Control of National Highways (Land and Traffic) Act 2002.
2. The Carriage by Road Act 2007
3. The National Highway Authority of India Act 1988
4. The National Highways Authority of India (the term of office and other conditions of service of Members) Rules 2003 & its amendments.
5. Other Related Acts.
6. The Motor Vehicles Act, 1988
7. The Central Motor Vehicles .1988
8. The Central Mortor Vehicles Rules, 1989
9. The Central Road and Infrastructure Fund Act 2000

(<https://morth.nic.in/control-national-highways-land-and-traffic-act-2002-2 n. d.>).

Ministry of Road Transport and Highways is an organization which formulate and administer different plans related with Road Transport and National Highways .Besides,it undertakes different types of researches related with Road Transport and National Highways .The apex institution takes into consideration the opinion of State Government ,Individuals and different organizations related with Road Transport and National Highways apart from the opinion of the Central Government . (<https://morth.nic.in/control-national-highways-land-and-traffic-act-2002-2 n. d.>).

DATA ANALYSIS.

Table No: 1 Amount allocated and the amount released by the Ministry of Road Transport and Highways from the Central Road & Infrastructural Fund (CIRF)

| Amount in Rs. crore | | | |
|---------------------|---------|------------|----------|
| Sr. No. | Year | Allocation | Release |
| 1. | 2000-01 | 985.00 | 332.01 |
| 2. | 2001-02 | 962.03 | 300.00 |
| 3. | 2002-03 | 980.00 | 950.28 |
| 4. | 2003-04 | 910.76 | 778.94 |
| 5. | 2004-05 | 868.00 | 607.40 |
| 6. | 2005-06 | 1,535.36 | 1,299.27 |
| 7. | 2006-07 | 1,535.46 | 1,426.29 |
| 8. | 2007-08 | 1,565.32 | 1,322.19 |
| 9. | 2008-09 | 1,271.64 | 2,122.00 |
| 10. | 2009-10 | 1,786.56 | 1,344.98 |
| 11. | 2010-11 | 2,714.87 | 2,460.29 |
| 12. | 2011-12 | 2,288.65 | 1,927.39 |
| 13. | 2012-13 | 2,359.91 | 2,350.37 |
| 14. | 2013-14 | 2,359.91 | 2,226.60 |
| 15. | 2011-12 | 2,642.63 | 2,094.78 |
| 16. | 2015-16 | 2,852.64 | 2,369.47 |
| 17. | 2016-17 | 7,175.00 | 5,069.82 |
| 18. | 2017-18 | 6,744.07 | 6,367.11 |
| 19. | 2018-19 | 6,998.93 | 6,784.50 |
| 20. | 2019-20 | 7,421.58 | 6,868.66 |
| 21. | 2020-21 | 6,820.00 | 6,613.30 |
| 22. | 2021-22 | 6,945.22 | 4,948.38 |

(Source: https://morth.nic.in/sites/default/files/Annual%20Report_21-22-1.pdf.pp:101)

The above table depicts amount allocated and the amount released by the Ministry of Road Transport and Highways from the Central Road & Infrastructure Fund (CIRF) for the development of roads in different States and Union Territories in India during the Research period. The table is taken

from the website of Ministry of Road Transport and Highways. The Central Road & Infrastructure Fund (CIRF) is a fund created as per Central Road & Infrastructure Fund (CIRF) Act 2000 for the purpose of the development and maintenance of National Highway works in India.

Table No: 2

Total Number of Registered Motor Vehicles in India: 2003-2019

(in thousands)

| Year (As on 31 st March) | All Vehicles | Two Wheelers* | Cars, Jeeps and Taxis | Buses@ | Goods Vehicles | Others* |
|-------------------------------------|--------------|---------------|-----------------------|--------|----------------|---------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2003 | 67,007 | 47,519 | 8,599 | 721 | 3,492 | 6,676 |
| 2004 | 72,718 | 51,922 | 9,451 | 768 | 3,749 | 6,828 |
| 2005 | 81,499 | 58,799 | 10,320 | 892 | 4,031 | 7,457 |
| 2006 | 89,618 | 64,743 | 11,526 | 992 | 4,436 | 7,921 |
| 2007 | 96,707 | 69,129 | 12,649 | 1,350 | 5,119 | 8,460 |
| 2008 | 105,353 | 75,336 | 13,950 | 1,427 | 5,601 | 9,039 |
| 2009 | 114,951 | 82,402 | 15,313 | 1,486 | 6,041 | 9,710 |
| 2010 | 127,746 | 91,598 | 17,109 | 1,527 | 6,432 | 11,080 |
| 2011 | 141,866 | 101,865 | 19,231 | 1,604 | 7,064 | 12,102 |
| 2012 | 159,491 | 115,419 | 21,568 | 1,677 | 7,658 | 13,169 |
| 2013 | 176,044 | 127,830 | 24,056 | 1,814 | 8,307 | 14,037 |
| 2014 | 190,704 | 139,410 | 25,998 | 1,887 | 8,698 | 14,712 |
| 2015 | 210,023 | 154,298 | 28,611 | 1,971 | 9,344 | 15,799 |
| 2016 | 230,031 | 168,975 | 30,242 | 1,757 | 10,516 | 18,541 |
| 2017 | 253,311 | 187,091 | 33,688 | 1,864 | 12,256 | 18,411 |
| 2018 | 272,587 | 202,755 | 36,453 | 1,943 | 12,773 | 18,663 |
| 2019 | 295,772 | 221,270 | 38,433 | 2,049 | 13,766 | 20,254 |
| CAGR (2009 to 2019) | 9.91 | 10.38 | 9.64 | 3.27 | 8.58 | 7.63 |

P-Provisional

*Others include tractors, trailers, three wheelers (passenger vehicles)/LMV and other miscellaneous vehicles for which category-wise break up is not reported by State/UT.

(Source: https://morth.nic.in/sites/default/files/Annual%20Report_21-22-1.pdf.pp.99)

The above table depicts number of different types of vehicles in India during the Research period. The table is taken from the website of Ministry of Road Transport and Highways.

Table No: 3

Number of Road Accidents and Persons Involved: 2005 to 2019

| Year | Number of Accidents Total | Fatal | Number of Persons Killed | Injured |
|------|---------------------------|------------------|--------------------------|---------|
| 2005 | 439,255 | 83491 (19.0) | 94,968 | 465,282 |
| 2006 | 460,920 | 93917 (20.4) | 105,749 | 496,481 |
| 2007 | 479,216 | 101161 (21.1) | 114,444 | 513,340 |
| 2008 | 484,704 | 106591 (22.0) | 119,860 | 523,193 |
| 2009 | 486,384 | 110993 (22.8) | 125,660 | 515,458 |
| 2010 | 499,628 | 119558 (23.9) | 134,513 | 527,512 |
| 2011 | 497,686 | 121618 (24.4) | 142,485 | 511,394 |
| 2012 | 490,383 | 123093 (25.1) | 138,258 | 509,667 |
| 2013 | 486,476 | 122589 (25.2) | 137,572 | 494,893 |
| 2014 | 489,400 | 125828 (25.7) | 139,671 | 493,474 |
| 2015 | 501,423 | 131726 (26.3) | 146,133 | 500,279 |
| 2016 | 480,652 | 136071 (28.3) | 150,785 | 494,624 |
| 2017 | 464,910 | 134796 (29.0) | 147,913 | 470,975 |
| 2018 | 467,044 | 137726 (29.5) | 151,417 | 469,418 |
| 2019 | 449,002 | 137689 (30.7) | 151,113 | 451,361 |

Note: Figures in parentheses indicate share of fatal accidents in total accidents

(Source: https://morth.nic.in/sites/default/files/Annual%20Report_21-22-1.pdf.pp109)

The above table depicts number of people killed due to road accidents during the Research period. The table is taken from the website of Ministry of Road Transport and Highways.

H₀: There is no correlation between the amount allocated and the amount released by the Ministry of Road Transport and Highways from the Central Road & Infrastructural Fund (CIRF) for the development of roads in different States and Union Territories in India.

Researchers applied Normality tests with respect to the data. The following tests have been applied.

1. Kolmogorov-Smirnov Test
2. The Shapiro-Wilk Test.

3. Normal Q-Q Plots

But the results are in negative direction. Therefore the researchers applied Non Parametric Test like Spearman Test to analyze the data. Results are as follows.

Table No:4
Correlations

| | Allocated Amount | Released Amount |
|-------------------------|------------------|-----------------|
| Spearman's rho | | |
| Allocated Amount | 1.000 | .941** |
| Correlation Coefficient | | |
| Sig. (2-tailed) | . | .000 |
| N | 22 | 22 |
| Released Amount | .941** | 1.000 |
| Correlation Coefficient | | |
| Sig. (2-tailed) | .000 | . |
| N | 22 | 22 |

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

(Source: Data from the website of Ministry of Road Transport and Highways)

Here is the Correlation is very high

.Besides, it is a positive correlation

.Value of Spearman's Correlation

Coefficient is 0.941.P value is

0.000($p < 0.005$).Therefore null

hypothesis is rejected and hence it is

found that positive correlation between

the amount allocated and the amount

released by the Ministry of Road

Transport and Highways from the

Central Road & Infrastructural Fund

(CIRF) for the development of roads in

different States and Union Territories in

India.

H₀: There is no linear association

between the Number of persons killed

and Number of Two Wheelers, Number

of Cars and Jeeps, Number of buses,

Number of goods vehicles, Number of

other Vehicles, Number of accidents

and the Number of fatal accidents.

The researchers applied Multiple Regression Analysis to analyze the data.

List of Independent Variables

Table No: 5

| |
|---------------------------|
| Number of persons killed |
| Number of Two Wheelers |
| Number of Cars Jeeps |
| Number of buses |
| Number of goods vehicles |
| Other Vehicles |
| Number of accidents |
| Number of fatal accidents |

(Source: Data from the website of Ministry of Road Transport and Highways)

List of Dependent Variables

1. Number of persons killed.

Following are the results of analysis.

Table No: 6
Descriptive Statistics

| Particulars | Mean | Std. Deviation | N |
|---------------------------|----------|----------------|----|
| Number of persons killed | 1.3337E5 | 17569.48662 | 15 |
| Number of Two Wheelers | 1.2406E5 | 52997.65911 | 15 |
| Number of Cars Jeeps | 2.2610E4 | 9322.29983 | 15 |
| Number of buses | 1.6160E3 | 344.67252 | 15 |
| Number of goods vehicles | 8.1361E3 | 3075.03386 | 15 |
| Other Vehicles | 1.3290E4 | 4337.67281 | 15 |
| Number of accidents | 4.7847E5 | 18525.38197 | 15 |
| Number of fatal accidents | 1.1912E5 | 16716.94984 | 15 |

(Source: Data from the website of Ministry of Road Transport and Highways)

Table No: 7
Variables Entered/ Removed^b

| Model | Variables Entered | Variables Removed | Method |
|-------|--|-------------------|---------|
| 1 | Number of fatal accidents, Number of accidents, Number of buses, Other Vehicles , Number of Cars Jeeps , Number of goods vehicles, Number of Two Wheelers ^a | | . Enter |

a. All requested variables entered.

b. Dependent Variable: Number of persons killed

(Source: Data from the website of Ministry of Road Transport and Highways)

Table No: 8.
Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .997 ^a | .993 | .987 | 2030.34913 |

(Source: Data from the website of Ministry of Road Transport and Highways)

a. Predictors: (Constant), Number of fatal accidents, Number of accidents, Number of buses, Other Vehicles , Number of Cars Jeeps , Number of goods vehicles, Number of Two Wheelers

The value of R Square is 0.993 .Therefore independent variables explain 99.3% of the variability of dependent variable. R Square value is significant.

Table No: 9.
ANOVA^b

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|---------|-------------------|
| 1 | Regression | 4.293E9 | 7 | 6.133E8 | 148.764 | .000 ^a |
| | Residual | 2.886E7 | 7 | 4122317.607 | | |
| | Total | 4.322E9 | 14 | | | |

(Source: Data from the website of Ministry of Road Transport and Highways)

a. Predictors: (Constant), Number of fatal accidents, Number of accidents, Number of buses, Other Vehicles , Number of Cars Jeeps , Number of goods vehicles, Number of Two Wheelers

b. Dependent Variable: Number of persons killed

The F-ratio in the ANOVA table tests whether the overall regression model is a good fit for the data. The table shows that the independent variables statistically significantly predict the dependent variable, $F(7,7) = 148.764$, $p < .0005$ (i.e., the regression model is a good fit of the data).

Table No: 10
Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---------------------------|-----------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | Beta | | |
| 1 (Constant) | 35084.583 | 73474.327 | | .478 | .648 |
| Number of Two Wheelers | -.193 | .353 | -.583 | -.548 | .601 |
| Number of Cars Jeeps | .629 | 1.848 | .334 | .340 | .744 |
| Number of buses | 1.000 | 8.376 | .020 | .119 | .908 |
| Number of goods vehicles | -.735 | 3.704 | -.129 | -.199 | .848 |
| Other Vehicles | -.275 | 1.690 | -.068 | -.163 | .875 |
| Number of accidents | -.127 | .243 | -.134 | -.522 | .618 |
| Number of fatal accidents | 1.483 | .593 | 1.411 | 2.501 | .041 |

a. Dependent Variable: Number of persons killed

(Source: Data from the website of Ministry of Road Transport and Highways)

From the above table, researchers conclude that all the independent variables are statistically significant and they can predict the dependent variable.

FINDINGS

1. It is found that there is very high positive correlation between the amount allocated and the amount released by

the Ministry of Road Transport and Highways from the Central Road & Infrastructure Fund (CIRF) for the

development of roads in different States and Union Territories in India.

2. It is found that there is linear association between the Number of persons killed and Number of Two

CONCLUSION

It is concluded the event though the concerned departments are very much efficient in spending their allocated amounts, Cent percentage spending is not a reality .Further studies are needed to understand the reasons .Besides to control casualties due to road accidents , we have to reduce the number of vehicles on roads.

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Wheelers, Number of Cars and Jeeps, Number of buses, Number of goods vehicles, Number of other Vehicles, Number of accidents and the Number of fatal accidents.

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DESIGN AND DEVELOPMENT OF PROFILE WICKING TESTER TO ANALYZE THE LIQUID DISTRIBUTION OF NURSING PAD IN ACTUAL USAGE CONDITION

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ABSTRACT

The present work aims at the study of fluid distribution in multi-direction on the wet-laid absorbent core prepared for the application of a nursing pad. A newly designed profile wicking tester was developed representing the actual usage condition considering the placement of nursing pad inside the brassier and the position of the liquid supply. Mapping of liquid distribution at different orientation of samples were done by testing 200 g/m² wet-laid nonwoven samples in Profile, Vertical and Horizontal wicking testers. The effect of mass per unit area and thickness on the liquid transport was experimented using a profile wicking tester. The wicking distance was measured in multi-direction (0 - 360°) at an interval of 30° and the observation recorded using image processing technique. The data obtained was analyzed statistically using three-way ANOVA. The result and analysis showed a significant difference between three test methods and the liquid movement in the profile wicking tester was different. A further discussion on the interaction between independent variable and response variable on wicking distance was taken up. This newly developed profile wicking test method had the ability to provide information on the liquid distribution in actual usage condition which helped product development and further research to increase the utility of the absorbent core.

Keywords: Absorbent Core; Absorbency Behavior; Nursing Pad; Profile Wicking; Technical Textiles; Wet-Laid Nonwoven.

INTRODUCTION

Nursing pads used by the lactating mothers are placed inside the brassier to avoid any possible embarrassment caused by the leakage of milk during and after feeds [1, 2]. The general construction of the nursing pad consists of an innermost layer, an absorbent core, and the outer most layer [3]. The absorbent core of the commercially available nursing pad consists of wood pulp, superabsorbent polymer, and synthetic fibers manufactured by the air-laid web formation technique. The main function of the absorbent core is to absorb and retain the liquid to avoid any possible staining on the clothes [4-6]. There are various shapes and designs available commercially for the improvement of the performance of the nursing pad [7-11]. The drawback of the commercially available nursing pad is that only the lower portion of the nursing pad gets utilized and disintegrated during use. This does not help complete utilization of the pad [12]. But no systematic study has been reported so far in literature and patents on the subject of evaluation of the performance in actual usage condition.

The study of liquid transport in nonwovens is difficult due to the complexity

of the porous networks [13]. Mapping of liquid transport in such fibrous network is of great importance for academics and industry due to its importance in the evaluation of its performance in many end application [14]. Generally, the liquid transport happens due to capillary action that occurs when the fibrous network is completely or partially immersed in a liquid or in contact with liquid from an infinite (unlimited) reservoir or finite (limited) reservoir [15]. Common test methods available so far for testing the absorbency behavior are vertical, horizontal, inclined, downward wicking and upward-downward-horizontal wicking tests [16-20]. Test results of these methods demonstrate the potential wickability or absorbency capacity of the sample but do not indicate the results of the performance behavior. The wicking test results depend on the material characteristics, namely pore structure, permeability, contact angle, test fluid characteristics, rate of liquid supply, apparatus used and test conditions [21].

In vertical wicking, samples are vertically positioned into an infinite liquid reservoir. The liquid enters from the bottom of the sample and its transport takes place

due to capillary action which creates hydrostatic pressure to enable travel through the distance of the sample. The movement of the liquid stops at the equilibrium condition when the capillary action balances the hydrostatic pressure. Wicking results are influenced by gravity [16]. The rate of liquid spreading in horizontal wicking was determined, where the samples are positioned horizontally and the liquid is supplied from a definite distance [17]. In the downward wicking test, the downward movement of the liquid is measured following an initial upward movement of liquid from the infinite reservoir. This determines its capillary pressure (P_c) and permeability (K) [22]. Inclined wicking examines the influence of gravity on the spreading of liquid from a point source on an inclined sheet of sample [18].

The study of the liquid distribution in the absorbent material helps in evaluating the existing product and provide information for the design and development of the new product. Some of the technologies available for mapping the liquid distribution are direct observation of liquid movement through porous structure using colored liquid, discrete sensors based on conductance,

temperature or optical measurements, optical imaging, gravimetric methods, X-ray imaging and magnetic resonance imaging [23].

The usage profile of the nursing pad differs from other absorbent pads used for hygiene purposes. Hence the above test methods do not represent the actual usage conditions and also the prediction of liquid movement through mathematical relations like Young-Dupre's, Lucas-Washburn equation, Darcy Law, Laplace equation, etc., is not possible [24]. Hence a need for the test method to simulate the actual in-use condition arises to enable a study of the absorbency behavior of the nursing pad. In this work, a new profile wicking method has been designed and developed. Wet-laid samples of 200 g/m^2 , 300 g/m^2 and 400 g/m^2 were tested and the liquid movement was captured using a camera and the distance of the liquid movement was measured in multi-direction using image J software.

MATERIALS AND METHODS

Procurement and preparation of Wood pulp sample

Fully bleached single species softwood kraft pulp was procured in sheet form from Rajarajeswari Traders, Chennai. The procured pulp in sheet form was converted to fibrous form by soaking in distilled water for 12 hours and the disintegration was carried out using a Remi overhead stirrer RQ-122 at 3000 rpm for 10 min. Water was removed from the pulp after filtering the pulp through the sieve of ASTM mesh size 200, in order to avoid wastage of the fiber during filtering and the excess water, was squeezed out.

Pretreatment of wood pulp sample

Alkali treatment of wood pulp sample was carried out using 15% (w/v) NaOH solution for 10 minutes at 32°C (room temperature) maintaining a Material: Liquor ratio of 1: 33. AR grade NaOH pellets was procured from Central Drug House, New Delhi. After treatment, the NaOH solution was removed from the wood pulp sample through a thorough washing several times using distilled water. The residual NaOH solution was removed by treating the washed pulp in 0.1% (w/v) AR grade Sulphuric acid solution and rinsed thoroughly in distilled water until it was

neutral to pH. Drying was carried out in a hot air oven at 80°C till a constant weight was obtained. Conditioning of the pulp was carried out in an environment chamber at $25 \pm 2^\circ \text{C}$ and $65 \pm 2\% \text{RH}$ for 24 hours. The fiber length $L(w)$ and fiber coarseness of the treated pulp were determined using fiber analyzer Kajaani FS-300 and found to be 2.24 mm and 0.366 mg/g respectively [25, 26].

Wet-laid web formation

Lab-scale wet-laid setup fabricated with reference to a Handsheet forming machine used in Tappi standard T205 SP-02 was used for the wet-laid nonwoven production. The alkali treated wood pulp was used as raw material for producing samples having a mass per unit area of 200 g/m^2 , 300 g/m^2 , and 400 g/m^2 . The web produced was compressed at a pressure of 120 kg/cm^2 using a compression molding machine. During compression, spacers made up of stainless steel of 1mm, 2 mm and 3 mm thickness were used for achieving the required thickness as shown in Table 1. The web characterization using parameters such as mass per unit area, thickness was done using standard methods ISO 9073-1:1995

and ISO 9073-2:1995. The porosity and air-permeability of the wet-laid nonwoven were found out by using a capillary flow porometer (CFP-1100A1, Porous materials Inc, USA) and digital air permeability tester (Frazier permeability tester, Model No. PM1-GP-100A-F, Porous materials Inc, USA) respectively. Porosity and air permeability tests were carried out

according to the standard methods ASTM E 1294-89 and ISO-9237/7231 respectively. The constructional parameters of tested samples such as web density, theoretical web volume porosity% were calculated [27]. The liquid absorptive capacity of the web was determined using standard procedure NWSP 0.10.1RO and the values have been provided in table 2.

Table 1. Wet-laid nonwoven samples for wicking study

| Mas per unit area (g/m ²) | Original thickness (mm) | Compressed thickness (mm) |
|--|----------------------------|------------------------------|
| 200 | 2 | 1 |
| 300 | 3 | 2,1 |
| 400 | 4 | 3,2,1 |

Table 2. Constructional parameters of wet-laid nonwoven samples

| Mass per unit area (g/m ²) | Web thickne ss (mm) | Pore diameter (µm) | | | Air permeabilit y (cm ³ /sec/c m ²) | Calculat ed Web volume porosity (%) | Web density (g/ cm ³) | Total absorpti on capacity (g/g) |
|--|---------------------------|--------------------|--------------|--------------|--|---|---|--|
| | | Smalle st | Mean flow | Largest | | | | |
| 200±2 5 | 2.06 | 2.5087 | 36.420 6 | 184.158 9 | 38.08 | 81.10 | 0.10772 39 | 20.5758 |
| 300±2 5 | 3.04 | 3.8663 | 33.666 5 | 76.8696 | 29.75 | 81.11 | 0.10769 65 | 30.05338 |
| 400±2 5 | 4.05 | 5.7544 | 32.377 8 | 247.408 8 | 22.86 | 81.64 | 0.10465 30 | 36.02698 |

Materials preparation for wicking study

The specimen size used for the wicking study had 10 cm diameter. The liquid used during measurement was prepared by dissolving 0.5 g of Acid Fast red dye powder in 500 mL of distilled water. The test specimen was conditioned for at least 4h in an atmosphere of $25 \pm 2^{\circ}\text{C}$ and $65 \pm 2\%$ RH. The topside of the nonwoven was marked for the identification of the placement of the sample in the sample holder. The center point of the sample was marked to facilitate the liquid supply at the center point. Sample handling was done using gloves to minimize the contamination. Five replication of each test was being carried out. The wicking experiments have been carried out at ambient room temperature.

EXPERIMENTAL SETUP

The profile wicking setup was designed and developed for the simulation of the actual usage condition for the assessment of liquid transport characteristics of the fibrous structure. The vertical and horizontal setup was designed to enable the study of variation in the physical placement condition of the absorbent core.

Liquid supply

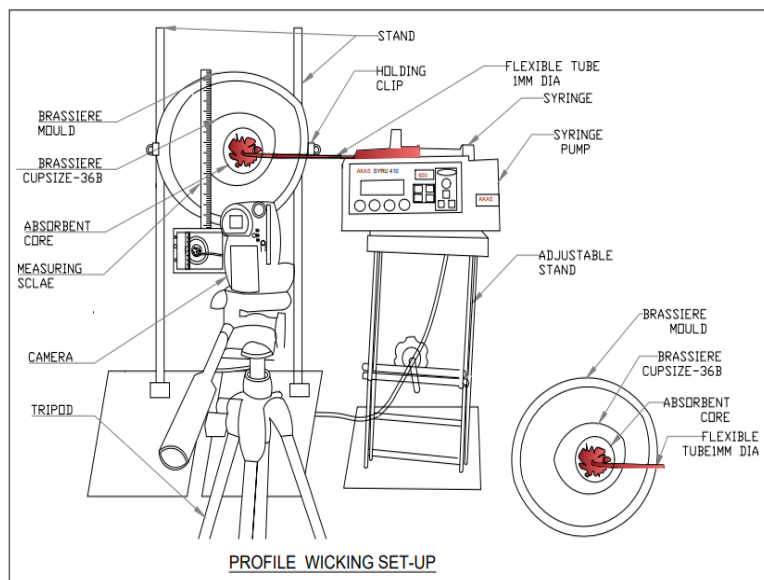
The liquid supply was provided by injecting the fluid with the help of a 50 ml syringe. The end of the syringe needle was attached to a flexible tube of 1mm inner diameter and 3 mm outer diameter. The liquid was fed at a constant rate of 1mL/min through a syringe infusion pump, AKAS SYRU 410, supplied by Akash Medical Equipment, Chennai-25. The syringe was filled with a red dye solution. It was set in the slot for the syringe in the syringe infusion pump. The program was set for the flow rate of 1mL/min and the run switch was pressed for the liquid to flow into the pad. The flow of the liquid all through the tube is ensured before the supply was given to the sample. The liquid supply was provided at the center of a sample such that the flexible tube is in direct contact with the sample.

Description of Profile wicking setup

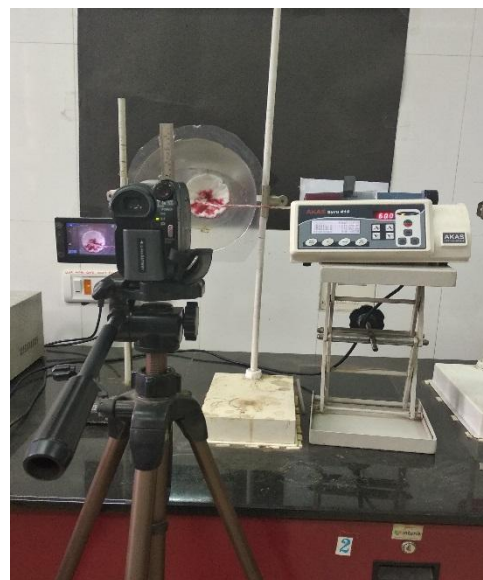
In profile wicking, the brassiere cup mould of size '36B' was used as the sample holder. The brassiere cup was fixed inside the brassier mould. The brassiere mould was

held in position using two stands. The standard measuring scale was fixed on the master brassiere mould for calibration during

measurement. The profile wicking setup is shown in Figure 1. The sample was placed in position inside the brassiere cup.



a)



b)

Figure 1 a) CAD diagram, b) photographic picture of profile wicking setup

EXPERIMENTAL PLAN

Effect of Profile, Vertical and Horizontal wicking on the wicking behavior of absorbent core

For the experimental plan, 200 g/m² wet-laid nonwoven samples of 1 mm and 2mm thickness were carefully chosen for a study of the effect of variation in the physical condition of the placement of the sample. The samples were tested in a profile

wicking tester, a horizontal wicking tester, and a vertical wicking tester.

Effect of Mass per unit area on wicking behavior

The wet-laid samples of mass per unit area 200 g/m², 300 g/m² and 400 g/m² were chosen for the study of the effect of mass per unit area on the wicking behavior. The samples were tested in the profile wicking tester.

Effect of thickness on the wicking behavior

The samples of 300 g/m² 1 mm thickness and 400 g/m² 1 mm and 2 mm thickness were tested and the samples had the ability to absorb liquid only upto 6-8 mL and reach the endpoint by the dripping of the liquid. These samples were considered as not suitable for further analysis. Hence the

samples of 200 g/m² (1 mm and 2 mm thickness), 300 g/m² (3 mm and 2 mm thickness) and 400 g/m² (4 mm and 3 mm thickness) was chosen for the study of the effect of different thicknesses in the same mass per unit area and the effect of same thickness in the different mass per unit area. The samples were tested in the profile wicking tester.

Absorption capacity of the web during the wicking study

The absorption capacity of the web during the wicking study is the capability of the web to hold the liquid until the liquid drops from the bottom of the pad.

$$\text{Utilization \%} = \frac{\text{Absorption capacity of the web during wicking study}}{\text{Total absorption capacity of the web}} \times 100 \quad (1)$$

DATA ANALYSIS

The distance traveled by the liquid (wicking distance) from the center point was measured from 12 different angles every minute. The observations were tabulated and recorded. The mean value of the five experimental results were carried out. A radial graph was drawn for all the samples used for comparison by pictorial representation so that the liquid movement in each direction was clearly visible using these data. Data analysis was carried out statistically using SPSS 21. Three-way ANOVA analysis was performed for

locating any significant differences in the mean wicking height raised in a similar time at different levels of various factors. A p-value less than 0.01 was considered statistically significant at 99 % confidence level.

RESULTS AND DISCUSSION

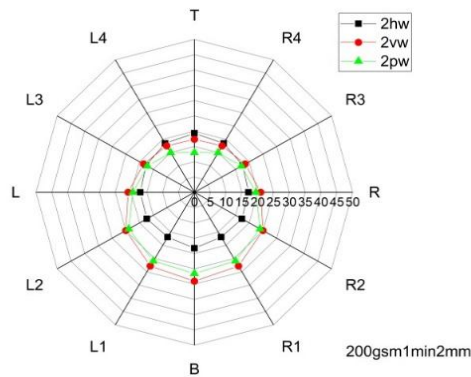
Comparison of Profile, Horizontal and Vertical wicking

Radial Graph for wicking comparison

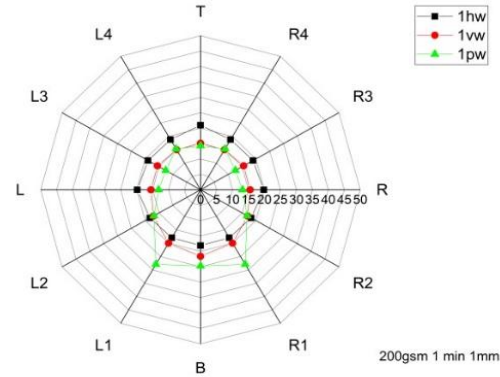
The radial graph depicts the distance traveled by each experiment

for each minute by horizontal wicking (hw), vertical wicking (vw) and profile wicking (pw) respectively. The radial graph represents the absorbent pad size of 10 cm diameter. The center point is the liquid supply point, from the center point the liquid traveling distance at 12 different angles is measured at an angle 30° difference. The letter B indicates the bottom, T indicates the Top, R

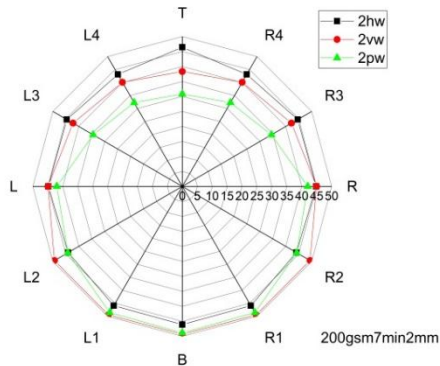
indicates the right and L indicates the left. The suffixes 1, 2 seen in R and L indicate the angles in down half. The suffixes 3, 4 seen in R and L indicate the angles in the top half. The liquid traveling profiles of 1 minute, 7 minutes and 14 minutes is shown in the figure it represent the starting, middle and final wicking stages.



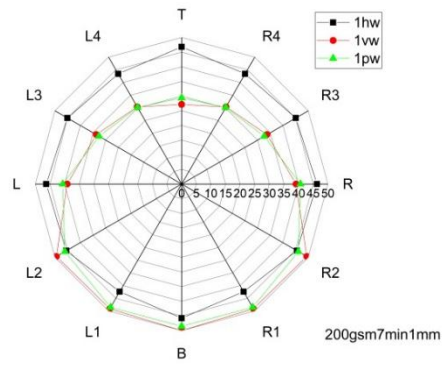
a)



b)



c)



d)

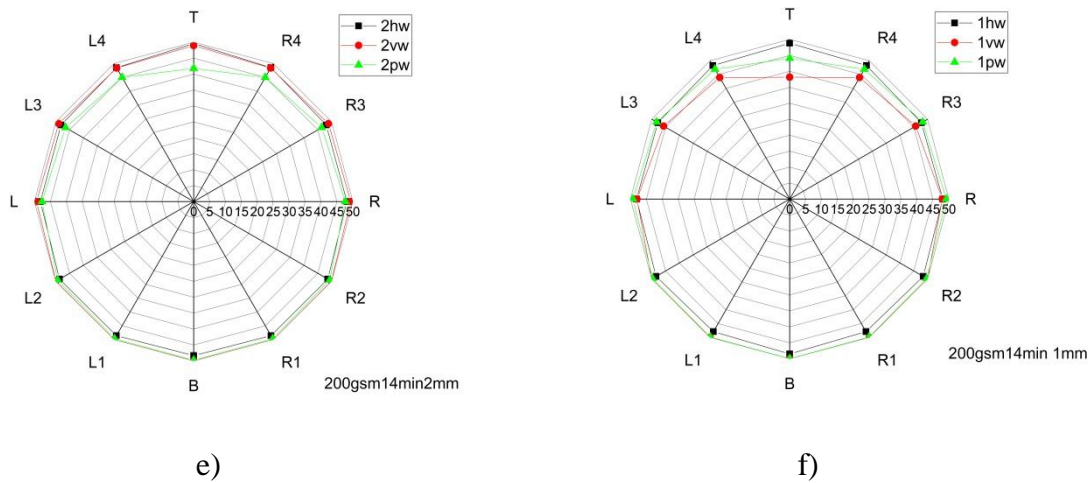


Figure 4 Radial graph of Profile wicking (pw), Vertical wicking (vw) and Horizontal wicking (hw) test of a) 200 g/m² 2 mm 1min, b) 200 g/m² 1 mm 1min, c) 200 g/m² 2 mm 7 min, d) 200 g/m² 1 mm 7 min, e) 200 g/m² 2 mm 14 min, f) 200 g/m² 1 mm 14 min

From the above Figure 4, it is obvious that the movement of the liquid follows a different pattern in different angles for horizontal wicking, vertical wicking, and profile wicking when was observed for each minute for the same mass per unit area and the same thickness.

Three-way ANOVA Test for wicking comparison.

The three-way ANOVA utilized had the ability to test the effect size of the model, from which the effect of liquid transport (wicking distance) with respect to wicking method, angle and minute can be interpreted in Table 3 [30]. The ANOVA model that explained $R^2 = 0.916$ had 91.6% and $R^2 = 0.904$ had 90.4% for 200 g/m² 2 mm and 200 g/m² 1 mm variability of the response

variable (wicking distance). The variability in the significant difference was explained by a partial η^2 value shown in Table 3. The effect of profile wicking, vertical wicking and horizontal wicking among distance of liquid flow showed 24.5% variability in 200 g/m² 1mm thickness and 31.1% in 200 g/m² 2mm thickness. Interaction effect between wicking method, angle and minutes among distance of liquid flow was seen. 27.2% and 25% variability in distance of liquid flow for

200 g/m² 1mm thickness and 200 g/m² 2 mm thickness respectively were shown.

horizontal wicking. Tests of Between-within Subject Effects

Table 3: Comparison of profile wicking, vertical wicking and

| Sources of Variation | 200 g/m ² 1 mm | | | 200 g/m ² 2 mm | | |
|---------------------------------------|---------------------------|---------------------|------------------|---------------------------|---------------------|------------------|
| | F | Significant p-value | Partial η^2 | F | Significant p-value | Partial η^2 |
| R ² | 0.904 | | | 0.916 | | |
| Within wicking | 326.371 | 0.000 | 0.245 | 455.483 | 0.000 | 0.311 |
| Within Angle | 304.051 | 0.000 | 0.624 | 272.464 | 0.000 | 0.598 |
| Within Minutes | 1221.517 | 0.000 | 0.887 | 1576.158 | 0.000 | 0.910 |
| Between Wicking and angle | 101.969 | 0.000 | 0.527 | 73.280 | 0.000 | 0.444 |
| Between wicking and Minutes | 12.222 | 0.000 | 0.136 | 13.660 | 0.000 | 0.150 |
| Between angle and Minutes | 6.401 | 0.000 | 0.312 | 6.179 | 0.000 | 0.305 |
| Between wicking and angle and Minutes | 2.636 | 0.000 | 0.272 | 2.350 | 0.000 | 0.250 |

. Table 4 Correlation at 99% confidence level for wicking comparison

| Correlation | Distance | Type of wicking | Angle | Minutes |
|-----------------------|----------|------------------|-------------------|-----------------|
| Distance (p-value) | 1.000 | 0.092 (0.000) | -0.307 (0.000) | 0.745 (0.50) |
| Angle | (0.000) | (0.50) | - | (0.50) |
| Minutes | (0.000) | (0.50) | (0.50) | - |

| | | | | |
|-------------------------|------------------|--|--|--|
| Adjusted R ² | 0.658 (0.000) | | | |
|-------------------------|------------------|--|--|--|

Correlation was tested at a 99% confidence level and values are tabulated in table 4. In this model, the independent variables were the wicking method, the angle and the minute which had effect on the response variable wicking distance that is 0.092 weak positive correlation between distance and wicking. When angle changed, there was 0.307 negative correlation with

distance and when minute changed there was 0.745 strong positive correlation with distance. Here the adjusted R-value for 1 mm and 2 mm thickness was 0.658 that explains 66% variability by the independent variables minutes, angle and wicking included in the regression model together account for 66% variation in the distance of liquid flow.

Estimated marginal means for wicking comparison

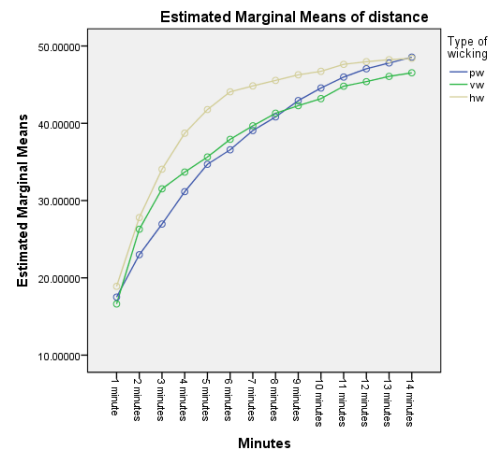
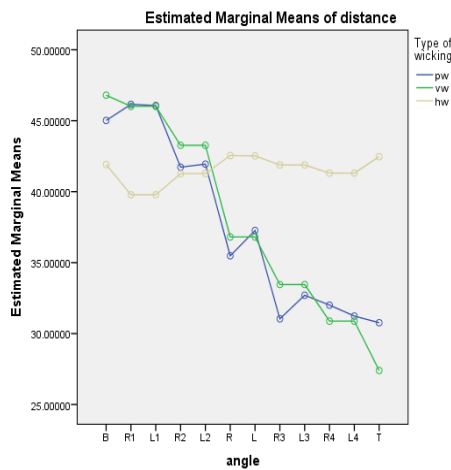


Figure 5 Estimated marginal means distance for wicking test on 200 g/m² with 1 mm thickness based on angle and Minute

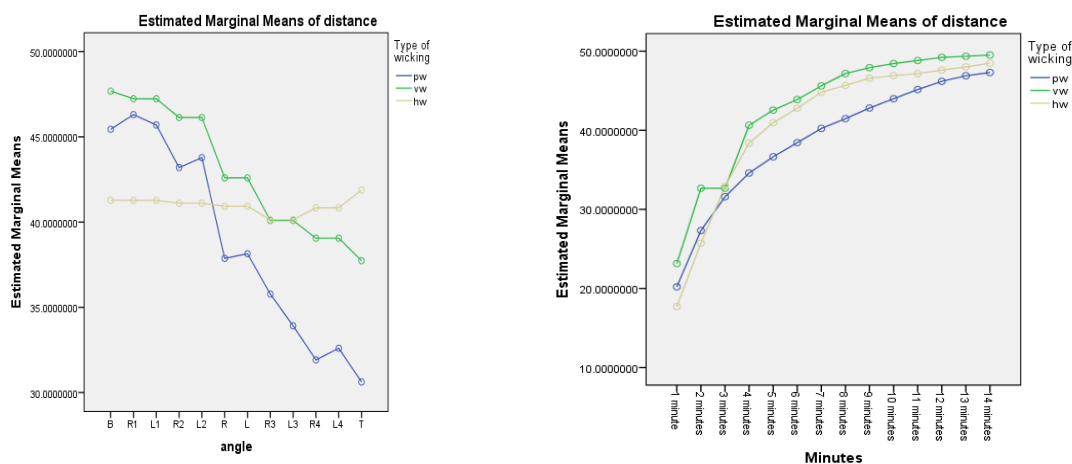


Figure 6 Estimated marginal means distance for wicking test on 200 g/m^2 with 2 mm thickness based on angle and Minute

REGRESSION EQUATION FOR FOR EFFECT OF THE SAME THICKNESS WITH DIFFERENT MASS PER UNIT AREA

Regression analysis was used for the values of the dependent variable (distance) from the values of the predictor variables that included as minutes, angle and thickness in the liquid flow as shown in Table 14.

Table 14 Regression table for 2 mm and 3 mm thickness profile wicking sample

| Model | 2 mm Thickness | | | | 3 mm Thickness | | | |
|-------|-----------------------------|-----------|------|--------------------------------|-----------------------------|-----------|------|--------------------------------|
| | Unstandardized Coefficients | | d | Coefficients Significant value | Unstandardized Coefficients | | d | Coefficients Significant value |
| | B | Std. Erro | | | B | Std. Erro | | |
| | | | Beta | | | | Beta | |

| | | r | | | | r | | |
|------------|-------|-----|------|-----|-------|------|-------|------|
| (Constant) | 35.08 | .60 | | .00 | 41.51 | 0.49 | | 0.00 |
| | 2 | 4 | | 0 | 0 | 1 | | 0 |
| Thickness | - | .29 | - | .00 | - | 0.23 | - | 0.00 |
| | 1.157 | 3 | .050 | 0 | 7.488 | 8 | 0.372 | 0 |
| Angle | - | .04 | - | .00 | - | 0.03 | - | 0.00 |
| | 1.606 | 2 | .478 | 0 | 1.232 | 4 | 0.422 | 0 |
| Minutes | 2.039 | .03 | .708 | .00 | 1.676 | 0.03 | 0.671 | 0.00 |
| | | 6 | | 0 | | 0 | | 0 |

The results shown in Table 14 reveal minutes, angle and thickness having a significant ($p < 0.01$) influence on the distance of liquid flow. Angle has a negative influence on the distance of liquid flow with angle changes where there is a decrease 1.606 times in distance. Minute and thickness with a positive influence on distance revealed any increase in minute by one minute with 2.039 times increase in the distance of liquid flow. When thickness increased by 1mm there was 1.157 times increase in the distance of liquid flow. The

inference is that controlling all the variables in the model, there is a significance increase in the distance of the liquid flow with increase in minutes and thickness. Regression analysis meant to test the **null hypothesis** that minutes, angle and thickness involved in liquid flow do not predict the distance. The Regression Model considered confirmed the relationship between Independent and Dependent Variable using the regression equation 2. The equations 7 & 8 are the regression equations obtained.

$$Y = 35.082 + (2.039) X_1 - (1.606) X_2 - 1.157 X_3 \quad (7)$$

$$Y = 41.510 + (1.676) X_1 - (1.232) X_2 - 7.488 X_3 \quad (8)$$

Where

Y = Distance of the liquid flow; a = Constant; X_1 = Minute; X_2 = angle; X_3 = thickness

6.5 Absorption capacity of the web during the wicking study

Table 15: Absorption capacity and utility during wicking studies

| Wicking samples | Absorption capacity mL | Utilization% of the web |
|------------------------------|------------------------|-------------------------|
| 200 g/m ² 2 mm pw | 15.35 | 74.6022 |
| 200 g/m ² 1 mm pw | 14.56 | 70.76274 |
| 200 g/m ² 2 mm vw | 15.58 | 75.72002 |
| 200 g/m ² 1 mm vw | 13.38 | 65.02785 |
| 200 g/m ² 2 mm hw | 18.96 | 92.14709 |
| 200 g/m ² 1 mm hw | 17.65 | 85.78038 |
| 300 g/m ² 3 mm pw | 22.4 | 74.53405 |
| 300 g/m ² 2 mm pw | 19.8 | 65.88277 |
| 400 g/m ² 4 mm pw | 27.6 | 76.60925 |
| 400 g/m ² 3 mm pw | 24.0 | 66.61674 |

The liquid holding ability in the actual usage condition of the samples plays a very important role rather than the total absorption capacity. The utilization of the wet-laid nonwoven during the actual usage condition was evident when the total absorption capacity of the wet-laid web was analyzed and compared with that of absorption capacity during wicking studies. Though the web has the potential to absorb and retain the liquid, there were variation in the magnitude of the spreading of the liquid varies due to variations in the capillary pressure of the pores during the vertical and profile wicking tests and to the horizontal,

vertical and profile orientation of the sample. When the samples were compressed, the pore size reduced with increased density, thereby reducing the amount of interstitial space [37]. This approach causes a reduction in total absorption capacity. The result shows utility % of the web is higher for lower mass per unit area sample [38].

CONCLUSION

The newly designed “Profile wicking tester”, was developed to study the absorbency behavior of the nursing pad. The liquid supply was a point source discharged

on the center of the wet-laid absorbent core samples. The liquid movement in multi-direction 360° angle was studied and results have been reported.

The general behavior of liquid movement was observed as initially the liquid tended to move towards gravity, reaching the bottom and then travelling upward against the gravity to the upper portion of the absorbent core from the point of liquid supply. This is presented in a radial graph. The absorbency results of 200 g/m^2 , 300 g/m^2 and 400 g/m^2 found were 15.35 mL, 22.40 mL and 27.60 mL respectively, showed the mass per unit area are directly proportional to the absorbency capacity. The utility figures of 200 g/m^2 , 300 g/m^2 and 400 g/m^2 were 74.6%, 74.5%, and 76.6% respectively and utility was observed through the liquid spreading in all directions facilitating comfort during usage. This facilitates in deciding the suitability of the sample tested.

In each experiment the model was replicated five times with 5 individual samples. Readings were taken for each minute in 12 different directions until the

experiment was completed. The results and the experimental model were validated through statistical analysis using a three-way ANOVA test. Various comparisons were made for testing the effect of liquid flow within and between wicking, mass per unit area, thickness in multi-direction from the point of supply of liquid in the absorbent core of the nursing pad. In this new test method, various analyses and interpretations of results were found possible with respect to liquid movement such as absorbency behavior, utility of the sample, comfort during usage, comparison between different parameter of the samples and selection of suitable samples.

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INSPIRE THE BRAND - RATIONALE BEHIND GUERRILLA MARKETING

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ABSTRACT

Guerrilla marketing is an advertisement strategy in which a company uses surprise and/or unconventional interactions in order to promote a product or service. It is a type of publicity. The term was popularized by Jay Conrad Levinson's 1984 book *Guerrilla Marketing*. Guerrilla marketing uses multiple techniques and practices in order to establish direct contact with potential customers. One of the goals of this interaction is to cause an emotional reaction in the clients, and the ultimate goal of marketing is to induce people to remember products or brands in a different way than they might have been accustomed to. As traditional advertising media channels—such as print, radio, television, and direct mail—lose popularity, marketers and advertisers have felt compelled to find new strategies to convey their commercial messages to the consumer. Guerrilla marketing focuses on taking the consumer by surprise to make a dramatic impression about the product or brand. This in turn creates buzz about the product being marketed. It is a way of advertising that increases consumers' engagement with the product or service, and is designed to create a memorable experience. By creating a memorable experience, it also increases the likelihood that a consumer, or someone who interacted with the campaign, will tell their friends about the product. Thus, via word of mouth, the product or service being advertised reaches more people than initially anticipated. Guerrilla marketing is relatively inexpensive, and focuses more on reach rather than frequency.

Keywords: Digital Technologies, Marketing' Skills, Virtual, Strategies,

INTRODUCTION

The term "guerrilla marketing" is traced to guerrilla warfare, which employs atypical

tactics to achieve an objective. In 1984, the term guerrilla marketing was introduced by Leo Burnett's creative director Jay Conrad

Levinson in his book Guerrilla Marketing. The term itself was from the inspiration of guerrilla warfare which was unconventional warfare using different techniques from usual and small tactic strategies used by armed civilians. Because the key goal is to manipulate consumers into talking about the product or brand via social-media platforms, significant imagination and energy is required in order to capture the attention of sufficient numbers of people. This is especially the case when one considers that, with other firms competing for people's attention, there can be significant "clutter" in the environment that the consumer is forced to deal with on a daily basis.

Guerrilla marketing is popular for small or medium-sized businesses who have tight budgets. But the same tactics have also been used by large companies trying to differentiate themselves from competitors via social media campaigns. Similar marketing tactics have also been used by individuals seeking employment.

Guerrilla marketing has also evolved to include street marketing, which itself has evolved to encompass activities beyond the everyday realm of urban streets and thus

now includes newer promotional methodologies. Examples include mass-printed flyers and animated digital signage. For guerrilla campaigns to be successful, companies generally do not need to spend large amounts of money, but they need to have imagination, energy and time. Therefore, guerrilla marketing has the potential to be effective for small businesses, especially if they are competing against bigger companies.

The message to consumers is often designed to be clear and concise. This type of marketing also works on the unconscious mind, because purchasing decisions are often made by the unconscious mind. To keep the product or service in the unconscious mind requires repetition, so if a buzz is created around a product, and if it is shared amongst friends, then this mechanism enables repetition.

TYPES OF GUERRILLA MARKETING

Ambient marketing

Ambient communication is advertising presented on elements of the environment, including nearly every available physical surface. It is a compilation of intelligence, flexibility, and effective use of the

atmosphere. These kinds of ads can be found anywhere and everywhere from hand dryers in public bathrooms and petrol pumps through to bus hand straps and golf-hole cups. The end result is that people are confronted with visual clutter in their surroundings.

Ambush marketing

Ambush marketing is a form of associative marketing, used by an organization to capitalize upon the awareness, attention, goodwill, and other benefits, generated by having an association with an event or property, without that organization having an official or direct connection to that event or property.

This form of marketing is typically seen at major events where rivals of official sponsors attempt to build an association with the event and increase awareness for their brands, sometimes covertly. For example, during the 2012 London Olympics, footwear maker Nike created 'find your Greatness' spots where they featured athletes from several locations called London (but without showing the real London or referring to the Olympic games). This was intended to build a strong association between London Olympics and Nike.

Stealth marketing

Stealth marketing is a deliberate act of entering, operating in, or exiting a market in a furtive or secretive manner, or an attempt to do so. For example, a toothpaste manufacturer might pay to advertise on the wooden stick of a frozen confection.

Viral marketing

Viral marketing describes any strategy that encourages individuals to pass on a marketing message to others (often via online social-media platforms), creating the potential for exponential growth in the message's exposure and influence. Like viruses, such strategies take advantage of rapid multiplication to explode the message to thousands, to millions. Off the Internet, viral marketing has been referred to as "word-of-mouth", "creating a buzz", "leveraging the media", "network marketing", But on the Internet, for better or worse, it's called "viral marketing".

Buzz marketing

Similar to viral marketing, buzz marketing uses high-profile media to encourage the public to discuss the brand or product. Buzz marketing works best when consumer's responses to a product or service and

subsequent endorsements are genuine, without the company paying them. Buzz generated from buzz marketing campaigns is referred to as "amplified WOM" (word-of-mouth), and "organic WOM" is when buzz occurs naturally by the consumer.

Grassroots marketing

Grassroots campaigns aim to win customers over on an individual basis. A successful grassroots campaign is not about the dissemination of the marketing message in the hope that possible consumers are paying attention, but rather highlights a personal connection between the consumer and the brand, and builds a lasting relationship with the brand.

Astroturfing

Astroturfing is among the most controversial guerrilla marketing strategies, and it has a high risk of backfiring for the company marketing the product or service. Astroturfing derives from artificial "turf", often used in stadiums or tennis courts – also known as fake grass. Hence, fake endorsements, testimonials and recommendations are all products of Astroturfing in the public-relations sector. Astroturfing involves generating an artificial hype around a particular product or

company through a review or discussion on online blogs or forums by an individual who is paid to convey a positive view yet who does not reveal their true motivation. This can have a negative and detrimental effect on a company, should the consumer suspect that the review or opinion is inauthentic and manipulative of public opinion. The end result is damage to the company's reputation, and possibly litigation.

Street marketing

Street marketing uses unconventional means of advertising or promoting products and brands in public areas. The main goal is to encourage consumers to remember and recall the brand or product marketed. As a division of guerrilla marketing, street marketing is specific to all marketing activities carried out in streets and public areas such as parks, streets, and events. Street marketing also encompasses advertising outdoors, such as on shopping trolleys (shopping carts, in the US), public toilets, sides of cars or public transport, manhole covers, footpaths, rubbish bins, etc.

Street marketing is not confined to fixed print-form advertisements. It is common practice for organizations to use brand ambassadors who distribute product samples

or discount vouchers, and answer queries about the product while emphasizing the brand. The brand ambassadors may be accompanied by a kiosk which contains the product samples or demonstration materials, or they may be wearing a "walking billboard". The physical interaction with consumers has a greater influencing power than traditional passive advertising.

Street marketing is understood as mobilizing not only the space of the streets but also the imagination of the street: that of street culture and street art. The Y-generation broadly consisting of young urbanites (15 – 30 years old), is often put forth as the most susceptible target for the campaigns due to its associations with the culture of the street. According to Marcel Saucet and Bernard Cova, street marketing can be used as a general term encompassing six principal types of activities:

Distribution of flyers or products

This activity is more traditional, and is the most common form of street marketing employed by brands.

Product animations

This consists of personalizing a high-traffic space using brand imagery. The idea is to

create a micro-universe in order to promote a new product or service.

Human animations

The goal of such actions is to create a space in which the brand's message is communicated through human activity. This form of mobile presentation is based on the development of means of transport: taxi, bike, Segway, etc.

Uncovered actions

These activities involve the customization of street elements.

Event actions

These activities take the form of spectacles, such as flash mobs or contests. The idea is to promote a product, service, or brand value through organization of a public event.

Typical procedure

First, corporations identify the public places where the campaign can be developed such as beaches, cultural events, close to schools, sporting events and recreation areas for children. Next, companies have to develop a plan to get close to different media and the target market. In order to attract attention, street marketing events not only involve unusual activities, but use technology as part

of the events. The purpose is to increase the value of the campaigns and get potential consumers' attention.

Besides, the plans that companies develop take into account that guerrilla or street marketing involves global communication and interaction not only with the customers or the media. They are also developed to identify opportunities and collect enough information about products, markets and competitors. For example, for businesses it is important that customers stay with them, instead of choosing the competitors' offers. They implement innovative strategies with which they will not lose position in the market, and they consider supplementation with other advertisement through other mediums, such as radio and television, when using street marketing.

There are various examples of strategies that are used in guerrilla marketing. One of them is to provide offers to increase sales. In many cases, businesses do not only supply their products or services to be recognized, but they also offer other things for free. Another instance is to present a fundraiser offer. The point of this strategy is to help other organizations, such as schools, by offering them money. Most companies implement this method not only to increase

their sales, but to improve their reputation and image among the community. Finally, there is a strategy called "team selling" that consists of forming groups of people, the majority of them young, who go knocking on doors of different houses in a neighborhood. They do this in order to help companies with promoting and selling their products or services.

When doing guerrilla marketing or street marketing, organizations also consider focusing on the psychological approach. For many companies, this implies if they are having success or not. Street marketing focuses on some psychological aspects to know customers' behavior and preferences. For example, certain psychological areas study how people's brains are divided: 45% of people are left-brained, 45% are right-brained, and 10% are balanced. Left-brained persons tend to be logical, right-brained ones tend to be emotional, and the rest are a combination the two. Then, according to the product or service that enterprises provide, and also the kind of customer, businesses decide the way they are going to manage their street marketing campaigns.

Besides, almost all the enterprises base their street marketing campaigns on repeating the messages they spread among their

customers. Repetition is related to the unconscious part of the mind. This is the one in charge of making decisions. It lets people know what they are going to choose, as well as what they are going to buy. Businesses follow the principle that establishes that, the more people paying attention to the campaign, the more possibilities that campaign has for being remembered.

When a company decides to do a guerrilla marketing campaign which could be anything out of viral, ambient, ambush, street or stealth, the focus for them is to meet the objectives. The main objectives for them are:

- ✓ To create enough buzz to serve in word-of-mouth, helping the brand to establish well with its products
- ✓ To touch most of the five sensory identities of the customer/consumer, enhancing personal experience with the brand and building a good reputation
- ✓ To reach the target successfully by taking the brand to them in their daily routine

Through the experience and the ephemeral feelings shared between the company and the target, advertisers and agencies generate

a feeling of intimacy that resonates beyond the encounter. This feeling of nearness becomes all the more lasting as the affected individuals relive this encounter on the internet through social media.

Strategy

The guerrilla marketing promotion strategy was first identified by Jay Conrad Levinson in his book *Guerrilla Marketing*. The book describes hundreds of "guerrilla marketing weapons" in use at the time. Guerrilla marketers need to be creative in devising unconventional methods of promotion to maintain the public's interest in a product or service. Levinson writes that when implementing guerrilla marketing tactics, smaller organizations and entrepreneurs are actually at an advantage. Ultimately, however, guerrilla marketers must "deliver the goods". In *The Guerrilla Marketing Handbook*, the authors write: "...in order to sell a product or a service, a company must establish a relationship with the customer. It must build trust and support the customer's needs, and it must provide a product that delivers the promised benefits..."

Online guerrilla marketing

The web is rife with examples of guerrilla marketing, to the extent that many of us

don't notice its presence - until a particularly successful campaign arises. The desire for instant gratification of internet users provides an avenue for guerrilla marketing by allowing businesses to combine wait marketing with guerrilla tactics. Simple examples consist of using 'loading' pages or image alt texts to display an entertaining or informative message to users waiting to access the content they were trying to get to. As users dislike waiting with no occupation on the web, it is essential, and easy, to capture their attention this way. Other website methods include interesting web features such as engaging landing pages.

Many online marketing strategies also use social media such as Facebook and LinkedIn to begin campaigns, share-able features and event host events. Other companies run competitions or discounts based on encouraging users to share or create content related to their product. Viral videos are an incredibly popular form of guerrilla marketing in which companies film entertaining or surprising videos that internet users are likely to share and enjoy, that subtly advertise their service or product. Some companies such as Google even create interactive elements like the themed Google logo games to spark interest and

engagement. These dynamic guerrilla marketing tactics can become news globally and give businesses considerable publicity.

Strategic risk

Because of the nature of guerrilla marketing, the message and objective must be clearly defined in order to avoid being misunderstood. Misinterpretation by the targeted audience of the message intended to be promoted is a risk. Word-of-mouth advertising does not always remain sufficiently focused to present the intended message. The rumor-like spread of word-of-mouth marketing is uncontrollable once released, and can result in a misrepresentation of the message or confusion about a brand.

Street art is thus a subversive activity, hijacking public places and inventing rather paradoxical forms of expression that reformulate ways of communicating, all of which inform street marketing practices. Thus marketing in the street, given that it is inspired by the work of such artists, brings with it constraints and statutory risks for which agencies and advertisers are generally not prepared. The main problem is that, by definition, street mobilization campaigns require the use of public space, and that use

must be authorized by government authorities to be legal. This is just as true for simple operations like distributing flyers as it is for mobilizing products or people and, of course, for a disguised campaign.

Inexpensive costs

In a declining economy, guerrilla marketing is an increasing solution to giving companies the comparative edge over others. During times when companies are downsizing and cutting costs, companies look to guerrilla marketing as a cheaper strategy than conventional marketing. Instead of investing money in the marketing process, guerrillas invest energy, time and creativity. If done successfully, companies will be able to reach conventional goals for profits and growth with a smaller marketing budget.

Elements Behind a Successful Marketing Strategy

Successful guerrilla advertising strategies incorporate the following elements:

Clever: A successful guerrilla marketing advertisement should be clever so that it leaves consumers thinking about and interpreting the advertisement.

Compelling: It should capture the consumers' attention and make them appreciate the advertisement.

Memorable: It should elicit an intended emotional response from consumers.

Interactive: It should be interactive, whether that be with the surrounding area or with consumers.

Benefits of Guerrilla Marketing :

#1 Low budget

Guerrilla campaigns are typically low budget and rely heavily on unconventional methods to reach the consumer. Therefore, the strategy is a cost-effective way to build brand awareness. With such a marketing strategy, imagination is more important than budget.

#2 Opportunity to go viral

In today's society, with the huge amount of technology and the increasing number of people gaining access to the internet, a memorable impression can be captured by consumers and spread around the world. Marketing campaigns can easily go viral and gain exposure to millions of people.

#3 Memorable

Guerrilla marketing campaigns are memorable and unconventional by nature and show the ability to leave a lasting impression on consumers. With a successful campaign, buyers are left amazed, impressed, and wanting to learn more about the product and/or service. This marketing strategy helps with brand recall.

Guerrilla marketing is a marketing technique that uses unconventional ways to capture the public's attention in order to increase sales and brand image in the market.

When we hear the word "guerrilla marketing," we immediately think of guerilla warfare, which makes sense given that this type of marketing received its name from guerrilla warfare. Guerrilla tactics in combat depended on the element of surprise. According to Creative Guerrilla Marketing, think "ambushes, sabotage, and raids." But how does this transfer into the job we perform on a daily basis? Guerrilla marketing strategies rely heavily on the element of surprise. It aims to design very unorthodox advertisements that catch individuals off guard throughout their regular activities.

While larger corporations pay millions in marketing, a small firm may target a certain

demographic or location and spend a fraction of its resources to acquire momentum. The primary goal of guerrilla marketing is to maximize a brand's reach while keeping expenditures to a minimum. To execute an effective campaign, various aspects must be considered.

The following are some universal aspects of guerrilla marketing:

- Guerilla marketing strategies are extremely targeted in terms of where they are deployed.
- Authenticity is essential. It's not guerilla when it's been done previously or resembles something else.
- It does not break the bank or necessitate large marketing spending.
- Guerilla marketing takes place when and where your target audience least expects it. However, it must be well-timed.
- The execution must be flawless on the first try. Guerilla marketing cannot be replicated or scaled.
- Guerilla marketing does not take the place of a marketing strategy or

commercials. It creates a buzz for you.

CONCLUSION

Guerrilla marketing relies heavily on creativity. Similar to guerrilla warfare, which uses tactics such as raids, ambushes, and elements of surprise, guerrilla marketing employs the same form of tactics (but from a marketing perspective!). The idea behind such a strategy is to take the consumer by surprise, leaving a lasting impression, and creating a large amount of social media buzz. Compared to traditional forms of

marketing and advertising, the aim is to create a memorable and lasting impression on consumers.

Nowadays, consumers are starting to tune themselves out of traditional methods of advertising such as television and radio ads, and pop-ups. For example, consumers typically skip advertisements shown before a YouTube video. This is where guerrilla marketing stands out – it does not follow conventional marketing strategies and, instead, incorporates the element of surprise to capture consumer attention.

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SOCIAL BANKING: BUILDING CUSTOMER ENGAGEMENT THROUGH SOCIAL MEDIA

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ABSTRACT

Banks must have a thorough awareness of the essential components of social media leveraging in order to use it effectively. They must create roadmaps for initiatives' seamless implementation and adopt an effective social media strategy. Although utilising social media has several advantages for banks and bank customers, the present banking focus is only on developing a social media presence. However, banks must concentrate their efforts on utilising social media to boost consumer awareness and customer service as customer service demands and a preference for digital channels increase. This paper discusses in detail about the different ways of building customer engagement through social media.

Key words: Banking, Customer Engagement, Social Media

INTRODUCTION

The requirements and wants of today's consumers are substantially different from those of even ten years ago, despite the fact that the banking industry has always tried to preserve a connection that is focused on the customer. The last ten years, since the advent of social media, have seen a significant change in client expectations and their connection with banks.

The number of people using social media sites like Facebook and Twitter as part of their daily lives has significantly increased since the creation of these platforms.

Customers expect banks to offer services on social media platforms as more and more people use them. Banks must now work to take advantage of this quickly developing channel if they want to maintain client engagement and provide a twenty-first century banking experience.

This paper explores the opportunities social media can provide to banks in addition to the various ways banks can use it to improve client engagement.

Increasing Relevance of Social Media in Banking

Although the word "social media" has no precise meaning, the term will be used in this paper to refer to any online platform where the majority of the content—including text, photographs, and multimedia files—is produced by end users and is participatory in character. Social media can be roughly divided into four groups using this definition:

- Social networking platforms like Google+ and Facebook
- Microblogging platforms like Twitter;
- Sites for business networking, like LinkedIn;
- Platforms for sharing content, including YouTube and Flickr

Social media usage has significantly expanded as a result of the rising popularity of social media sites like Facebook and Twitter, as well as the widespread use of broadband internet, smartphones, and mobile applications. Social networking is become a common tool for daily interactions and duties. Banks must find creative methods to use social media, which is today's competitive advantage, if they want

to maintain meaningful consumer engagement.

Why Social Media is important for banks?

Targeted Marketing Campaign

Banks can execute focused marketing efforts on social media while spending less on marketing as a whole. Customers' awareness of new features and products can be greatly increased because to social media's wider reach than traditional methods.

For example, a customer frequently visits a local restaurant. His bank may utilise this data to provide discounts, rebates, cash back incentives, and loyalty points for meals or dining-related purchases.

Customer Information

By using client data from social media and adhering to data privacy laws, banks can profit from their ability to gather customer insights.

Additionally, by integrating and utilising both internal and external data (i.e., the core banking system and social media and other platforms), banks can improve their capacity to draw a comprehensive perspective of their customers.

A client announces her child's recent birth on social media to friends and relatives. This data can be used by her bank to identify potential changes in her life stage demands and provide products that might be appropriate.

Feedback of banking products and services

Social media is becoming increasingly important to consumers, so banks may use it to get feedback on their banking services and products. Engaging in social media also enables the crowdsourcing of ideas, which may result in the creation of products and services that are specifically tailored to certain customer segments.

Sales Lead Generation

Banks can employ analytics to produce leads from consumer behaviour on social media, such as posts and likes, which can be used to conduct next-best analyses and create next-best actions.

For instance, a customer provides details about an upcoming international trip. This information can be used by his bank to market products for foreign exchange, travel insurance, and cash cards. Banks can improve their sales closure ratio by using this focused strategy.

Service to clients

Social media improves a bank's capacity to respond to consumers in a quick, logical, and personalised manner—improving the entire customer experience—because it facilitates real-time contact.

For example, a consumer had difficulties using her credit card and tweets about it. Her bank can take proactive action by getting in touch with the customer and fixing the problem, essentially turning a negative into a positive.

Brand Building

Banks can utilise social media to broaden the scope of their branding initiatives because it has a global audience and doesn't discriminate based on geographic location. In order to keep the bank on the minds of those customers, they can also use social media to create a feedback loop between the marketing department and customer replies, and even modify campaigns to become more interactive and responsive.

Customers who use Facebook to "like" a bank's campaign message or use Twitter to "retweet" a bank message support the bank's brand by doing so.

Management of Reputation

A bank discovers a pattern of unfavourable opinion through social analytics concerning its products, services or activities. By connecting with customers, the bank can take preemptive corrective action to lessen the risk of reputational harm.

Customer Loyalty and Support

Customers are more likely to remain loyal to a bank when they feel that their questions are routinely and promptly answered. On social media, the consumer might promote the bank's brand.

Internal Cooperation

The window of opportunity for banks to respond to client questions and complaints on social media is relatively small. Banks

will need to improve internal communication as they fully embrace social media to enable seamless information flow.

CONCLUSION

The necessity for banks to adopt this quickly developing medium grows as more and more people use social media. They must include it as a crucial component of their overall digital strategy as they step up their attempts to boost client engagement. Social media is the most significant platform that might offer banks the desperately needed avenue for establishing client relationships. Some of the priceless benefits that social media strategy could provide for banks include the enormous potential for providing client solutions, raising brand awareness, growing their customer base, and establishing ongoing personal connections.

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SERVANT LEADERSHIP- PUTTING YOUR TEAM FIRST

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ABSTRACT

Servant leadership is a leadership philosophy built on the belief that the most effective leaders strive to serve others, rather than accrue power or take control. The aforementioned others can include customers, partners, fellow employees and the community at large. The term was coined by management expert Robert K. Greenleaf in an essay, "The Servant as Leader," published in 1970. According to Greenleaf, the seminal idea grew out of his reading of *Journey to the East* by the German writer Hermann Hesse. The novella tells the story of a band of luminaries on a quest for the "ultimate Truth." When the humble servant charged to take care of their needs disappears, the group bickers and abandons the quest. Much later, the narrator discovers the humble servant is, in fact, the leader of the organization that sponsored the quest he and his fellow travelers failed to complete. Proponents of servant leadership argue this style of leadership brings advantages beyond engendering an ethical employee-boss relationship. Employees treated with respect are more likely to be loyal to the institution, provide superior service to the institution's customers and come forward with ideas and innovations. The servant leadership approach has recently gained currency as companies look to flatten their organizations, empowering employees and teams to make decisions in an effort to keep up with a fast-moving business environment.

Keywords - Leadership, Manager, Transformation, Interpersonal Relationships

INTRODUCTION

The words “servant” and “leader” might seem at odds with each other, but they come together to represent a powerful

management style called servant leadership. Servant leadership centers on empathy, and encourages listening, sharing praise, and helping others grow — all of which can help a company, and its employees, thrive.

What is servant leadership?

Servant leadership is a management style in which a leader acts as a servant to their organization, earning their authority rather than simply imposing control onto others. In this leadership style, the manager (a boss, CEO, or any type of executive) serves their employees and peers, rather than the other way around. In turn, employees are more motivated and high performing, enabling them to be innovative and successful.

Robert K. Greenleaf first coined the term servant leader in his 1970 essay “The Servant as Leader.” In the essay, he wrote that the servant leader “focuses primarily on the growth and well-being of people and the communities to which they belong.” These leaders “put the needs of others first and help people develop and perform as highly as possible.”

SERVANT LEADERSHIP CHARACTERISTICS

Greenleaf outlines ten fundamental principles of servant leadership.

1. Listening

Servant leaders must be good listeners to get to know their employees. Knowing your workers on a deeper level allows you to

better support their needs and improve their work experience.

2. Empathy

Servant leaders should make employees feel seen, heard, and understood. Empathetic leaders don't just dole out criticism, but instead work to understand the why behind employees' actions, allowing them to offer custom solutions and correct behaviors in more positive, productive ways.

3. Healing

Not all employees are used to healthy work environments, and many will take time to become comfortable with the style of servant leadership. Leaders should be patient when getting to know new employees and foster an environment in which they can build trust slowly over time.

4. Self-Awareness

Servant leaders understand their position within their team. For example, if you're speaking over others in meetings, delivering public criticism, or rigidly enforcing authority, you're likely not acting as a servant leader, and could be pushing employees away. Be aware of how you are perceived by your team on a day-to-day basis and alter your actions accordingly

5. Persuasion

Servant leaders use persuasion instead of power and authority to influence their teams and get everyone on the same page. You should convince others and get buy-in without forcing compliance or telling people that they simply have to do something because you said so.

6. Conceptualization

Conceptualization means that servant leaders can develop a direction for their teams that will bring company success. This requires leaders to think in a conceptual way, looking beyond day-to-day priorities and focusing on the bigger picture.

7. Foresight

Foresight is the ability to predict what will happen in the future. With servant leadership, this means using historical performance and current objectives to predict future outcomes and to estimate what resources employees will need to help them succeed.

8. Stewardship

Stewardship is synonymous with accountability. The leader can take

responsibility for their actions and understand how their support for their employees contributes to the overall performance of their teams.

9. Commitment to the Growth of People

Servant leaders want employees to be equipped with the tools and resources they need to succeed. As such, servant leaders must be committed to the growth and development of people. In practice, this can look like ensuring employees have the proper training for their duties, planning development opportunities, or checking in with workers to understand their career goals and figuring out how to help them get there.

10. Building Community

Workplace communities foster a sense of trust and togetherness, so people feel they are working together to meet a common goal. As a servant leader, ensure your workplace feels like a community by building relationships with others and encouraging people to build relationships with their co-workers.

SERVANT LEADERSHIP EXAMPLES

Leading by Example

A servant leader is willing to do any task that they ask an employee to do. If an employee on the social media team is falling behind on the number of posts they need to hit per month, the team manager will step in and take off some pressure by creating posts themselves.

Fostering Collaboration

Servant leaders collaborate with their teams rather than barking orders. This means looping in employees and team members in decision-making processes rather than delivering final outcomes. This way, employees feel invested and engaged in the company, and know their thoughts, feedback, and concerns will be heard.

For example, the director of a marketing department holds a monthly all-hands meeting in which she welcomes feedback from workers. She encourages employees to email her throughout the month with their ideas, and facilitates brainstorming coffee sessions with her team members.

Showing Empathy

Servant leaders show empathy to their employees by making sure everyone on the

team knows they are valued as humans and individuals. Empathetic leaders understand where their employees are coming from, and work to make their lives easier, not harder.

For instance, an executive at a tech company wants his employees to know that they bring more to the table than just their hard skills and labor. He implements generous parental leave for those who are starting families, unlimited time-off policies, and programs that cover mental and physical care for employees so that they can take care of themselves well.

Additionally, empathy could be shown by a leader taking the first 10 minutes of every one-on-one meeting to learn more about their employees on a personal level. Upon hearing that one employee has recently suffered a loss in their family, a servant leader would be empathetic to what that might mean for their mental health, and encourage the employee to take personal days.

Being Persuasive

Servant leaders persuade their employees and peers rather than ordering them to follow their lead. Persuasion requires having an effective argument for why you want to make the decision you've come to, and is

backed with evidence and research. For example, rather than simply telling the team of writers that their articles need to be half as long, a servant leader would present the data they used to come to that decision. This makes any decision making a more collaborative process.

Building Community

A servant leader will take steps to foster community within their team and the company. This might take the form of scheduling social Zoom events for remote teams, in-person dinners or activities, or team-building retreats and off-sites. Purposeful programming that makes time for relationship-building outside of day-to-day responsibilities can create deeper relationships between workers.

Listening Well

Though it seems simple, being a good listener separates great servant leaders from the pack. Rather than being checked out in meetings, taking notes or answering emails while their employees speak, good servant leaders listen actively.

This means giving your employees physical cues that you're hearing them (nodding, smiling, and giving live feedback) as well as

following up on the information that's been presented to you. This could mean asking follow-up questions, referencing the information in a later conversation, or crediting one of your employees when a different team member mentions their idea. Although different from leaders following more traditional styles, servant leaders can build motivated and capable teams. If you're a leader looking to try your hand at this leadership style, make sure that you understand who your employees are as people, provide them with the tools and support they need to succeed, and act as an ever-present resource.

10 principles of servant leadership

Here are the 10 principles of effective servant leadership to help you become a better leader:

1. Listening

Effective servant leaders don't just speak but listen to what their team has to say. They give ample opportunity for all members to be heard, and then, listen carefully to what is being said and potentially what is not being said.

They give others their full attention, notice coworkers' nonverbal cues, avoid

interrupting them when speaking and give constructive feedback. By gathering observations and insight from all team members, servant leaders understand growth opportunities.

2. Empathy

Effective servant leaders care about their team on a personal level. They understand that when their team feels happy and fulfilled in their personal lives, it contributes to success in their professional lives. They value others' perspectives and approach situations with an open mind. Because of this, servant leaders make it a priority to show team members they care about them and try to help them with personal issues when they can.

3. Healing

Effective servant leaders understand the importance of fixing problems before moving on to new goals and projects. For example, your team may have suffered a setback last quarter due to a team disagreement. To face the new challenges of this quarter, the team needs to be able to heal and come to an agreement first. Servant leaders make sure their team has the knowledge, support and resources to do their jobs effectively,

4. Self-awareness

Effective servant leaders are aware of themselves and their teams. Self-awareness is the ability to look at yourself, think deeply about your emotions and behavior and consider how they affect the people around you. In being self-aware, servant leaders accept and grow from their own weaknesses. Just as important is that as leaders, they are aware of their team's individual strengths and weaknesses to help them grow and learn.

5. Persuasion

Effective servant leaders guide and persuade team members. Where an authoritarian leader might tell team members what to do, a servant leader tells them why it's the best method or process. They seek to convince the team as a whole and build a consensus.

6. Conceptualization

Effective servant leaders can think beyond small tasks and communicate larger goals and why they are important to their teams. They help their team understand their roles and stay motivated while focusing on the company's long-term objectives and goals.

7. Foresight

Effective servant leaders understand the importance of learning from past mistakes and successes and using lessons learned to productively evaluate present decisions. They identify what's happening now and understand the consequences of their decisions and then help their team do the same. They use tools like SWOT analysis to evaluate their current situation and environment and SMART goals to plan ahead.

8. Stewardship

Effective servant leaders acknowledge and understand the importance of their responsibilities. They protect and uphold the trust and confidence given them in their role and communicate this to their team. As a steward of their company's assets and goals, they work hard, arrive on time and are dependable. They lead by example, demonstrating the values and behaviors that they want to see in others.

9. Commitment to growth

Effective servant leaders motivate their teams to grow. They are committed to helping their teams develop professionally. Servant leaders help their team members

become leaders themselves by leading by example and providing their team with opportunities to grow and develop. They also find out what their employees' personal goals are and give them projects or more responsibilities to help them achieve those goals.

10. Building community

Effective servant leaders encourage collaboration and engagement within their organizations. They value the opinions of everyone on their team and encourage them to share those opinions and to actively contribute to the team regularly. They provide opportunities for interaction through social events, workspace design or by even opening meetings with non-work-related conversations.

How to become a servant leader?

Follow these steps to help you develop the skills of a servant leader:

1. Lead by example

A servant leader should always lead their team by example. As a servant leader, you should be willing to do anything that you ask your team to do. When your team members see you are willing to put in the same amount of work and effort they do, it

helps motivate them to engage in their work and the organization.

2. Show people why their job is important

When employees feel that what they do is important to the overall success of the organization, they usually feel more empowered and are willing to work harder to help it succeed. You should try to make sure your team members know why the work they do is important and how their work directly affects the company's overall success.

3. Encourage collaboration and employee engagement

Servant leaders are also great at making their teams feel their voices and opinions matter. When you take steps to encourage your team to work together and suggest ways to improve the organization, it shows them you care about what they have to say and appreciate their contributions. This can motivate your team to put forth their best effort to produce higher-quality work.

4. Help your team grow and develop

Servant leaders don't only focus on being great leaders themselves but are also interested in helping their team members become great leaders. You should encourage

your team to participate in continuing education and employee development programs to help them expand their knowledge and skills. You can encourage team members to take active leadership roles during group projects. If they know you are committed to their professional growth, they are more likely to listen to suggestions to help improve their work.

5. Care for your team members personally

Another thing you can do to become a servant leader is to show your team members you care about them on a personal level. Being empathetic and trying to offer advice when you can help create a more positive work-life balance for your employees and help them cope with personal stress better. When your team feels that they matter as individuals and not just as employees, they are more likely to be happy about coming to work and producing quality work.

6. Ask for feedback

Finally, servant leaders should always be looking for how they can improve their own leadership and contribute to their team. Encourage your team members to provide feedback when they have an idea to improve

workflow or help the company succeed. Try to make your team members feel empowered to come to you with suggestions at any time and regularly ask for feedback from those who don't naturally provide it.

CONCLUSION

Servant leadership is a management style in which you focus on your team's growth and well-being to put their needs first. The theory is that instead of employees serving the leader, the leader serves the employees. This type of manager believes that when their team members feel personally and professionally fulfilled, they

produce high-quality work more efficiently and productively. Employee satisfaction and collaboration are important concepts in servant leadership. You can use this leadership style in any type of business but it is particularly popular within nonprofit organizations. Servant leadership is important in business because it creates a work environment in which employees at all levels of your organization feel respected, appreciated and valued. Businesses that follow a servant leadership philosophy tend to have stronger work cultures with high employee morale and engagement

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THE ROLE OF MARKET ORIENTATION, CREATIVITY AND INNOVATION IN CREATING COMPETITIVE ADVANTAGES AND CREATIVE INDUSTRY PERFORMANCE

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ABSTRACT

The purpose of this study is to analyze the impact of market orientation, creativity, innovation what's more, upper hand on the exhibition of creative ventures. Respondents from this study are 150 proprietors or heads of creative ventures in the design area in Erode. Sampling method in this research use purposive sampling method. This technique is utilized considering the measures of the creative design industry that has been operating for not less than 3 years and enhancing market-situated items. The information acquired will be broke down utilizing Partial Least Square (PLS) program. The results of data analysis show that creativity has no significant effect on innovation. Market orientation altogether influences innovation and execution. Innovation likewise altogether affects greatness and cutthroat execution. Moreover, upper hand has a critical impact on organization execution

Keywords: Market Orientation; Creativity; Innovation; Competitive Advantage; Performance

INTRODUCTION

Creative industry is one of the spines for economic development; it will have a more prominent commitment for Indonesia in the event that it is grown well. The creative industry has a huge commitment to economic development, particularly in giving position and expanding individuals' earnings. These

days, rivalries are getting more tight, so inventiveness and advancement is required to adjust on the environmental changes. Development of nonstop advancement requires sufficient assets, in the field of HR, money and innovation. Little and medium undertakings' assets affect authoritative ability.

The development of market-oriented, imagination and innovation is one of the fundamental parts that support the production of upper hand. The production of feasible upper hand for the creative enterprises is important to contend in the worldwide market. Imagination and innovation are required by creative enterprises to develop and create. Industry entertainers ought to have the option to change the viewpoint from benefit direction to the long haul customer-oriented. To accomplish business objectives, creative industry players ought to have ability to confront difficulties, figure out methodologies in contest. Rapid changes in the environment particularly innovation and customer force the creative industry to change by taking on information, abilities and innovation.

The capacity to increment imagination in finding new and extraordinary thoughts is expected to contend in the worldwide market. Upper hand shows that organizations act better compared to rivals in something very similar. Imagination in the structure of item innovation ought to be done economically founded on shopper's requirements. The achievement of the creative industry to foster market-

oriented, inventiveness and innovation items are expected to make upper hand.

Market direction requires adequate assets to make manageable cutthroat advantage. Market direction includes customers and contenders, so creative industry players ought to grasp the job of hierarchical culture. The marketing association ought to comprehend shopper needs and convey preferable worth over contenders. Market direction can further develop innovation and business execution the achievement of the creative industry to foster innovativeness and acknowledge as new market-oriented, item innovation is supposed to make upper hand.

REVIEW OF LITERATURE

Friday O. Okpara (2007)¹ supported the meaning of creativity by which it is the capability to produce, bring into existence, to create into a new form, to create through imaginative skill, to make to bring existence something new. Companies get recognized on their innovation as it is their ultimate source of competitive advantage point due to the new reality today's global business. With this, the roles of creativity and innovation in entrepreneurship are analyzed.

Entrepreneurship, according to Clow (2008)², is the process of mobilizing and sacrificing resources (land, capital, and human resources) to use a business opportunity or execute an idea in a way that meets society's needs for products and services, creates employment, and benefits the venture's owner. Both new and established businesses are involved in this process, but the focus is usually on new products or services and new businesses. Therefore, for a country to prosper and enjoy continued economic growth, creativity and innovation have to be injected into the entrepreneurship development agenda has to be pursued.

According to Akbar Fadaee (2014)³, it is proved that the creativity is common among the human species and all at birth have talent in varying degrees. The definition of creativity can be defined in different and numerous ways. Entrepreneur primary concerned is developing new product, processor market and the ability to break through the tough market.

Gontur et al., (2016)⁴, in their study, Creativity and innovation can also be extended to things like coming up with business ideas, such as what to manufacture to satisfy customers,

finding investment opportunities, deciding how to capitalize on those opportunities, formulating corporate goals and objectives, and conducting market research in both urban and rural areas. Creating an enterprise, starting real business operations, selling and promoting an organization's products and services, planning and managing human and material capital for the achievement of the enterprise's goals, risk and uncertainty management, creativity, and diversification.

THE OBJECTIVES OF THE STUDY

It examine the relationship between market orientation, creativity, innovation, competitive advantage and creative industry performance. The operational definition of those research variables can be explained. Market orientation is an organizational culture that has confidence and values that put customers in the center of business decisions and measured through 9 indicators adopted those are: value added for consumers, understanding consumer needs, customer satisfaction, information sharing competitors, competitor action responses, competitor strategy responses, inter functional coordination, information sharing

between parts, cooperation formulate strategies.

RESEARCH METHODOLOGY

RESEARCH DESIGN

In this study, obtained data from the respondents used to explain the relationship between research variables. Data is analyzed by quantitative approach. The respondents of this study are the owners or the heads of creative industry in the fashion sector in Erode.

SAMPLING TECHNIQUES

Purposive sampling was used as the sampling technique. This method was used by considering the criteria of the creative fashion industry that has been operating for at least 3 years and innovate market-oriented products. The respondents selected in this research are the owners of the creative industries.

The data were collected by sending questionnaires, interviews and field observations.

To ensure the data accuracy, it was selected 130 questionnaires which are qualified as respondents. The collected data will be tested for its legitimacy and reliability. The estimation of the questionnaire in this study is by utilization of "five-point Likert scale from 1 to 5" rating from strongly disagree to strongly agree. The obtained data will be analysed using Partial Least Square (PLS) program. The result of data analysis is supposed to make sense of the connection between research factors.

RESULT AND DISCUSSION

Table 1. Respondents Description

| Variable | Respondents | Percentage |
|-------------------------------------|-------------|------------|
| Age (in year) | | |
| 20-29 | 12 | 9.23 |
| 30-39 | 46 | 35.38 |
| 40-49 | 55 | 42.30 |
| 50-59 | 12 | 9.23 |
| >60 | 5 | 3.89 |
| Operating Business (in year) | | |
| 1-5 | 11 | 8.46 |
| 6-10 | 35 | 26.92 |
| 10-15 | 37 | 28.46 |
| 16-20 | 20 | 22.30 |
| >20 | 18 | 13.4 |

Table 1 shows a general overview of the age and business operations in the creative industries. Most creative industry players are 34- 49 years (42.30%). It means that the creative industry players run the business on the

productive age. Based on the length of business operations, most of them have a sufficient work experience since they run the business for 10-15 years (28.46%).

Table 2. Description of Variables and Indicators

| Variable | Mean | Median | SD |
|-------------------------------|-------------|---------------|-----------|
| Creativity | 3.63 | 3.50 | 0.56 |
| Market Orientation | 3.89 | 3.94 | 0.66 |
| Innovation | 4.12 | 4.25 | 0.47 |
| Competitive | 3.96 | 4.05 | 4.00 |
| Advantage Company Performance | 4.00 | 0.53 | 0.59 |

Table 2 shows an overview of the mean, medium and standard deviations of each variable. Market orientation variables in a high category which is indicated by its mean value (3.89). It shows that the industry creative in fashion sector run the business activity with consumer oriented. Business activity is always consumer oriented, which is done by creating good cooperation with the consumers, giving the best added value for consumer, trying to understand consumers' needs and trying to satisfy them. The mean value of innovation variable is 4.12, means that it belongs to

the high category. This condition shows that the innovation has been done well and in accordance with consumer expectations. The mean value of competitive advantages which is 3.96 belongs to the high category. This condition shows the ability to create competitive advantage made by the perpetrators of the creative industry is good.

The data obtained will be tested empirically based on Partial Least Square (PLS) with Smart PLS software. The analytical techniques will used to test the Hypothesis through the model of

structural equations with Partial Least Square (PLS) approach. The approach through distribution free is a powerful research method in Partial Least Square (PLS), because it does not assume

certain distributed data but it can be nominal, ordinal, interval and ratio and the number of samples should not be large

Table 3. Result of Validity Test

| Variable | Indicator | Loading Factor | Conclusion |
|-----------------------|-----------|----------------|------------|
| Creativity | KRE1 | 0.952 | Valid |
| | KRE2 | 0.514 | Valid |
| | KRE3 | 0.659 | Valid |
| | KRE4 | 0.731 | Valid |
| Market Orientation | MO1 | 0.758 | Valid |
| | MO2 | 0.897 | Valid |
| | MO3 | 0.826 | Valid |
| | MO4 | 0.765 | Valid |
| | MO5 | 0.764 | Valid |
| | MO6 | 0.894 | Valid |
| | MO7 | 0.854 | Valid |
| | MO8 | 0.912 | Valid |
| | MO9 | 0.917 | Valid |
| Innovation | PI1 | 0.710 | Valid |
| | PI2 | 0.815 | Valid |
| | PI3 | 0.716 | Valid |
| | PI4 | 0.676 | Valid |
| Competitive Advantage | CA1 | 0.690 | Valid |
| | CA2 | 0.812 | Valid |
| | CA3 | 0.764 | Valid |
| | CA4 | 0.621 | Valid |
| Company performance | PF1 | 0.740 | Valid |
| | PF2 | 0.848 | Valid |
| | PF3 | 0.831 | Valid |
| | PF4 | 0.782 | Valid |

The validity test result in Table 3 shows that the value of outer model indicates the factor loading value of each indicator is above 0.50, so it can be concluded that all indicator is valid.

Meanwhile, to measure reliability of variables is done by discriminant validity approach. It compares the square root values of Average Variance Extracted (AVE) in every construct by

correlating between construct with others in the model. The model has good discriminant validity if the AVE root value of each latent variable is greater

than the correlation value between latent variables with other latent variables in the model and recommended AVE values must be greater than 0.50.

The reliability test result in Table 4 shows that the value of each Composite Reliability is above 0.60 and Average Variance Extracted (AVE) is 0.50. From

the result, it can be concluded that this study has qualified reliability of a construct.

Table 4. Reliability Test Results

| Variable | Composite Reliability | AVE |
|-----------------------|-----------------------|-------|
| Creativity | 0.821 | 0.535 |
| Market Orientation | 0.957 | 0.714 |
| Innovation | 0.815 | 0.536 |
| Competitive Advantage | 0.877 | 0.642 |
| Company Performance | 0.814 | 0.534 |

The value of R-Square in Partial Least Square (PLS) model of each dependent latent variable can be seen in Table 5.

Table 5. R-Square Value

| Variable | R-square |
|-----------------------|----------|
| Innovation | 0.580 |
| Competitive Advantage | 0.757 |
| Company Performance | 0.784 |

The analysis result in Table 6 shows the R-square value of innovation variable is 0.580. It shows that creativity variables influenced by creativity and market orientation variables are 0.580 or 58.0%. Furthermore, the R-square of competitive advantage variables is 0.757 means that the competitive advantage

variable is explained by the innovation variable of 75.7% While R-square of performance variable is 0.784 means that the performance of creative industry influenced by market orientation, innovation and competitive advantage is 78.4%.

CONCLUSION

The policy of market-oriented innovation development encourages the creation of sustainable competitive advantage for the creative industry. The performance of the creative industry can be improved if the policy of market-oriented innovation is developed by focusing on consumer orientation, competitor orientation and inter-functional coordination. Similarly, performance can be improved if the creative industry has a competitive advantage.

The managerial implication of this research is that innovation

development to create competitive advantage can be done by developing consumer oriented marketing policy, competitor orientation and good inter-functional coordination. Improving the performance of categorical industry can be done by conducting business policy focusing on market orientation, continuous innovation and creating competitive advantage.

Future research is expected to test the type of creative industry, by adding business environment variables as well as firm size as moderating variables.

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GENDER EQUALITY AND SKILL DEVELOPMENT IN THE FRAMEWORK OF EDUCATION

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ABSTRACT

The importance of skill development by promoting gender equality within the framework of education is discussed in this article. Enhancing skills increases employability and sustainability. In the context of education, this article explores the value of skill development in fostering gender equality and sustainable development. The paper examines the status of gender equality in education today. This helps run many programmes to raise people's skill levels and helps offer suggestions to policymakers about how to advance gender equality.

Keywords: *Sustainability, Skill Development, Gender Equality, Employability*

INTRODUCTION

Gender discrimination is not a new problem. It plays a vital role in this era. Skill development is the most important factor in every sector so the utility to inform the problem of gender discrimination in education perspective is also very important. Education is the big tool to fight against gender inequality. Education provides a clear picture to the needs and desires of a person to be attained. It shows the direction to achieve their dreams and helps them to make their dreams into reality. This article shows the role of Skill Development to fight against Gender discrimination. Skill Development refers to the process of enhancing the skill by using certain methods to do the work effectively. Now we are going through the era of modern technology, Artificial Intelligence, here comes the importance of education to mould the people to be changed, because skill is required to survive in this modern world. The authorities are trying to reduce the gender discrimination problems by offering equal pay for equal work, but the society have to change first, they are

treating transpersons very cruelly, let them live, this universe is not belongs to a certain category of individuals, every human have the same right here. To solve all these problems education is needed.

OBJECTIVES

- To pertain equal place and equal opportunities for Men and Women
- To pertain equal payment for the same job done by Men and Women
- To pertain Equality of men and women in the perspective of social activities and political representation.

ROLE OF EDUCATION IN SKILL DEVELOPMENT

Education is the most significant element, without education no one can sustain, so it is unavoidable due the following reasons;

- Career development:
Education acts as a guide to show better career paths. It suggests the skills and knowledge needed to achieve their dreams.

- Employment opportunities:
Education creates employability, it helps to utilize their skills and caliber fully. There by they get attractive jobs.
- To boost Knowledge:
Education helps to learn new things so every individual can understand many things and use it accordingly.
- Core competencies:
Individuals can improve their skills by developing their inner skills by brainstorming method and solve practical problems.
- Improves Confidence:
An individual have no confusion when they have a sufficient knowledge in that, So Education improves confidence among individuals.

IMPACT OF GENDER INEQUALITY

India is the country which faces gender in equality problem at the peak. The Women differentiated by biologically, psychologically and culturally. Indian government have raised many programs like “beti bachao and beti padao” which provides education to the girl child. Gender discrimination creates high female unemployment which reduces social and international standard of a country. It affects our country’s international standing adversely. So to pertain sustainable development it is very important to treat all human equally.

WAYS FOR PROMOTING GENDER EQUALITY IN SKILL DEVELOPMENT AND EDUCATION

- Financial assistance to women:
Money is the fundamental need of a person to achieve their education. Here women needs fund to earn education and to build a career.
- Education policies and practices:
It means providing all the facilities to the women who urges education, it includes financial support and non financial support.
- Promote Skill Development and Education:
Policy makers should take care of Backward sessions of women community to provide better education by providing accommodation facilities, scholarship facilities to the women.
- Conduct Empowerment programs:
It creates strength among the women and it helps to improve self confidence thereby the can come forward and work accordingly.
- Provide training:
Training is the first step to develop their own potential and helps to find out the hided capabilities from them.

CONCLUSION

Skill Development and gender equality plays a major role in our world. Gender inequality badly affects our economic standard. Skill Development is the key to success. firstly our society needs an

arrangement regarding gender discrepancies, It can be solved by providing good education to girls and provide training to women. Many factors like economic factors, political factors, socio-economic factors affecting women. These factors acts like hindrances to achieve their dreams.

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A STUDY OF MARI OFFSET PRINTERS' HIRING AND SELECTION PRACTISES AT SIVAKASI

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ABSTRACT

Human resources are defined as knowledge, skills, creative abilities, talents, and attitudes from a national perspective. However, from the perspective of a specific enterprise, they are the sum of all innate abilities, acquired knowledge, and acquired skills as demonstrated by the talents and aptitudes of its employees. The company's overall performance is handled by human resources. It is crucial to hire employees with the necessary abilities, education, and experience if the firm is to meet its goals and objectives. The HR managers devise plans and techniques for selecting the best candidates. One of the fundamental tasks of human resource management is employing new employees. This study came to the conclusion that employees' perceptions of training programmes generally are normal. The majority of the workers, according to the researcher, are new to their jobs. Therefore, the management should take the necessary actions to implement the plans and the aforementioned ideas right away. If the advice is taken into consideration, Mari Offset Printers private limited, Sivakasi's hiring and training practices will be up to par. Here recruitment is otherwise called as hiring

Keywords. Human Resources, Selection Practices, knowledge.

INTRODUCTION

Human resources are defined as knowledge, skills, creative abilities, talents, and attitudes from a national perspective. However, from the perspective of a specific enterprise, they are the sum of all innate

abilities, acquired knowledge, and acquired skills as demonstrated by the talents and aptitudes of its employees. The company's overall performance is handled by human resources. It is crucial to hire employees with the necessary abilities, education, and

experience if the firm is to meet its goals and objectives. The HR managers devise plans and techniques for selecting the best candidates. One of the main duties of human resource management is hiring. The entire process of attracting, choosing, and hiring qualified individuals for positions (either temporary or permanent) within an organization is referred to as recruitment. The term "recruitment" can also apply to the procedures used to select candidates for positions that are not paid, such as volunteer work or unpaid trainee positions. Recruiting may be handled by managers, human resource generalists, and recruitment experts, but in some instances, commercial employment agencies, public employment agency, or specialized search consultancies are utilized to handle specific aspects of the process. Technologies based on the internet are now widely used to help all facets of recruitment. Training and development can be seen as interacting processes that support one another. The organization's next natural step is to create a plan for human resource development that will integrate with the personnel resourcing plan (i.e., selection) and the overall strategic plan of the company. Employee training and development is an investment in people; it is

not a choice; it is a fundamental component of HRM.

STATEMENT OF PROBLEM

The amount and caliber of an organization's human resources play a significant role in its success. The initial stage of the operational function of human resource management is the hiring of the appropriate quantity of employees. Recruitment and training are crucial in today's environment. For an organization to function efficiently and accomplish its goals, recruitment and training are crucial. Different strategies and approaches are used for recruitment and training. The researcher has therefore made an effort to study the attitude towards the hiring and training practices at Mari Offset Printers in Sivakasi.

OBJECTIVES OF THE STUDY

The study's goals are

To study the idea of recruitment, selection, and training processes;

To analyze recruitment, selection, and training processes.

To make appropriate recommendations based on the study's findings.

HYPOTHESIS

- **There is no significant association between gender of the respondents and their opinion about**

recruitment and selection procedures

- There is no significant association between the age of the respondents and recruitment and selection procedures

METHODOLOGY

On both primary and secondary data, the study is built. Interview Schedule at Mari Offset Printers in Sivakasi collects primary data, and books, journals, internet, and other sources are used to gather secondary data.

TOOLS USED FOR ANALYSIS

With the assistance of SPSS, the data are examined. These statistical instruments are employed.

- Percentage
- Chi-square test

AGE WISE CLASSIFICATION

The respondents are classified based on their age and the same is presented in the following table 1

GENDER WISE CLASSIFICATION

The researcher has classified the respondents based on their gender. The Table 2 indicates that the gender of the respondents.

TABLE 1
AGE WISE CLASSIFICATION

| S. No | Particulars | No. of Respondents | Percentage |
|--------------|-------------|--------------------|---------------|
| 1 | 18-27 Years | 22 | 27.50 |
| 2 | 28-37 Years | 44 | 55.00 |
| 3 | 38-47 Years | 7 | 8.70 |
| 4 | above 48 | 7 | 8.70 |
| Total | | 80 | 100.00 |

Source: Primary Data

Table 1 shows that, of the 80 respondents, 22 (27.50%) are between the ages of 18 and 27, 44 (55.00%) are between the ages of 28 and 37, 7 (8.70%) are between the ages of 38 and 47, and the remaining 7 (8.70%) are over the age of 48.

It is discovered that the majority (55.00%) of responders are between the ages of 28 and 37.

TABLE 2

GENDER WISE CLASSIFICATION

| S. No | Particulars | No. of Respondents | Percentage |
|--------------|-------------|--------------------|---------------|
| 1 | Male | 33 | 41.25 |
| 2 | Female | 47 | 58.75 |
| Total | | 80 | 100.00 |

Source: Primary Data

According to Table 2 above, out of 80 respondents, 33 (41.25%) are men and the remaining 47 (48.75%) are women.

It is clear that the majority of respondents (58.75%) are female.

EDUCATIONAL QUALIFICATION OF THE RESPONDENTS

The respondents are further categorized by their level of education into the following categories: Illiterate, Primary, Secondary, Higher Secondary, Graduation, Post-Graduation, and Diploma/ITI. The respondents' educational background is shown in Table 3.

TABLE 3

EDUCATIONAL QUALIFICATION OF THE RESPONDENTS

| S. No | Particulars | No. of Respondents | Percentage |
|--------------|---------------------|--------------------|---------------|
| 1 | Illiterate | 3 | 3.75 |
| 2 | Primary Education | 1 | 1.20 |
| 3 | Secondary Education | 12 | 15.00 |
| 4 | Higher Secondary | 15 | 18.75 |
| 5 | Graduation | 22 | 27.50 |
| 6 | Post-Graduation | 17 | 21.30 |
| 7 | Diploma/ITI | 10 | 12.50 |
| Total | | 80 | 100.00 |

Source: Primary Data

Table 3 shows that, of the 80 respondents, 3 respondents (3.75%) have no formal education, 1 respondent (1.20%) has completed their primary education, 12 respondents (15.00%) have completed their secondary education, 15 respondents (18.75%) have completed their higher secondary education, 22 respondents (27.50%) have completed their undergraduate

degrees, 17 respondents (21.30%) have completed their graduate degrees, and the remaining 10 respondents (12.50%) have completed their doctoral degrees.

It is evident that the majority of responders (27.50%) have completed their undergraduate degrees.

NUMBER OF FAMILY MEMBERS

The number of family members of the respondents chosen for this study is detailed in the table below.

TABLE 4
NUMBER OF FAMILY MEMBERS

| S. No | No. of Members | No. of Respondents | Percentage |
|-------|----------------|--------------------|---------------|
| 1 | Two | 9 | 11.20 |
| 2 | Three | 29 | 36.20 |
| 3 | Four | 30 | 37.50 |
| 4 | Above four | 12 | 15.00 |
| | Total | 80 | 100.00 |

Source: Primary Data

Out of 80 respondents, it can be deduced from table 4 above that 9 respondents (11.20%) have two family members, 29 respondents (36.20%) have three family members, 30 respondents (37.50%) have four family members, and the remaining 12 respondents (15.00%) have more than four members.

It can be assumed that the majority of responders (37.50%) have four family members.

SOURCES OF RECRUITMENT

Data about the sources of hiring for the chosen personnel have been gathered by the researcher. The same result is shown in Table 5.

TABLE 5 SOURCES OF RECRUITMENT

| S. No | Sources | No. of Respondents | Per cent |
|--------------|-----------------------------|--------------------|---------------|
| 1 | Through friends | 19 | 23.75 |
| 2 | Advertisement | 17 | 21.25 |
| 3 | Direct approach | 23 | 28.80 |
| 4 | Reference through relatives | 21 | 26.20 |
| Total | | 80 | 100.00 |

Source: Primary Data

The above Table 5 shows that out of 80 respondents, 21 respondents (23.75%) are recruited in Mari Offset printers through their friends, 17 respondents (21.25%) are recruited through advertisement, 23 respondents (28.80%) are recruited through direct approach and the remaining 21 respondents (26.20%) are recruited through reference made by their relatives.

It is inferred that majority of the respondents (28.80 per cent) are recruited in Mari Offset printers by direct approach.

MODE OF SELECTION

The respondents were questioned by the researcher regarding the selection process used by Mari Offset Printers Private Ltd in Sivakasi.

TABLE 6

MODE OF SELECTION

| S. No | Particulars | No. of Respondents | Percentage |
|--------------|------------------------------|--------------------|---------------|
| 1 | Interview | 44 | 55.55 |
| 2 | Reference and Recommendation | 23 | 28.75 |
| 3 | Experience | 13 | 16.20 |
| Total | | 80 | 100.00 |

Source: Primary Data

Table 6 above demonstrates that out of 80 respondents, 44 respondents (55.55%) were chosen through an interview, 23 respondents (28.75%) were chosen based on the recommendations and references of current employees, and the remaining 13 respondents (16.20%) were chosen based on their prior work experience.

The majority of the responders (55.55%) were discovered to have been chosen based on an interview at the Mari Offset printers in Sivakasi.

OPINION ABOUT RECRUITMENT AND SELECTION PROCEDURES

The opinion of the respondents regarding the hiring and selecting practices used by the Mari Offset printers in Sivakasi has been acquired by the researcher. Table 7 displays the same.

TABLE 7

OPINION ABOUT RECRUITMENT AND SELECTION PROCEDURES

| S. No | Opinion | No. of Respondents | Percentage |
|--------------|----------------|---------------------------|-------------------|
| 1 | Very good | 35 | 43.75 |
| 2 | Good | 13 | 16.25 |
| 3 | Poor | 32 | 40.00 |
| Total | | 80 | 100.00 |

Source: Primary Data

Table 7 reveals that, of the total of 80 respondents, 35 respondents (43.75.00%) have very positive opinions about the recruitment and selection processes, 32 respondents (40.00%) have negative opinions, and the remaining 13 respondents (16.25%) have favorable opinions.

It is clear that the majority of respondents (43.75%) had extremely positive opinions on the hiring and selecting practices used by the Mari Offset printers in Sivakasi.

ASSOCIATION BETWEEN GENDER OF THE RESPONDENTS AND THEIR OPINION ABOUT RECRUITMENT AND SELECTION PROCEDURES

Hypothesis

There is no significant association between gender of the respondents and their opinion about recruitment and selection procedures

To test the above hypothesis Pearson's chi-square test is applied and the results are presented in the following table.

TABLE 8
ASSOCIATION BETWEEN GENDER OF THE RESPONDENTS AND THEIR
OPINION ABOUT RECRUITMENT AND SELECTION PROCEDURES

| S. No | Gender | Particulars | Opinion about recruitment and selection procedures | | | | | |
|-------|--------|----------------|--|-----------|--------|-------|-----------|-----------|
| | | | Very Poor | Poor | Medium | Good | Very Good | Total |
| 1 | Male | Count | 18 | 5 | 0 | 9 | 0 | 32 |
| | | Expected Count | 14.4 | 12.8 | 0 | 4.8 | 0 | 32.0 |
| | | % of Total | 22.5% | 6.2% | 0% | 11.2% | 0% | 40.0% |
| 2 | Female | Count | 18 | 27 | 0 | 3 | 0 | 48 |
| | | Expected Count | 21.6 | 19.2 | 0 | 7.2 | 0 | 48.0 |
| | | % of Total | 22.5% | 33.8% | 0% | 3.8% | 0% | 60.0% |
| Total | | Count | 36 | 32 | 0 | 12 | 0 | 80 |
| | | Expected Count | 36.0 | 32.0 | 0 | 12.0 | 0 | 80.0 |
| | | % of Total | 45.0% | 40.0% | 0% | 15.0% | 0% | 100.0% |

Source: Computed Data

Forty eight out of the 80 responses are female, according to the aforementioned data. about the 48 respondents, 27 have negative opinions about the Sivakasi-based Mari Offset Printers' Private Limited's hiring and selecting practices.

The following table displays the chi-square test's findings.

TABLE 9
Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) |
|------------------------------|---------------------|----|-----------------------|
| Pearson Chi-Square | 15.547 ^a | 2 | .000 |
| Likelihood Ratio | 16.542 | 2 | .000 |
| Linear-by-Linear Association | 1.153 | 1 | .283 |
| N of Valid Cases | 80 | | |

Source: Computed Data

The significance value of 0.000 is less than 0.05 based on the results given. The hypothesis is therefore disproved, and it is determined that there is a substantial correlation between the respondents' gender and their opinions of the hiring and selecting practices used by Mari Offset Printers, Sivakasi.

ASSOCIATION BETWEEN AGE OF THE RESPONDENTS AND THEIR OPINION ABOUT RECRUITMENT AND SELECTION PROCEDURES

Hypothesis

There is no significant association between the age of the respondents and recruitment and selection procedures

To test the above hypothesis Pearson's chi-square test is applied and the results are presented in the following table.

TABLE 10
ASSOCIATION BETWEEN AGE OF THE RESPONDENTS AND THEIR OPINION
ABOUT RECRUITMENT AND SELECTION PROCEDURES

| Recruitment and Selection Procedures | | | | | | |
|--------------------------------------|----------------|----------------|-----------|-------|-------|--------|
| S. No | Age | Particulars | Very poor | Poor | Good | Total |
| 1 | 18-27 Years | Count | 19 | 4 | 0 | 23 |
| | | Expected Count | 10.4 | 9.2 | 3.4 | 23.0 |
| | | % of Total | 23.8% | 5.0% | .0% | 28.8% |
| 2 | 28-37 Years | Count | 14 | 21 | 9 | 44 |
| | | Expected Count | 19.8 | 17.6 | 6.6 | 44.0 |
| | | % of Total | 17.5% | 26.2% | 11.2% | 55.0% |
| 3 | 38-47 Years | Count | 1 | 2 | 3 | 6 |
| | | Expected Count | 2.7 | 2.4 | .9 | 6.0 |
| | | % of Total | 1.2% | 2.5% | 3.8% | 7.5% |
| 4 | Above 48 Years | Count | 2 | 5 | 0 | 7 |
| | | Expected Count | 3.2 | 2.8 | 1.0 | 7.0 |
| | | % of Total | 2.5% | 6.2% | .0% | 8.8% |
| Total | | Count | 36 | 32 | 12 | 80 |
| | | Expected Count | 36.0 | 32.0 | 12.0 | 80.0 |
| | | % of Total | 45.0% | 40.0% | 15.0% | 100.0% |

Source: Computed Data

Out of the 80 responders, 44 are between the ages of 28 and 37, according to the aforementioned data. 21 of the 44 respondents have negative opinions of the hiring and selecting practices used by Mari Offset Printers Private Limited in Sivakasi.

The following table displays the chi-square test's findings.

TABLE 11
Chi-Square Tests

| | Value | Df | Asymp. Sig. (2-sided) |
|------------------------------|---------------------|----|-----------------------|
| Pearson Chi-Square | 26.082 ^a | 6 | .000 |
| Likelihood Ratio | 28.205 | 6 | .000 |
| Linear-by-Linear Association | 6.457 | 1 | .011 |
| N of Valid Cases | 80 | | |

Source: Computed Data

The significance value of 0.000 is greater than 0.05 based on the results given. As a result, the hypothesis is disproved, and it is determined that there is a substantial correlation between respondents' ages and their opinions of the hiring and selection practices used by Mari Offset Printers, Sivakasi.

FINDINGS OF THE STUDY

- It is discovered that the majority (55.55%) of responders are between the ages of 28 and 37.
- Clearly, females make up the bulk of respondents (58.75%).
- It is evident that the majority of responders (27.50%) have completed their undergraduate degrees.
- It may be deduced that the majority of respondents (37.50%) had a family of four people.
- It can be deduced that the vast majority of responders (28.80%) were hired by Mari Offset printers through a direct approach.
- It has been discovered that the bulk of respondents (55.55%) were chosen based on an interview at the Mari Offset printers in Sivakasi.
- According to what is known, the majority of respondents (43.750%) have extremely positive opinions on the hiring and selecting practices used by the Mari offset printers in Sivakasi.
- The significance value of 0.000 is less than 0.05 based on the Chi-Square result. The hypothesis is

therefore disproved, and it is determined that there is a substantial correlation between the respondents' gender and their opinions of the hiring and selecting practices used by Mari Offset Printers, Sivakasi.

The significance value of 0.000 is higher than the 0.05 based on the Chi-Square result. As a result, the hypothesis is disproved, and it is determined that there is a substantial correlation between respondents' ages and their opinions of the hiring and selection practices used by Mari Offset Printers, Sivakasi.

SUGGESTIONS

The researcher has offered the following suggestions based on the findings of the study.

- ❖ Because gender has a favorable impact on the selection and recruitment process, Mari Offset Printers Private Limited, Sivakasi, may implement a separate recruitment process for men and women.
- ❖ Because a candidate's age affects the selection and recruitment processes, recruitment policies should be

adjusted based on the employees' ages.

CONCLUSION

This study came to the conclusion that employees' perceptions of training programmes generally are normal. The majority of the workers, according to the researcher, are new to their jobs. Therefore, the management should take the necessary actions to implement the plans and the aforementioned ideas right away. If the advice is taken into consideration, Mari Offset Printers private limited, Sivakasi's hiring and training practices will be up to par.

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