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# St. Xavier's College, Jaipur



*Inspiring Innovative Intelligence*

**Xavier's Research Projects Committee**

Session 2019-20

[www.stxaversjaipur.org](http://www.stxaversjaipur.org)

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# St. Xavier's College, Jaipur



**Xavier's Research Projects Committee**

**Session 2019-20**

## **Forward**

It is a pleasure to introduce the second edition of “In Quest” This book is a tribute to research conducted by the students at undergraduate level from various streams. The complexity of and the variation in the volume highlights some thought-provoking aspects of undergraduate research.

This will motivate authors and encourage young researchers to think innovatively and share their research findings with others for betterment of mankind.

Research at all levels is fundamental to a prosperous, successful and innovative society which benefits all the citizens. In that spirit this book notes that despite of personal hardships in those days of pandemic, sustained contributions made to research are a story of real hope for the future. Special thanks to all the authors of the research papers for contributing their scholarly articles.

Despite many challenges, the entire editorial board has worked tirelessly to bring out this issue of the book. Constructive comments and suggestions from our readers are welcome for further improvement of the quality and usefulness of the book. Finally, we hope that the readers will make good use of this valuable research material and continue to contribute their research finding for publication in this book.

**Research and Project Committee**

## *Message*

Research at Undergraduate level can also help in the better delivery of classroom education. At the same time, it leads to enrich a sense of friendly competitiveness that promotes exchange of ideas and information. The success of this maiden effort is acknowledged as it has motivated all involved to forge new paths and reach the pinnacle of learning. This is the start of a new chapter to reinvent education and prepare students who can be the harbinger and agents of change in this challenging world.

The process of research is continuous and ubiquitous in institutions of higher learning across the globe and forms the very core of an institution's academic standing. Every institution wants to create and develop a research environment by involving faculty, students and experts to harness novel ideas and innovations.

The Research Projects Committee of the college was visualized by the Xavier's family to critically engage young students in collaborative and multi-disciplinary research and to manage academic space effectively by creating awareness and opportunities in research in various disciplines.

I hope the difference that we bring forth through this novel venture is here to stay and engage more students in meaningful research in the coming sessions.

**Rev Fr Dr A Rex Angelo SJ**

**Principal**

**St. Xavier's College, Jaipur**

## *Report of RPC session 2019-20*

Xavier's Research Project Committee of St. Xavier's College, Jaipur, organized an Orientation Program in August 2019 to steer and guide the students towards research based activities in the college. The program was graced by the presence of Rector, Father Varkey Perekatt, Principal, Dr. Sheila Rai; Vice-Principal, Father Dr. Sherry George and Father Jose V.K, the Administrator of the college.

Father Varkey Perekatt motivated the students to engage themselves in meaningful research. The Principal, Dr. Rai, applauded the efforts of the students during the previous session, and highlighted the importance of early induction into research in this competitive global scenario. An overview of the previous session's activities was presented by the Coordinator, Dr-Leena Sharma.

It was followed by a session where young researchers shared their experiences with the new entrants, inspiring them to join this novel enterprise by the college. Xavier's Research Projects Committee organized a session on 23 October 2019, titled "Research Process: The Basics," to orient the registered students towards various avenues and methods of research.

The program was graced by the presence of Rev. Father Varkey Perekatt, Rector, Principal Dr. Sheila Rai and the chief guest for the session, Prof. N.D. Mathur, Head, Department of Economics and Director at School of Humanities and Social sciences, Faculty of Arts and Law, Manipal University, Jaipur. Prof. Mathur stressed the importance of research in the global scenario and motivated students to engage themselves in socially relevant research.

He highlighted on steps of research (intimation, incubation, intimation, illumination and verification) and described the research process Prof. Mathur presented a very informed discourse on various methods of research and encouraged students to ask questions.

Session was attended by 70 students of research project committee with their respective research supervisor's faculties. Students openly put forth their doubts and received answers from Prof. Mathur. This interactive session opened up the minds of students and prepared them for the projects that they had planned to undertake.

Research Project Presentation Day was organised on 25 January, 2020 by Xavier's Research Project Committee (XRPC). Dr Shobhita Rajgopal (Director and Associate Professor) IDS, Jaipur and Dr. Manju Singh (Professor, Dept of Humanities and Social Sciences, MNIT Jaipur) evaluated the presentations.

Total 12 projects covering various disciplines were presented by students in groups. The main areas covered by students are: Counterfeit Industry, Beggars state of affairs, Jaipur Metro, Water Crisis, Single use Plastic, Moment Marketing, Impact of Attendance in Classroom education, Heritage sites, Gamification with e-Learning, Threat modelling concepts, Online Education and classroom Teaching, Portrayal of Women in 18th Century Literature.

Best Project and Best Presentation award was also given. Best Project was given to Project titled: Single Use Plastic: Impact on Industry Best Group Presentation award was given to project titled: Impact of Moment Marketing on Consumer Purchasing Decision XRPC has come up with its first publication in form of a book "Inquest" with ISBN number comprising of the project reports in form of chapters in the academic session 2018-19.

**Dr Leena Sharma**  
**Coordinator, Research and Project Committee**

### ***Special Thanks and Gratitude***

***Xavier's Research Project committee express our gratitude and conveys a special thanks to the Management of college for the Academic session 2019-20 for the support and guidance in publishing this endeavor of research.***

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## **CHAPTER 1**

### **BEGGARS STATE OF AFFAIRS: SURVEY IN JAIPUR CITY**

#### **ABSTRACT**

Poor people live without fundamental freedoms of action and choice that the better-off take for granted. They often lack adequate food and shelter, education and health, deprivations that keep them from leading the type of life that everybody values. They also face extreme vulnerability to unhealthiest, economic dislocation, and natural disasters. There are around 44% of the world living in the extreme poverty as per the research of World Division Organization. India which is developing nation and which caters to the world second largest population in the world, with a total population of 133.92 Crores. The Total Number of Under-Privilege Society (Beggars) is 4 lakhs in India. India which is a Democratic Country, where the elections take place in every five years. The main agenda of a government always being to help the under-privilege society (Beggars). The Purpose of this project is to focus on the problems being faced by the under-privilege society (Beggars). The Problems relating to food & nutrition, education: both basic & higher, housing & accommodation, health & hygiene, social problems, old age customs and traditions followed, restrictions, future opportunities and also to spread awareness regarding existing government policies formed in the plight of beggars.

#### **INTRODUCTION**

Begging is the practice of imploring others to grant a favour, of a gift of money with little or nothing in return. Begging is generally considered as a practice of asking for favour either in terms of cash or kind. In larger cities it is common to find beggars begging for food money or any other items. They could be found anywhere in the cities but mostly they are found near the crowded places such as temples, tourist places etc. Beggars are either found to be asking to grant a favour in nothing in return

or they sometimes get themselves include in either providing some kind of services such as car washing, etc. and the rest of the time they try to sell in return such as newspapers, toys, etc.

Begging in India has become a major problem today. Begging cannot be considered as an activity of praise for either country it is something to be felt pity of as it shows the backwardness of a country in terms of human development, employment and government incompetency.

Begging in India has been there for a long time but it has come to notice nowadays because of a gradual increase in the number of beggars including children. Children are the future of a country therefore it is crucial for them to have an atmosphere favouring them and their future rather than indulging in begging so as to help them become a productive member of a society.

Hence, begging can never be considered as an act of honor it will always be treated as a negative aspect (drawback) for any country whether developing or developed and so as to notify this serious issue following research has been conducted.

## **STATEMENT OF PURPOSE OF STUDY AND METHODOLOGY**

There exists an enormous population in our country involved in begging. The major source of their livelihood is begging itself if they would not beg there would be no source left for their survival. Even though they form the major portion of the population of the country then too there are least number of policies and laws to help them instead they are treated as criminals as at most of the developed places in the country begging in considered as a crime. There are least number of policies to help them which too are unknown to them. There is an increasing concern to treat this section of the society on normal basis and help them to develop themselves so as to help the country to develop more. There is no advantage in enhancing the skills and wealth of a person who is already rich instead the wealth knowledge and skills of those should be enhanced who are deprived of the same.

This report aims to highlight the social situation of these beggars in the society through the result produced upon samples collected during field visit conducted by the group students to reflect these realities and to bring light to the serious problems faced by the poor beggars to appropriate authorities so that at least some action could be taken to improve the social well-being of our neglected fellow beings.



## **HISTORY OF BEGGARS**

In the ancient time, begging was considered as an act of honour even the gods were indulging in the act of begging and the one who used to provide the beggars with alms considered it as an act of helping others. Earlier everyone had a positive impact of begging in their minds as it was done in small number in a limited ways but now as

the time passed the number of people involved in it increased gradually due to overpopulation and poverty.

Nowadays begging is considered as a negative aspect or we can say a spot on the name of a country. It is a now a kind of trend that has been followed by a large number of people anyone who does not have much to rely upon he or she starts begging from the very moment. Thus, in worldly life, begging is the last resort of survival when people are left with no other choice. Sometimes it becomes the path of least resistance for those who want to escape from the burdens of life.

Despite of India's rapid economic growth, begging as a social problem has existed in our society since inception of human civilization and still persists even after our government intended to abolish it by taking lot of measures and bringing in legislation.

### **OBJECTIVES OF THE STUDY**

This report aims to carry research on problem faced by beggars in Jaipur. The research is based on primary as well as secondary data. Form primary data survey has been conducted through interview and questionnaire method with beggars and secondary data from internet, journal, books and newspaper.

The main objectives to carry out the research are-

- To collect and analyze the information on the extent of begging prevailing in certain areas of the city.
- To access the living conditions of beggars in Jaipur
- To identify the actual support given by various NGO's and government to the beggars.
- To know about the amount of awareness of government policies in beggars.
- To highlight the real problems faced by beggars and how they are coping with them.

## **LINE OF STUDY**

The major line of study the area covered under the name of city Jaipur.

- According to times of India, Jaipur holds 7<sup>th</sup> rank in the best tourism cities in Asia. It is the major tourist destination in India forming a part of Golden Triangle.
- Rajasthan comprises of the 6% of the total beggars in the country.
- The report of census 2011 on non-working population says that India has 32 lakhs beggars from which 22,548 are part of Rajasthan and the figure has only risen in the past few years.

## **LAWS TO PREVENT BEGGING**

We do not have any central law in our whole country but the states have brought in their own anti begging laws. Beggary laws continue to exist in Indian jurisprudence regardless of any evidence on abuse and without any presumption of criminal act among the already vulnerable section of the society. It is the matter of concern that unreasonable prohibition on begging by anti-begging laws in India deprives the beggars who beg as their last resort of their survival and violate their fundamental rights.

- BOMBAY CITY POLICE ACT OF 1861
- THE BOMBAY PREVENTION OF BEGGING ACT 1959
- SECTION 125 CODE OF CRIMINAL PROCEDURE

These are some of the acts prevailing in some parts of the country but none of them is applicable in the city of Jaipur. Hence, there is not even a single act either in favour or in prevention of the beggars so as to enhance their condition.



## TYPES OF BEGGING

There are a number of types of beggars found in the city which are as follows-

- I. **Physically or mentally handicapped-** These are the beggars who are either physically or mentally handicapped. They try to arouse sympathy from people regarding their handicapped body so as to get something in return.
- II. **Religious beggars-** These are the beggars who are dressed up in various outfits. Many religions have accepted in the ancient history that begging act as the last resort for certain adherents so as to act as an acceptable means of support including Hinduism, Sufism, etc. so people dressed as Pundits, sadhus based on these principals starts begging and hence called as religious beggars.

- III. **Diseased Beggars-** These are the beggars who suffers from either kind of any chronic disease such as, skin disease, etc.
- IV. **Aged and Infirm-** These are generally those beggars who due to their age and various other reasons become physically and mentally weak and hence left with no other sources of living despite of begging.
- V. **Half Beggars-** These are not generally beggars they are the people involved in various pity activities and begs only in the spare time.
- VI. **Professional and Hereditary Beggars-** these are the beggars who thinks begging as their profession as it has been inculcated in them from their past generations.
- VII. **Child Beggars-** They are children involved by their parents in begging or those children who doesn't belong to anyone and don't have any source of living and hence left with begging as the last resort.

## **RESULTS**

The following results have been attained by analysing the survey

### **- AGE**

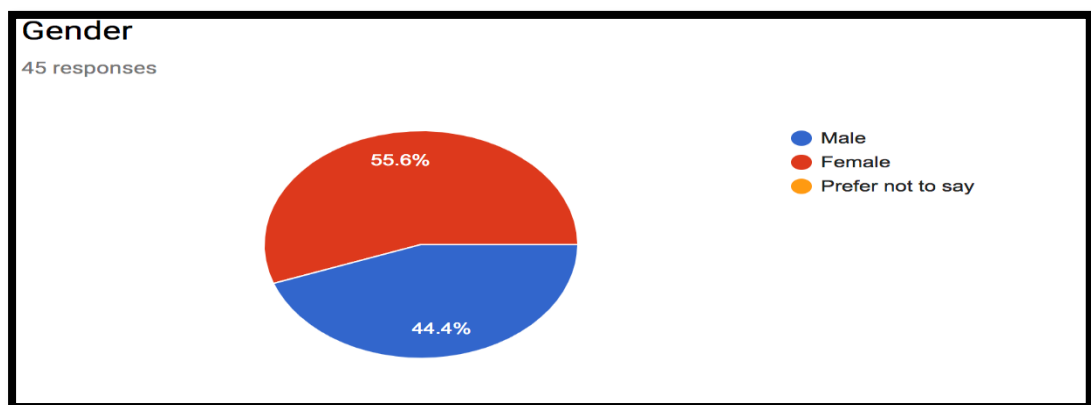
The survey states that approximately 51% of the population on the basis of survey is between the ages of 21 to 30. This is the major drawback faced by the city in terms of youth since those people who are supposed to do something for the betterment of the country are doing nothing in favour of it instead, they are indulged in the most pity activity of begging and hence a very serious issue of concern for the government. And 28% of the population of beggars are under the age of 20 and above 10 and rest 20% population belong to two groups of above 31 years and below 10 years 10% belonging to each one of them.





### GENDER

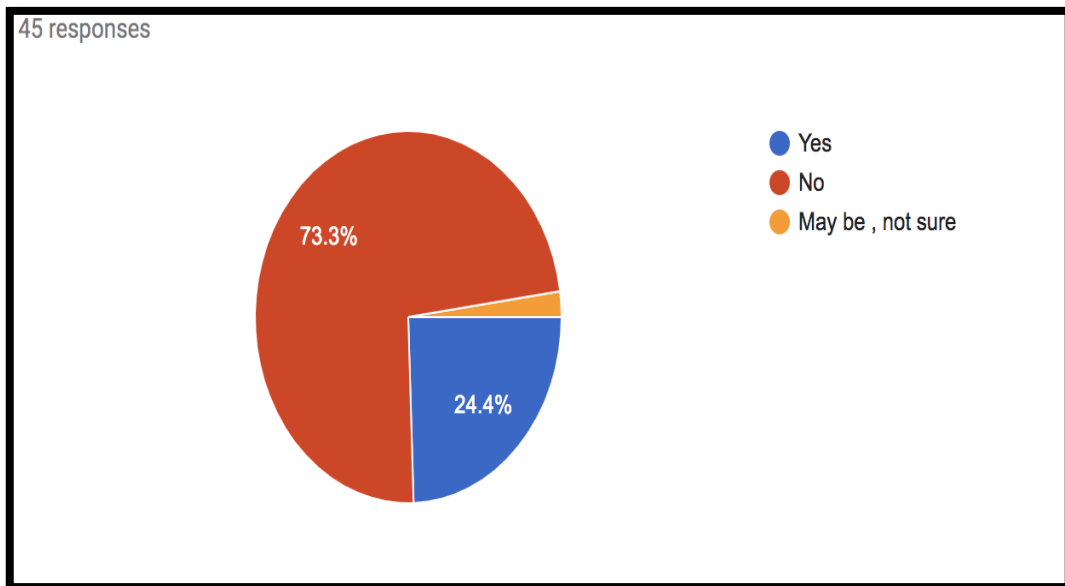
The survey states that the number of females involved in begging are even greater than men since around 56% of the beggars are females whereas around 44% of the population involved in begging are men. This shows that somewhere then male dominance is the only reason behind this since males forces their wives and children to get into the begging so that the whole burden doesn't falls on him and hence leaves whole of the burden of household and even of the survival on the females of the house and then too shows his superiority over her even after doing nothing in return.



### HEALTH CONDITION

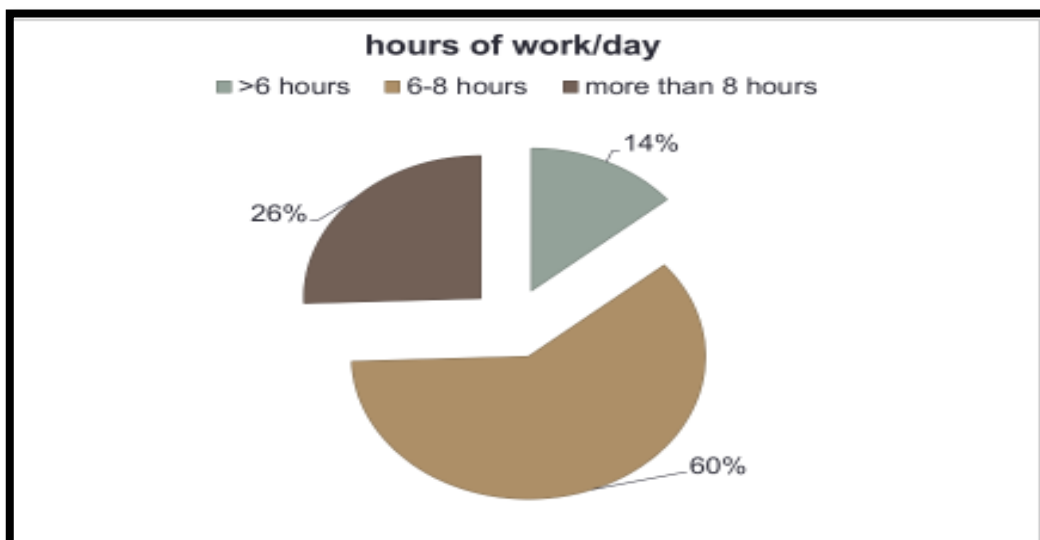
According to the survey, most of the beggars were not suffering from any bad health conditions. No such serious disease had been diagnosed.

- 24.4% were suffering from bad health conditions.
- 73.3% were not suffering from any bad health conditions.
- Remaining of them were not aware.



From above it can be said that in Jaipur, beggars are quite healthy which also means that they can work on their own but they still choose to beg and earn their living from begging.

### HOURS OF WORK PER DAY



- According to the survey, most of them (**60%**) beg for almost **6-8** hours a day.
- **26 %** for more than 8 hours a day.
- **14%** of them work even less than 6 hours a day.

## **EDUCATION**

This research also tells us about the education level of beggars.

As per the survey:

- Only 24.4% were educated.
- And rest 75.6% were uneducated.
- During the survey, we concluded that out of the educated ones majority of children aged between 6 to 14 years are school goers.
- Children are not regular to schools and during the survey we also concluded the fact that the school teachers are not present most of the times.
- Majority of the adults were not educated but they want their children to learn and gain education.

## **AWARENESS ABOUT GOVT. SCHEMES**

The government of India has launched many schemes and policies for the upliftment of the economically backward section of the society for example:

- Pradhan Mantri Jan Dhan Yojna
- Pradhan Mantri Jeevan Jyoti Bima Yojana
- Sukanya Samridhi Yojana
- National Social Assistance Programme

*In line with the survey, we found that*

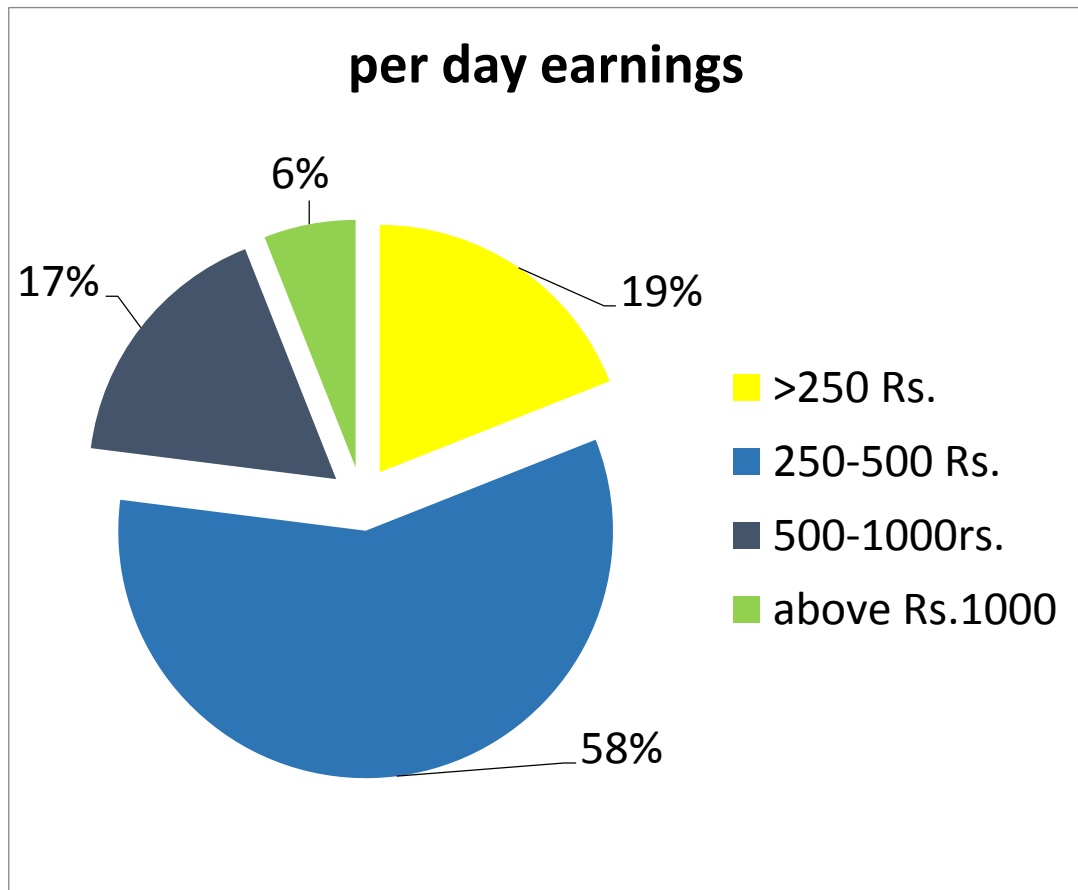
- Majority of the beggars (77.8%) aren't aware of the Government schemes and policies which are available for their benefits.
- Even if they were aware of some of the schemes, they do not know how to make use of them as there is no one to help them out on how to benefit from such schemes and no one raises a voice for them.

## **EARNINGS PER DAY:**

In accordance to the survey,

- Majority (58%) of the beggars earn Rs250 to Rs500 per day, which according to them they do for supporting their family.
- While surveying beggars told us that paid work was never enough to meet their basic needs so it was necessary for them to beg.
- Also, it was really difficult for them to get paid work on daily basis.

- The survey shows that majority of the beggars who have worked as paid laborers had received Rs250 to Rs500 per day.
- Rest of them had only received a nominal amount of wage which is not enough for survival. It's difficult for them get alms. They really need to be polite. Also, they need to request people again and again to give them some

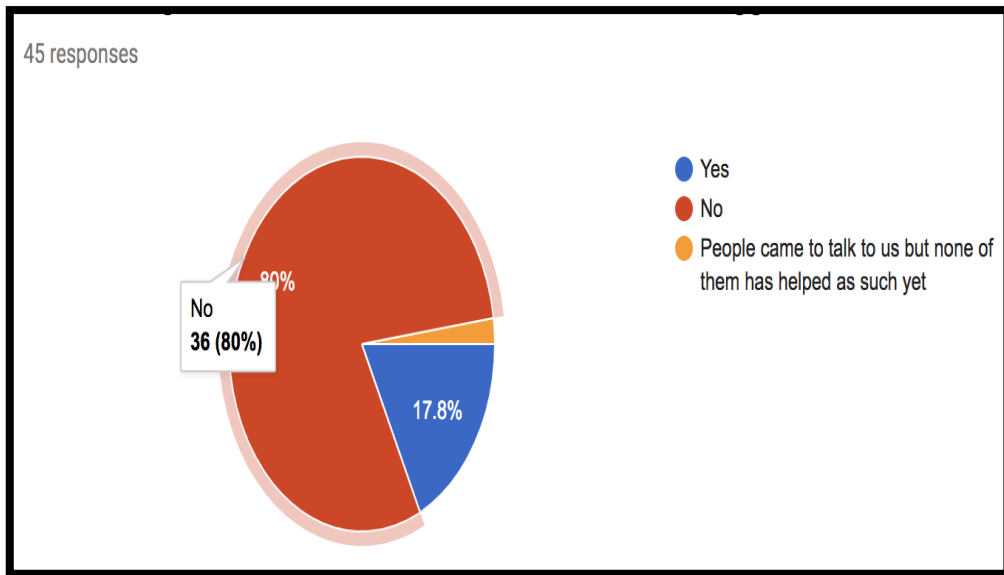


money or food.

### **ROLE OF NGO's**

We were doing the primary research about the role of NGOs, since a lot of NGOs are working for the betterment of the conditions of beggars. We questioned the beggars, has anyone helped them to live or to find any job?

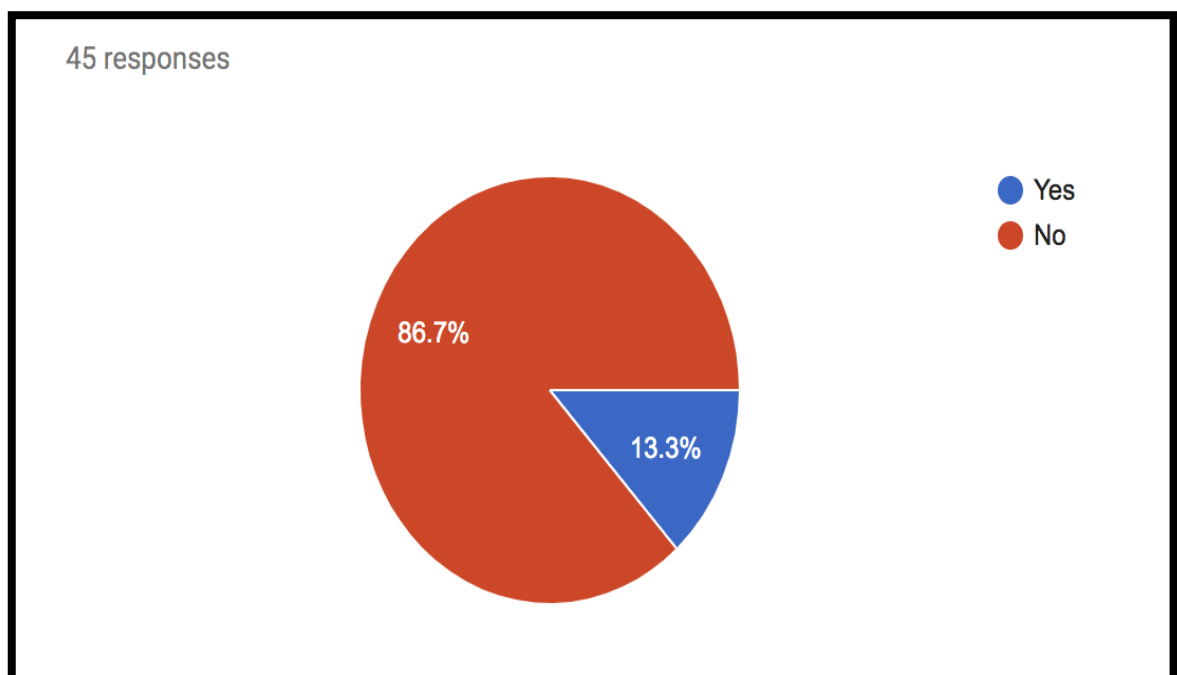
- In compliance to the survey, only 17.8% of beggars were really helped by NGO's.
- And majority (80%) of the beggars was rarely helped by NGOs for providing them with living facilities or jobs.



- Some said that some of the NGOs have visited their place and asked them regarding their current needs but none of them returned and helped them, except sometimes they provide them with the leftover food from parties or weddings as well as clothes.

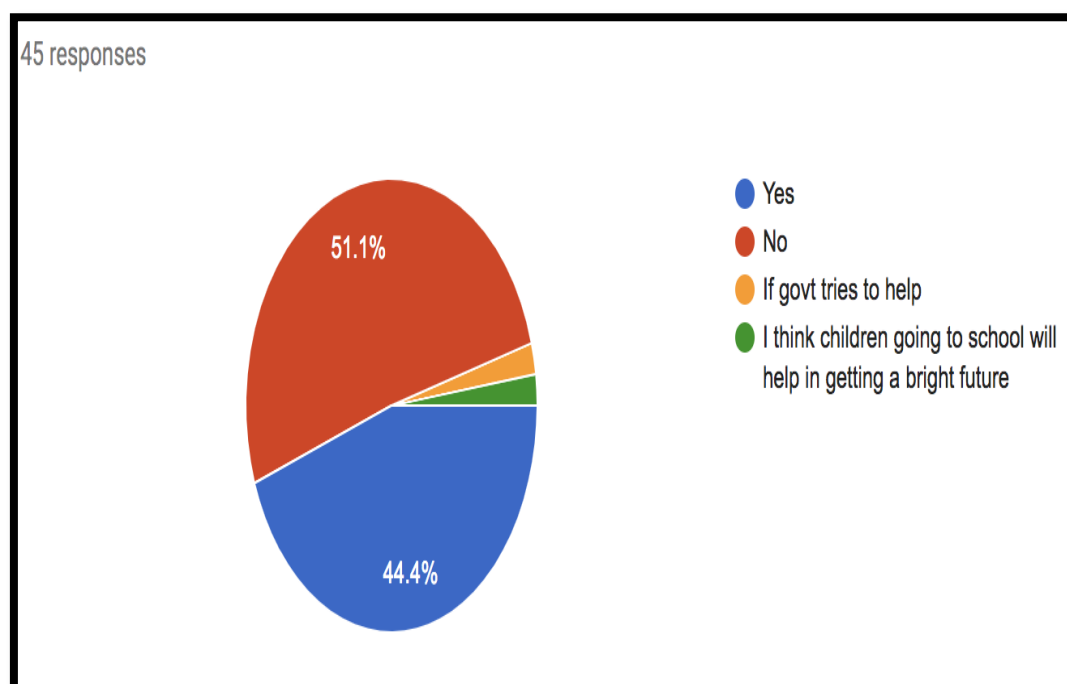
#### **HARASSMENT**

- Beggars do face various types of harassments whether physically or mentally by people who are giving them alms or providing them money as a paid labor.
- But as per our survey, a majority (86.7%) of beggars has never faced any kind of harassment. Sometimes people take advantage of those serving their needs; because they think they are weak economically to complain against them.



## FUTURE EXPECTATIONS AND HOPE

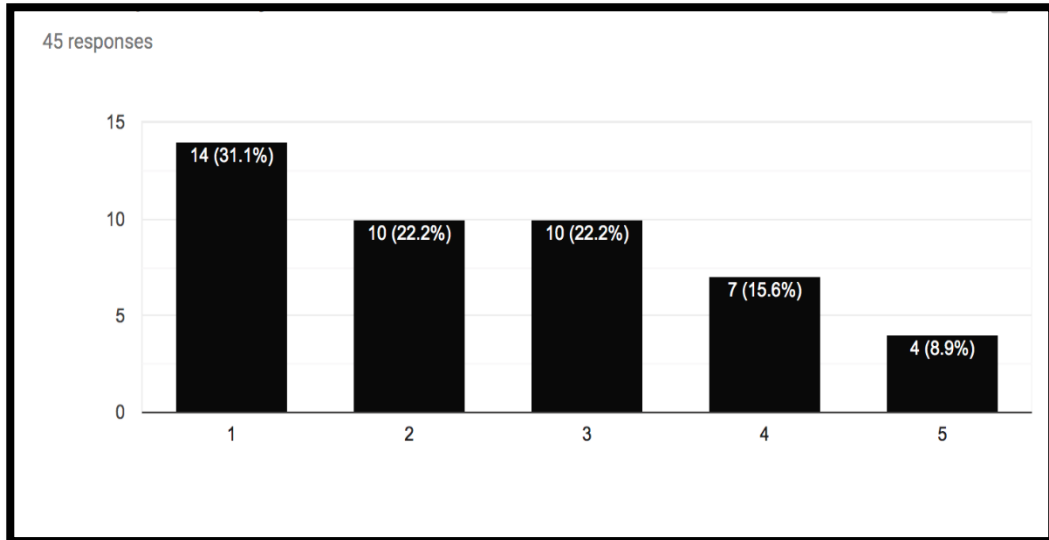
- According to our survey, 51.1% of the beggars believe that their future generations and their children won't have a better future than them.
- On the other hand, 44.4% of them believe that they believe that their future generation and children might have a better future and that they're trying to make it better for them. Remaining of them believe their future can be bright if govt. tries to help them or if their children go to school.



## OPINION ABOUT THE GOVERNMENT

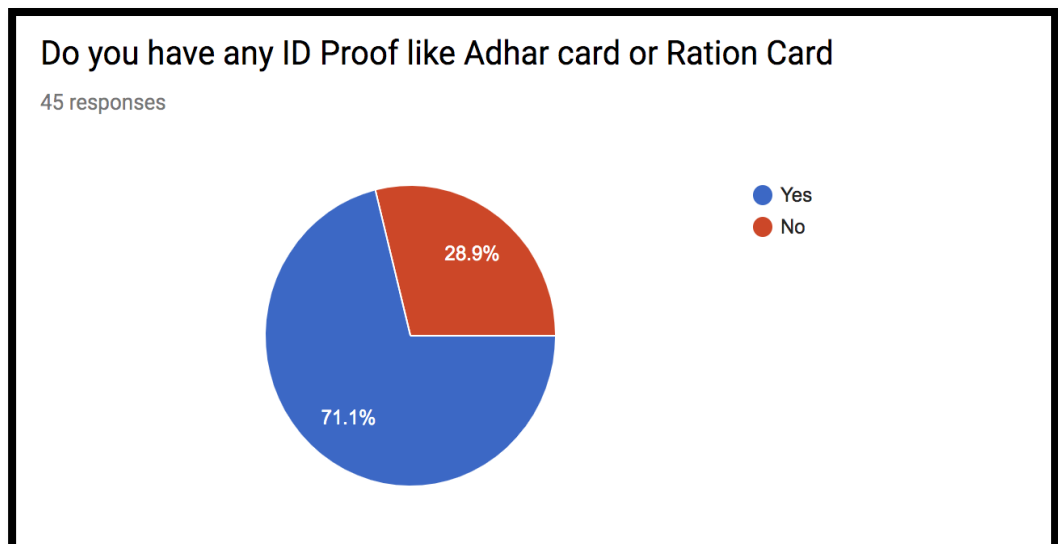
- According to survey beggars least expectation from the government is to provide them *with basic necessities of life*.
- But they believe that government can never fulfil the promises that are made to them.
- Most have a **negative or average** opinion for the Government without any hopes and they think it won't take any necessary steps for their better future and living.

- Only few per cent of them claimed a positive opinion and said that they have got help from the government schemes.



### ID PROOF

- 71.1 % of the beggars have an ID Proof like Adhaar card or Ration Card.
- Some of them (28.9%) still do not have an ID Proof and have to face some problems due to that.

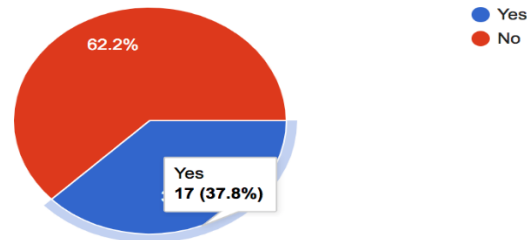


### Bank Account:

- When asked about the existence of a bank account, it was discovered that 62.2% of them were not having one.
- While, only 37.8 % of them were having a bank account.

Do you have a Bank account? Is your bank account made under any scheme or anything like that run by NGO or government?

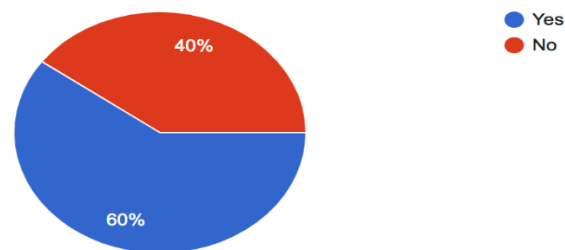
45 responses



- **WORKING AS PAID LABOURERS:**

Have you ever Worked as a Paid Labourer?

45 responses



- In our research so conducted, we concluded that over 60% of the beggars have previously worked as paid labourers.
- We also found out that 40% of them have never worked as a pair labour anywhere.

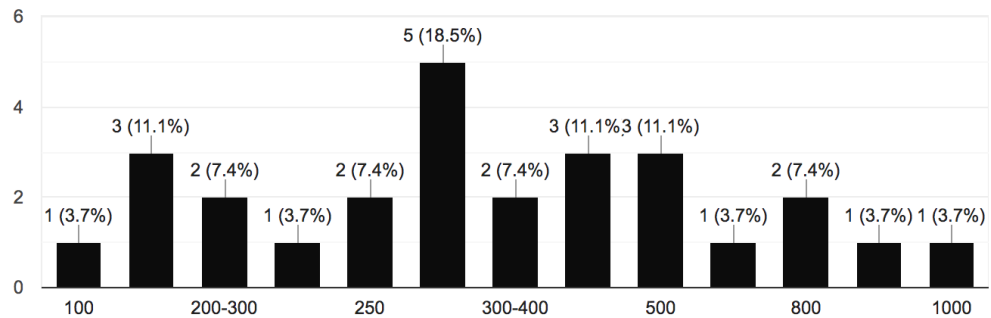
**MAXIMUM WAGES RECEIVED AS PAID LABOURERS:**

- Out of the 60% beggars who have previously worked as paid labourers, majority of them have earned between Rs.250 to Rs.400.
- Also, it is quite surprising that 3.7% of them have earned around Rs.1000 as well which is usually considered a huge amount for them.



### If, Yes Maximum wage received per day?

27 responses



## CONCLUSION

Begging is a very **broad but negative aspect** which needs to be considered as soon as possible. It is well known that the problem of begging has not originated recently but it also very difficult to say that when it began to be practiced first.

Nobody chose to be a beggar by themselves rather there would have been some condition or past which forced that person to indulge in this practice. And thus, for the complete analysis of the actual conditions of the beggars and to introduce you with the true picture we have conducted this research.

Our purpose was to focus on the problems being faced by the under privileged Society (Beggars). The problems relating to Food & Nutrition, Education: both basic & higher, Housing & Accommodation, Health & Hygiene, Social Problems, Old Age Customs and Traditions followed, Restrictions, Future opportunities and also to spread Awareness regarding Existing Government Policies formed in the plight of beggars.

One of the biggest problems of beggars is their image in the society; due to lack of their good image nobody treats them as a normal human being of the same nature. They are deprived of their basic human rights such as housing, clothing, food, education, sanitation, drinking water, etc.

Such problems create a very negative impact on the morale of these people and, also affect their way of thinking and general attitude towards life. This is the main reason that we have included questions regarding their expectations

from the Government itself and also hopes on getting a better fortune for their next generations.

Majority of such people weren't even aware of the schemes that are specifically formulated for them by the government for their betterment. This is the reason they lag behind and can't even imagine of a brighter future.

Most of the young beggars (children and teenagers) were forced/ brought into this way of life by their own parents or guardians. Schools and higher education are still a far dream for many. Educational institutes for the needy are in a very bad situation as the children suggested; the schools already lack staff and teachers and sometimes they're given day-offs without any apparent reason.

This is a classic case of Lack of follow up on such thoughtfully created Government schemes.

### **RECOMMENDATIONS**

- Basic life amenities need to be provided to all beggars by the government and respective departments working for the upliftment of such sectors.
- More resources are needed to be invested by the govt. in these types of issues.
- A good follow up action plan is needed to be implemented seriously as well as efficiently.
- Need for change in psychology of the general public towards beggars.
- Checking of usage of funds in the right direction and control over corruption in respective government departments.

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## CHAPTER 2

### A COMPARATIVE ANALYSIS OF ONLINE AND CLASSROOM TEACHING

#### ABSTRACT

*“A high-quality degree earned in an online format should not fundamentally differ from a campus-based degree.... The only significant difference should be the way that the classes are delivered.”*

In today's world technology has started to spread its arm in each and every field of human settlement. Education is no exception. First of all, we will understand the meaning of the types of education and the major differences between them. So, online education is the new and modern method of teaching in which knowledge is provided to students on the computers or mobiles via internet.

Basically, a virtual classroom is developed where students from any part of the world can learn from any teacher of the world at their homes (or any convenient place). Classroom teaching on the other hand is the traditional method of teaching by which we have been learning till now which includes a physical classroom, limited number of student and a teacher who together have a physical interaction between them.

Both methods of learning and teaching have their own merits and limitations. Our topic is about can this modern technology in the field of education replace the traditional method of learning? Which mode of education is more preferable and beneficial for students? In this research we will be finding the answer of many more such questions.

#### INTRODUCTION

*“If a child can't learn the way we teach, maybe we should teach the way they learn.”*

Technology has metamorphosed the ways in which education is conceived and delivered. E-learning opens a Pandora box of resources in front of both students and teachers, the access to which they wouldn't have had earlier irrespective of their status and location.

## **ONLINE EDUCATION**

Online education is the type of education which is provided via internet to students sitting in any corner of the world. During the last decade, online degrees have become popular alternative for a wide range of nontraditional students, including those who want to continue working full time or raising families. Most of the time online programs and courses are offered via the host school's online learning platform. Online education is a flexible instructional delivery system that encompasses any kind of learning that takes place through internet. This type of teaching gives teacher an opportunity to reach students who may not be able to enroll in traditional classroom course and supports students who need to work on their own schedule and at their own pace. With increased availability of the internet and computer technology students are able to access information anytime and anywhere that would be convenient for them. Students with this type of education have learned to become responsible for their own education with information available at their fingertips.

## **CLASSROOM TEACHING:**

Classroom teaching is the traditional method of teaching where there is a physical place of interaction between the teacher and the students. It requires a certain number of participants or students to be active listeners and participate in the learning environment. The students and teachers need to be physically present in the classroom. Classroom promotes an open exchange of ideas and face-to-face interaction of students and teachers.

Classroom learning is a process that allows teachers to control the learning and direction of their classroom. Teachers uses classroom to keep students focused on learning process. It brings students from different backgrounds with different abilities to interact and to develop a social environment which plays a key role in the development of the overall personality of a student as a human.

## **REVIEW OF LITERATURE**

- According to *Clark (1983)*, one should not expect the choice of media to have any effect on learning outcomes. He argues that those studies that do find different outcomes are actually picking up the effect created when an instructor switches to a new medium and must re-evaluate how the course

material is presented within the new medium (Clark, 1983). In other words, there is a change in the method of instruction as well as a change in the medium which is confounding the results.

- **Kozma (1994)** reframes the debate by acknowledging that each medium has specific attributes which are conducive to certain types of mental processes and social interactions. Clark's position is that the medium does not matter, other things being equal. The Kozma position is that it is not useful to hold other things equal. The Kozma framework is more relevant to the current debate since it is commonly recognized that online delivery changes the nature of the relationship between the student and fellow students and between the student and the instructor. For example, the initial media literature focused on the difference between video and text.

Such a comparison is not that useful now since both online and face-to-face delivery would employ a combination of video and text media. In fact, contrary to what many students may expect, online delivery is often more text based than face-to-face delivery. Therefore, we cannot assume that previous conclusions hold in the current environment. Initially, the online environment was used as a tool to augment the traditional delivery of classroom material. Consequently, there are many studies that demonstrate that utilizing online material in addition to lecturing has positive benefits.

- In one such study, **Coates and Humphries (2001)** show that having online material available is useful but stress the importance of students actively engaging in the material for it to have its full effect. Passive interaction (such as reading other students' posts) had little impact on student performance.
- **Van der Merwe (2011)** is another good example of studies that show the positive effect of supplementing a traditional classroom experience with an online component. While there is fairly strong consensus that additional resources will generally improve outcomes (Means et al., 2010), such results are neither surprising (although, diminishing marginal returns ought to kick in at some point) nor particularly informative concerning the comparative efficacy of online delivery.

More inputs, provided that their marginal productivity is positive, should generally lead to an increased measure of output – but at an increased cost of production.

### **RESEARCH GAP**

“A Comparative Analysis of Online and Classroom Teaching” is taken as our topic because in this technological world where technology has almost replaced everything, where we hear the news of robots replacing hotel(restaurant) staff, mobiles becoming a place for trading, banking, and many more such services, it will be interesting to learn about the growth of online education in this world. It is much known fact that technology has made the lives of humans easier in every field, we would like to know did the technological improvement taken place in education sector proved to be beneficial for students? These questions have been a constant source of motivation for us to do this project with utmost curiosity. Though many research studies have been conducted as stated in literature review related with aspects of the captioned topic, but none of them has been found with relevant context of present topic thus this research endeavor is formed to study ***“CAN ONLINE EDUCATION REPLACE CLASSROOM TEACHING?”***

### **RESEARCH METHODOLOGY:**

#### **OBJECTIVES:**

The objectives to conduct our research are as follows:

1. *To do a comparative study on online education and classroom teaching.*
2. *To anticipate which mode of education is more beneficial and preferable by students.*

#### **HYPOTHESIS:**

1. As perspectives tend to differ from individual to another there could be different opinion on the platform through which education is imparted. Hence, the research will determine on what ground are the two sources of education similar and different from each other.
2. Interaction is the core element of teaching. As we know with the use of technology e-classrooms have revamped their interactive skills, but still traditional classrooms are more interactive due to the physical presence of

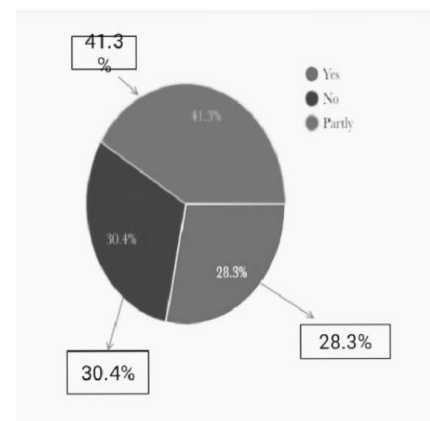
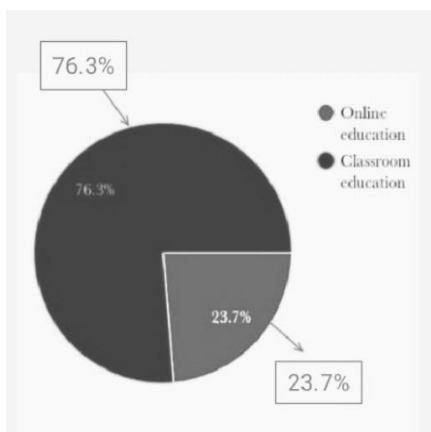
teacher. The study is to find which one is more preferable by students and the reasons behind it.

### RESEARCH DESIGN:

Our research is basically primary research in which responses of about 100 college students have been taken in order to find out their views about online and classroom teaching. Apart from it we have also tried to find some secondary data relating to our topic.

### RESULTS AND ANALYSIS

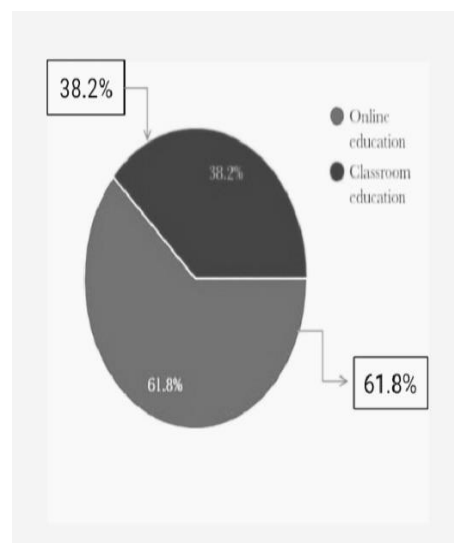
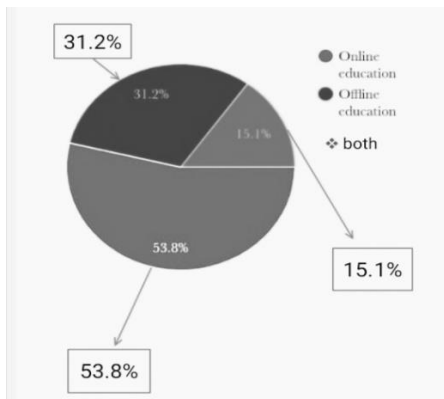
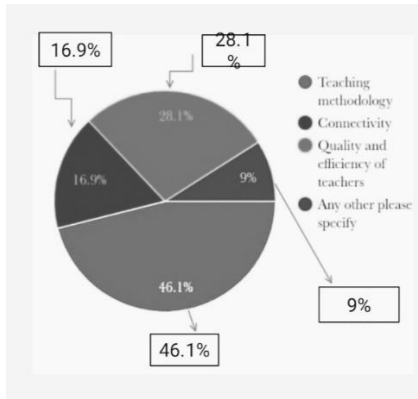
From our primary data collection, it was found that only 23.7% students use online education sites for studying. The primary reason behind it may be that different students have different capabilities to understand the video lectures. According to their understanding capacity and available resources they opt for their method of learning. As per our survey 41.3% students think that online video lectures are partly equivalent to classrooms and remaining 30.4% students are not in the favor of online videos.



### METHOD OF STUDYING EQUIVALENCE OF ONLINE AND OFFLINE

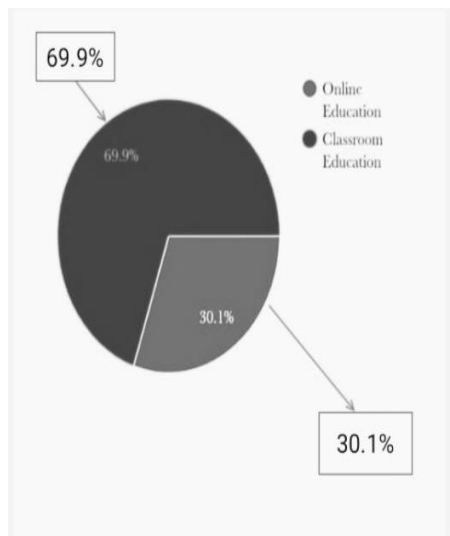
46.1% students get attracted towards the online mode of education due to their teaching methodology. This shows that they want to learn from online or new technologies. 61.8% students even find online method more flexible in terms of timescale. As in offline learning college or school hours are fixed it does not offer as much flexibility to the learners. When it comes to more up to date information online

education has an edge over offline method and 53.8% students approves this fact. The reason for this fact may be that the teachers of offline institute are mostly fixed or we can say permanent to maintain a particular standard for teaching. This leads offline institutes to be less up to date. However, this does not apply to all institutes but majority of them.



ATTRACTION REASON FOR ONLINE CLASS

UP TO DATE METHOD

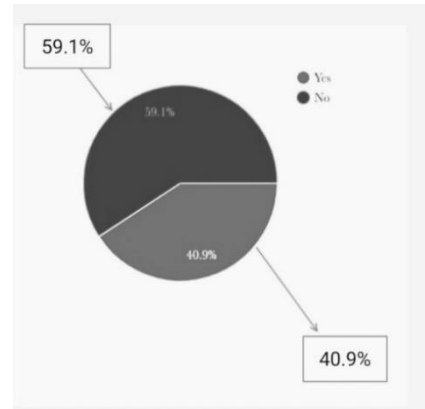


FLEXIBLE METHOD

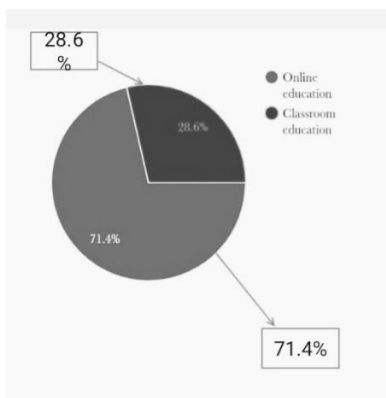
CONSISTENT IN RESULTS



Coming toward the consistency of results, 69.9% students find classroom mode of teaching to be more consistent when it comes to their results. This is obvious as the interaction between teacher and students help them to improve their performance and motivate students to overcome their weakness, which ultimately leads in the overall improvement in the result of the student.



Our next part of the survey included which source is more affordable by students and if the payment made for online classes as worthwhile as offline classes? It was concluded by the students that offline was more affordable and payment for offline classes are more worthwhile than online classes. About 71.4% students agreed upon it.

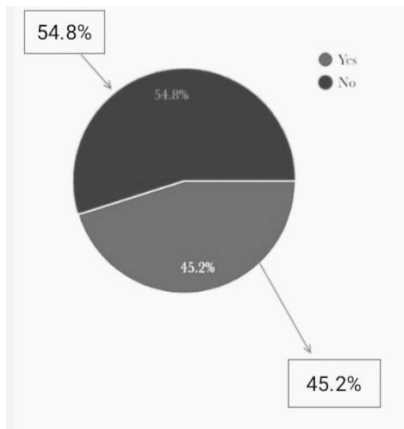


#### AFFORDABLE METHOD

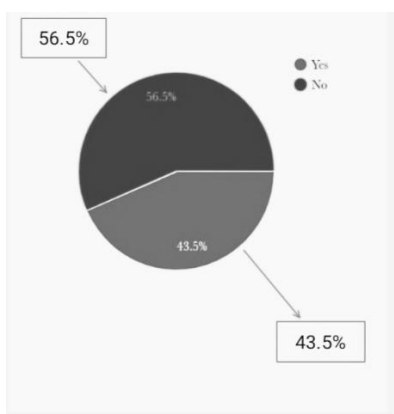
#### EFFICIENCY OF PAYMENT MADE FOR OFFLINE CLASS

Now, one the major impact of physical interaction between both parties is about the socialization skills that students achieve from their mates and teachers. The major aspect for which a student is sent to school or college is that they will learn about many other cultures, they will learn much more from different minds which are creative in their own, and above all they will learn how to behave in society. The challenge before online learning method is will it be able to fill this aspect of learning? Can online method provide the social skill needed for the development of a student. From our survey, about 54.8% student find it difficult to learn social skills from online method of learning. And about 56.5% student think online educators do

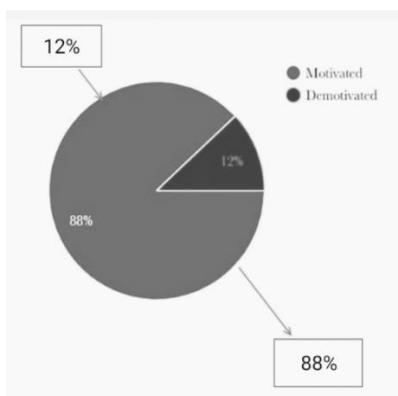
not connect with students as compared to classroom teachers. Lastly, we asked students whether they get motivated or demotivated by online methods. 88% of students find that online method is a motivational method of teaching.



CAN ONLINE CLASS PROVIDE SOCIAL SKILLS



DO ONLINE TEACHER CONNECT WITH STUDENTS



MOTIVATION FROM ONLINE CLASS

**From this we find these differences between online and offline method of learning:**

<b>BASIS</b>	<b>ONLINE METHOD</b>	<b>OFFLINE METHOD</b>
<b>Experiences</b>	Gain less life experiences	Gain more life experience
<b>Access to equipment and facilities</b>	Less access	More access
<b>Preferable for practical subjects</b>	Less preferable	More preferable
<b>Type of schedule</b>	Flexible schedule	Fixed schedule
<b>Social interaction</b>	Less social interaction between parties	More and effective interaction takes place
<b>Student access</b>	24/7 hours available	Available only during college/ school hours
<b>Social pressure</b>	No social pressure on students of their teachers regarding homework and study	There is positive social pressure of teachers on students

### **CONCLUSION AND FUTURE RECOMMENDATIONS:**

The face-to-face class performed statistically, significantly better than the online class in terms of the exam average and improvement in post-test instructor questions. The sample size does not allow for anything more than a suggestion that the two approaches in question may led to different results depending on how one measures student performance. We hope to motivate others to replicate the experiment in different disciplines and institutions in an effort to build a systematic assessment of the relative merits of online learning as compared to the traditional face-to-face classroom. Technology has a positive impact on education and at the same time may pose negative effects. Teachers as well as students should take an advantage of this in good light and eliminate the drawbacks which are polling back many of students as well as colleges from achieving excellence. It is thus time for every country to introduce a more technologically education system in near future.

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## CHAPTER 3

### PROS AND CONS OF 75% ATTENDANCE RULE IN COLLEGES

#### ABSTRACT

Unlike schools, in college, students have the freedom to choose whether to attend a class or not. But to ensure the regularity of students, college management has a 75% attendance rule which states that to qualify for appearing in semester examination, students must have 75% attendance. The research is done to find out that is 75% attendance rule actually beneficial to students and what is the impact of class attendance on students' performance? It focuses on the perspective of students as well as management on the 75% attendance rule system in the colleges.

The point of convergence is whether this rule is beneficial to students or not and how does it influence students' performance. It is beneficial as it helps the students to know the comprehensive study of 75% attendance rule and its significance and drawbacks as well. The point of view of students as well as management can be ascertained through questionnaire and personal interaction. In this context, a survey was conducted in St. Xavier's College, Maharani College, Maharaja College and Commerce College which are all affiliated with Rajasthan University, through a questionnaire for students as well as management which were 150 and 40 respectively.

After data analysis, it was found out that students attend selective classes according to their interests and mostly are not a part of any cell/clubs of the college. If they are, then they are able to manage the attendance sometimes. They think that attendance bar should be reduced to 50% so that they can manage co-curricular activities with their academics but they are incommunicative about it. On the other hand, management feels that the 75% attendance rule is effective and there is no need of amendments in the rule. Hence, the research gives a conclusion that attendance slab can be reduced to 50%. The rule is still not enforced strictly which is a drawback to it. The traditional method of taking the attendance is also prone to mistakes. So the management go for a few changes and students should communicate their problems

about attendance to the management so that management can take actions accordingly.

## **INTRODUCTION**

Unlike schools, in college, students have the freedom to choose whether to attend a class or not. But to ensure the regularity of students, college management has a 75% attendance rule which states that to qualify for appearing in semester examination, students must have 75% attendance. But a mere presence in the classroom cannot guarantee students' ability. Attendance should not be the criteria by which one measures the competency of students. College life is all about balancing various aspects such as passion, dreams, academics, and much more, for which discipline is essential for students. However, 75% attendance helps to strike this balance. Technology can help us with the textual knowledge but physical teaching, experience and personal view of professors helps the students to understand the concept well and remember it for a longer time period. This research is all about this rule. It studies both the perspective of students as well as management.

There is an increasing trend for higher education institutions to be expected to monitor student attendance, on the assumption that better attendance leads to higher retention rates, higher marks, and a more satisfying educational experience that will be reflected in student feedback such as the National Student Survey.

75% attendance rule is currently mandatory in most of the colleges in India. As per the rule, students must have 75% attendance to qualify for appearing in the examinations. Many students might consider the rule as a burden on them but are incommunicative about it. Through this research, students as well as management has platformer to manifest their viewpoint.

The research is beneficial as it helps the students to know the comprehensive study of 75% attendance rule and its significance and drawbacks as well. The point of view of students as well as management can be ascertained through questionnaire and personal interaction. The belief that better attendance leads to higher marks can lead to the presumption that it is a fact or a myth.

## ***REVIEW OF LITERATURE***

The most fascinating things about joining college are that you can actually choose to attend classes. But 75% attendance rule is the biggest stumbling block which makes it the most debated topic among college students.

- According to an article published in *Times of India*, “some college students expressed an opinion on 75% attendance rule. One said that learning need not to be inside the four walls of the classroom. Attendance should not be the parameter to judge the ability of the students.” “While other stated that the most important thing for a student is to focus on building a successful career. One should enjoy life but not at the sake of his education. Hence 75% attendance should be mandatory.”
- According to an article published in *Hindustan Times*, “a student remarked that the idea of 75% attendance is correct but implementation is not.” “Being in class will help students to avoid mobile and the virtual world and nurture the new ideas in them. Mandatory attendance is required but providing knowledge must be the first priority.”
- *Goa Ex Chief Minister Late Mr. Manohar Parrikar* stated in a news that “he will take up with the Goa University officials, the issue of 75% attendance to qualify for appearing for examination.” “Is exam conducted for attendance or for knowledge? I would not have passed IIT because my attendance was only 50%.” said Parrikar.
- According to an article published in *Business Standard*, “Current system in India did not encourage people to take healthy risks. Are the exams conducted for attendance or for knowledge? The education system existing in India has strangulated professional killer instinct.”

The research focuses on the perspective of students as well as management on the 75% attendance rule system in the colleges. **The point of convergence is whether this rule is beneficial to students or not and how does it influence students’ performance.**

## **RESEARCH METHODOLOGY**

### **OBJECTIVES**

The main objective of the research is to ascertain the answers to following questions:

- Is 75% attendance rule actually beneficial to students?
- What is the impact of class attendance on students’ performance?



## **RESEARCH HYPOTHESIS**

A research hypothesis is predictive statement of possible outcomes of a research study. The hypothesis of this research is as follows:

- As the perspective differs from person to person, so some students might be comfortable with physical presence of the teacher in the classroom whereas some might find it congenial through online lectures. Hence, the research will determine that it does benefit the students or not. Thus, the **Null hypothesis states that  $H_0$**  *“There is no significant difference in student’s learning through class room teaching and online teaching.”*
- The classroom education can be more interactive. Here, the physical presence plays an important role. But every student’s performance cannot depend upon the class attendance. Hence, the impact of class attendance on students’ performance can be determined through questionnaire formed in the research. Thus, the **Second Null hypothesis states that  $H_0$**  *“There is no significant relationship between student’s performance and class attendance either in physical in teaching and online teaching.”*

**RESEARCH DESIGN: Exploratory & Descriptive Research Design** is implemented in current research study.

The methodological approach used in this research is mixed wherein combination of numerical measurement and in-depth exploration is involved. The research has numerical primary data of students and management of the colleges affiliated with Rajasthan University. The questionnaires were provided to the students physically as well as through Google-forms. It also explores in-depth viewpoint of students and management through personal interaction.

### **SOURCE OF DATA COLLECTION:**

**PRIMARY DATA:** Through Questionnaire.

**SAMPLE DESIGN: Random sampling techniques**

**SAMPLE POPULATION:** Students and Teachers of St. Xavier’s College, Maharani College, Maharaja College and Commerce College which are all affiliated with Rajasthan University.

**SAMPLE SIZE:** n = 150 Students    n = 40 teachers

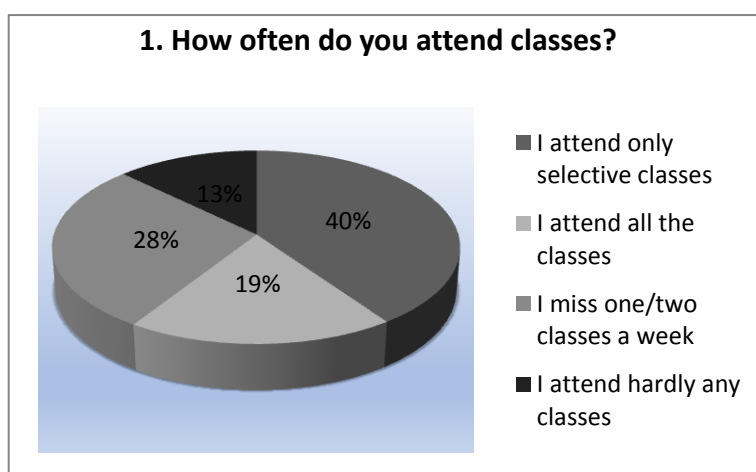
**SECONDARY DATA:** Secondary data was collected through published research papers, news articles etc.

## **RESULT AND ANALYSIS**

### **SECTION A- STUDENTS' PERSPECTIVE**

In current research study primary data was collected from 150 students of varied branches from selected college of Jaipur, Rajasthan.

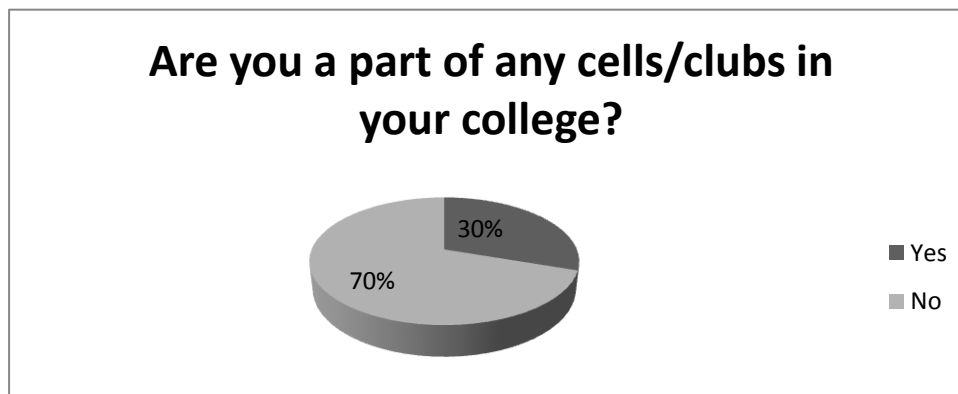
#### **1. How often do you attend classes?**



**Graph 1**

**Interpretation:** Graph 1 shows the answers of students to this question. Only 19% of the students attend all the classes who were mostly from government colleges. Out of this range, students of both private and government colleges prefer to attend only selective classes (40%). However, the students of government colleges are more likely to attend all the classes and vice-versa private colleges.

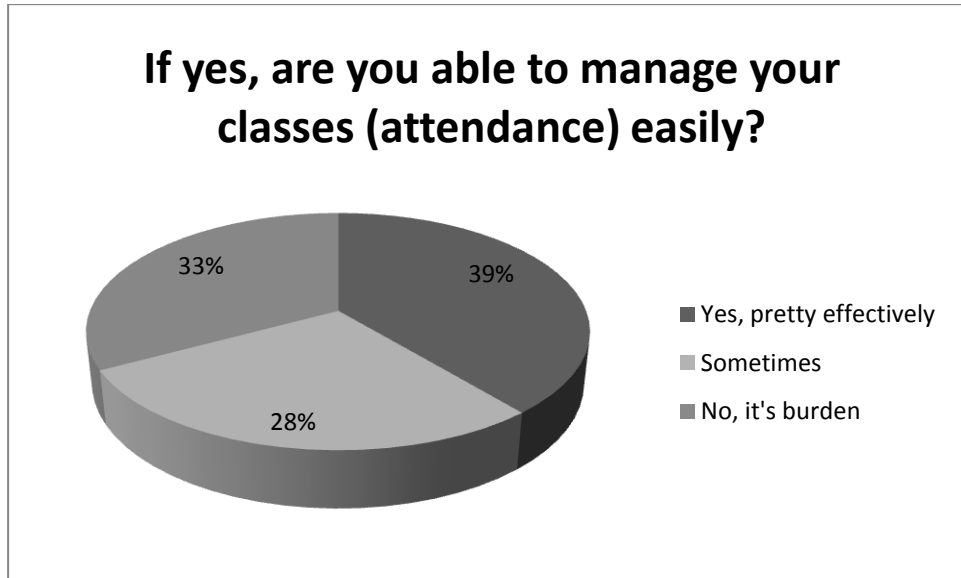
#### **2. Are you a part of any cells/ clubs in your college?**



**Graph 2**

**Interpretation:** Around 70% of the students are not a part of any cells or clubs in college, out of which most of the students are from government colleges as they do not have any.

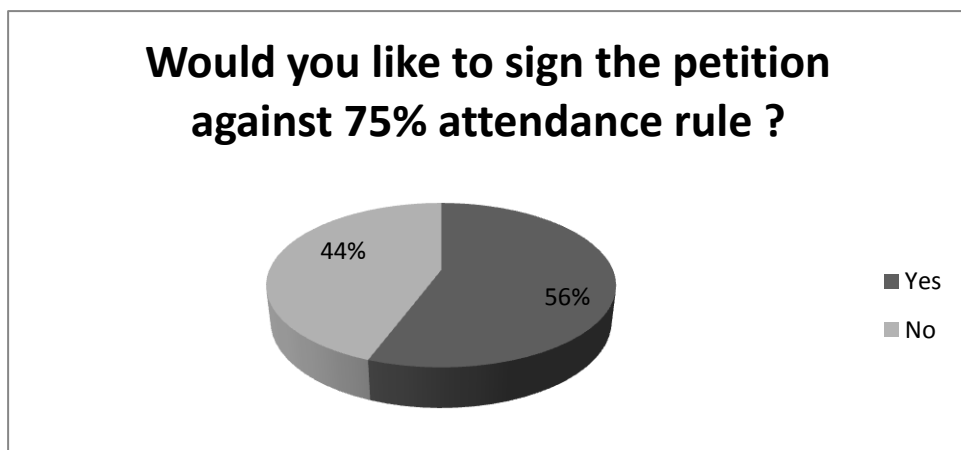
**3. If yes, are you able to manage your classes (attendance) easily?**



**Graph 3**

**Interpretation** The students who are part of clubs/cells of their college, 39% of them are easily able to manage their classes but there is a very close ratio of students of 33% who do find it a burden.

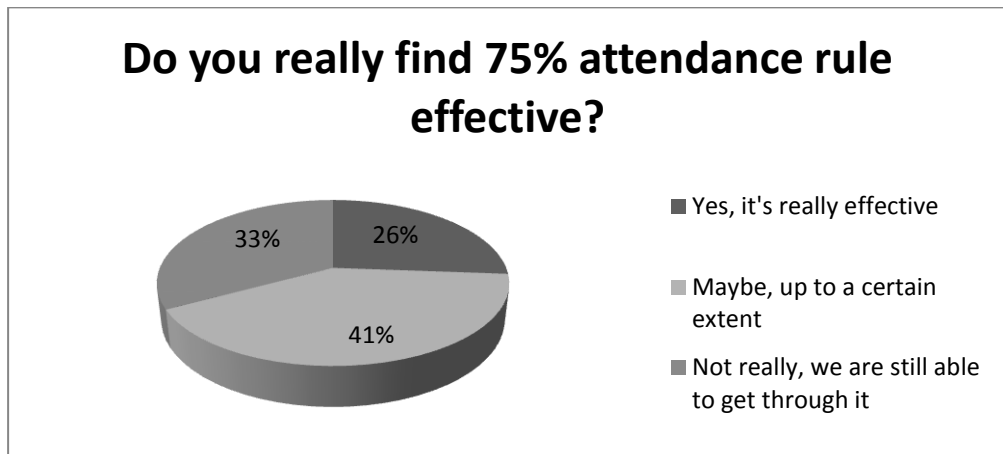
**4. Would you like to sign the petition against 75% attendance rule?**



**Graph 4**

**Interpretation:** Hypothetically, when students were asked to sign a petition against this rule, 44% of the students refused to sign the same. Reason being, either they are comfortable in attending the classes and find it feasible to maintain 75% attendance or they are afraid to do so.

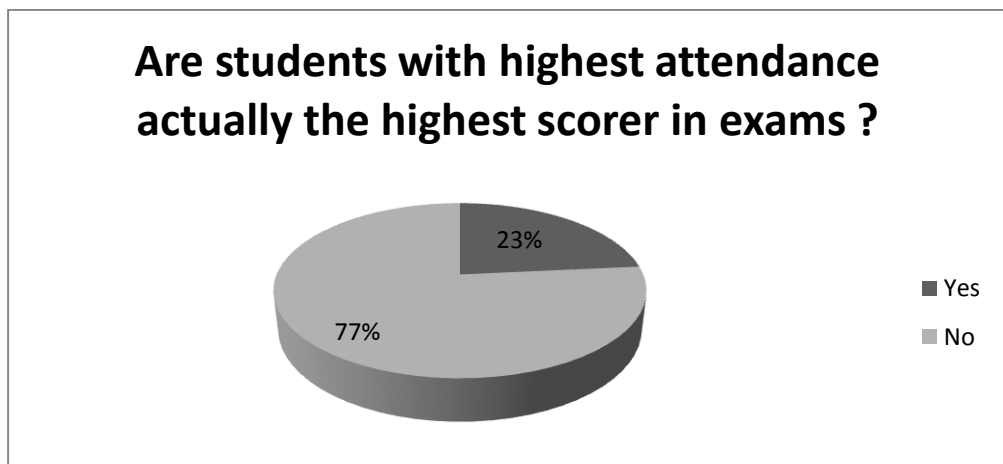
**5. Do you really find 75% attendance rule effective?**



Graph 5

**Interpretation:** Graph 5 shows the percentage of students who find the attendance rule effective. 41% of students find it effective to a certain extent. They feel that the bar of the compulsory attendance should be reduced. Even 33% of the students do not find it effective who are mostly from private colleges.

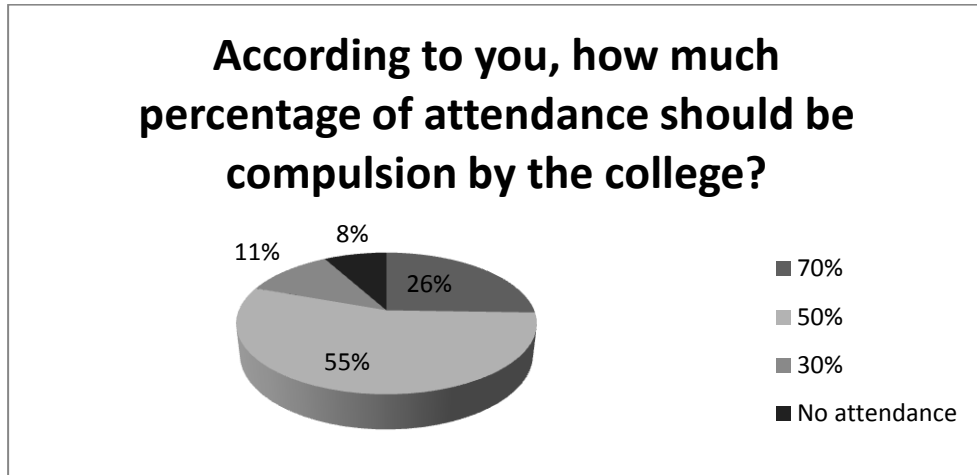
**6. Are students with highest attendance actually the highest scorer in exams?**



Graph 6

**Interpretation:** 77% of the students disagree with the statement. They feel that attendance should not be benchmark for measuring students' competency.

**7. According to you, how much percentage of attendance should be compulsion by the college?**

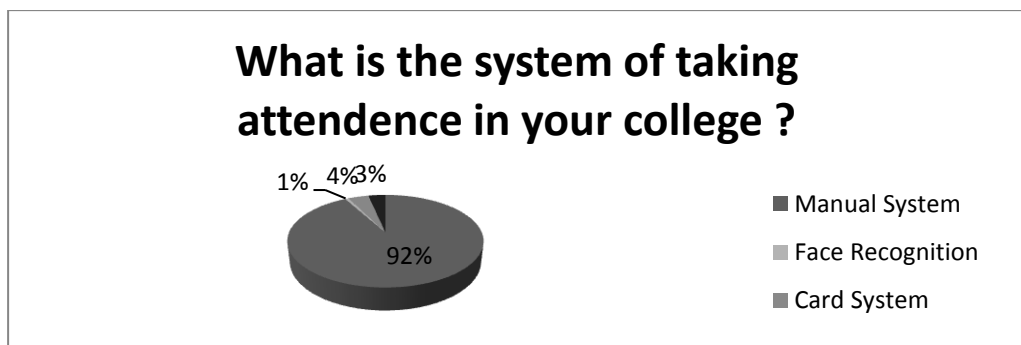


Graph 7

**Interpretation:** 55% of students feel attendance bar should be reduced to 50% as that would be more feasible for them to manage the attendance with extra co-curricular activities of the college.

Although 26% of students feel that they manage can 70% attendance as they are not a part of any cells/clubs in the college.

**8. What is the system of taking attendance in your college?**



Graph 8

**Interpretation:** 92% of the colleges prefer the traditional method of taking attendance i.e., manually. Due to the lack of technology and resources, college are not able to adopt card system or fingerprint system. However, adopting the same would reduce the burden on teachers as well.

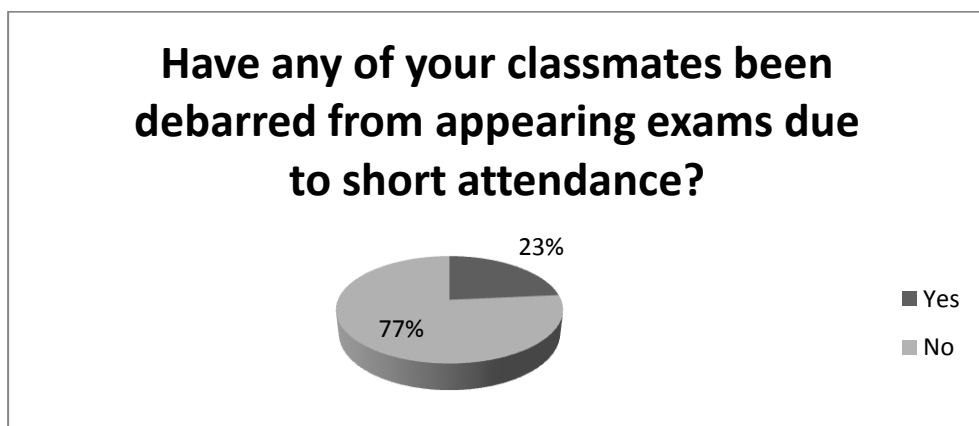
**9. Have you or any of your friends ever complained about this rule to the management?**



Graph 9

**Interpretation:** As noticed in question 5 and 7, the students are not able to manage the attendance properly and feel that attendance bar should be reduced to 50%. Still, they do not come-up to the management to communicate about the same. Only 17% of the students managed to convey their problem to the management.

**10. Have any of your classmates been debarred from appearing exams due to short attendance?**



Graph 10

**Interpretation:** 77% of students have not been confronted with this situation. Yet 23% of the students have seen the strictness of management to the rule.

## **SECTION B- TEACHERS PERSPECTIVE ON THE THEME OF RESEARCH**

Management believes that 75% attendance is productive for students and there is no need for a change in the rule. After a personal interaction with the faculty, it was noticed that according to them, physical presence plays an important in students' performance. This becomes more successful as faculty communicate their own observations and strategies with students to help them retain learning skills for a prolonged period of time. They believe that certain knowledge can only be provided in a classroom. It would help students in a discipline life. They also think attendance is a perfect criterion for allowing students to participate in co-curricular activities.

### **CONCLUSION**

- Teachers and students agree on the fact that the attendance compulsion is effective up to a certain extent.
- Majority of the students surveyed were not a part of any clubs/cells still, most of the students prefer to attend only selective classes which means there is some other factor which makes them not to attend the classes.
- In all the colleges, there is manual system of taking attendance which is prone to mistakes.
- After analysis of the teachers' perspective, they prefer that 75% attendance slab is apt.
- After analysis of the students' perspective, they prefer having it reduced to 50% slab, which makes it easier to have a balance between activities and studies.
- We can also infer from the survey that the rule is not strictly enforced, which is the biggest drawback of the rule.

In all, we can say that existence of this rule is mandatory but it can be suggested to have some amendments and have a stricter enforceability.

### **SUGGESTIONS**

- The research can be made more effective by increasing its sample size.
- Parent's view-point can also be taken into consideration to increase the efficiency of the result as there are many factors that affect the attendance of a

student and by including parents' view point, it can provide 360® outlooks to the research.

- Attendance should be taken into consideration if a student is active in any clubs/cells of the college or is attending any guest lecture of the college.
- Students should convey their internship timings to the college so that they can help the students accordingly.
- Students should be open about their problems and view-points regarding matters involving attendance.
- Colleges can also adopt flexible ways of taking classes and can also use class recordings/online classes.

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## **Chapter 4**

### **Counterfeit Industry: A Study of Consumer Behavior**

#### **ABSTRACT**

The counterfeit industry has taken a huge leap in the past few years as high-end and expensive designer products have been becoming more and more fashionable i.e. in trend and the consumer class has developed a penchant to such products. The presence of counterfeiting in cosmetic and apparel industry has become a serious concern for consumers, genuine brand manufacturers, policy makers, and for the government. The counterfeit industry is essentially concerned with the production of exact replicas or similar copies of high end products for the same prices or much cheaper and affordable prices without considering much for the quality or similarity to the original product generally. Although it does seem to be very favorable for the consumer class yet it is a dangerous play for them since majorly these products do not come with any guarantee and may as well prove hazardous or in some cases life threatening. The simple reason for such danger posed by these copies is the sub-standard production practices of the firms engaged in the counterfeit goods industry. The purpose of this project is to define the concept of counterfeiting, identify and briefly discuss the many factors in the world market that allow the practice of counterfeiting to thrive; to present findings from an exploratory study focusing on consumer experiences with and perceptions of product counterfeiting.

#### **INTRODUCTION**

India is a fast-growing economy and is one of the pioneers in the world as a raw material and manufacturing base. The textile industry alone contributes approximately 5% to the GDP of India and is growing at around 10-12% per annum. While the cosmetics industry is making leaps and bounds with an average growth rate of about 6 % per annum. Counterfeit products have a wide effect on the economy in terms of trade, investment, employment, innovation and health and safety of the consumers as well. According to Authentication Solution Providers' Association (ASPA), at present counterfeiting industry causes around Rs. 1.05 lakh crores losses to India per annum. Trade in counterfeit goods has risen steadily in the last few years globally with a 3.3%

share of global trade volumes (2016). Among the reasons for this increase in the consumption of counterfeit goods is rising consumer incomes, development of retail outlets, online retail & e-commerce, rising trends and increasing knowledge of the same trends.

### **Objectives**

- To find out the awareness amongst consumers about counterfeit industry.
- Factors affecting choice and consumption of counterfeit goods.
- Risks and health hazard of sub-standard counterfeit products.
- Comparative analysis of advantages and disadvantages of counterfeit goods.
- Suggest corrective and remedial measures.

### **Keywords**

Counterfeit Products, Luxury Brands, Deceptive Counterfeiting, Non-Deceptive Counterfeiting

### **Research Methodology**

This research is a market analysis of the counterfeit industry. Two Analysis methods have been used in this research: Quantitative analysis which consisted of primary research through questionnaire, for data collection and Qualitative analysis which consisted of review of existing reports and paper.

Scope – Counterfeit Industry has high impact on business, government and individuals. It touches upon intellectual law, criminal law, administrative law and civil law.

The Sampling Method - Convenience sampling method.

Sample size - 100 respondent consumers.

Sample area – Respondents were from various parts of India.

Data collection -Primary data collection was collected by questionnaire method. Secondary data collection was done in various books and research papers.

Tools Used - Google forms, MS Word, MS Excel.

## **Review of literature**

Despite the fact that the first study on counterfeiting was published more than 30 years ago (Hansen, 2009; Staake, Thiesse, and Fleisch 2009), counterfeiting research is yet to be established as an independent research stream. Literature on counterfeiting spreads across various streams of business-related research. There is an infringement of copyright or trademark due to the counterfeit products but there is also a serious fallout in terms of the counterfeit product seller gaining financially at the cost of the original and other issues of loss of brand equity, reputation and trust earned over the years by the original brand, in case the counterfeit product malfunctions or causes harm to the consumer; (Monnandaappaiah, Wienerberger India). In order to cut the supply of counterfeit products, Companies have tried different approaches such as taking legal actions against counterfeiters, attempting to pass stronger anti-counterfeiting regulations, participating in the International Anti-Corruption Conference (IACC), encouraging enforcement of laws, offering incentives to the members of the supply chain to reject counterfeit products, reducing distribution of original products in counterfeit-dominated markets, and monitoring the activities of channel members (Bush, Bloch, & Dawson, 1989; P. E. Chaudhry & Walsh, 1996). Despite these efforts, counterfeiters could never be stopped from doing what they do best. Therefore, there is a need to implement strategies to reduce demand of counterfeit products. And to decrease the demand for counterfeit products, companies should think about how to design effective anti-counterfeiting campaigns. Previous research identifies some techniques used by companies to help consumers identify their products. For example, brand 10 name companies such as Rolex, Prince, and Hennessey used anti-counterfeit labels developed by Polaroid (Leisen & Nill, 2001). Not only these instances are scarcely discussed in literature, previous research remains mostly silent on the effectiveness of such strategies. It seems from review of literature that no study was conducted to compare such methods and their effectiveness in reducing demand for counterfeit.

## **COUNTERFEIT GOODS**

A counterfeit product also known as a fake, a knockoff, a copy, a replica, etc. It is essentially a product made in the image of an original product, with a few minute changes, generally of an inferior quality, using a brand name or logo that is made

identical or undistinguishable to the original. These products are illegal, low-priced, and of lower quality and sold. These are generally produced in the image of high value, luxury brands. There are broadly two types of counterfeiting:

- Deceptive Counterfeiting
- Non-Deceptive Counterfeiting

Deceptive counterfeiting is a practice where the consumers are tricked into buying counterfeit products. The consumers aren't aware of being tricked into buying a dupe product in the name of a real product. The consumer isn't aware of the genuineness of the product. Since the consumer is being deceived into buying a counterfeit product, he/she is in a legally favorable position to recover his/her losses.

Non-Deceptive counterfeiting occurs when the consumer is aware of the product being a fake or a replica, and is aware of the authenticity of the product and yet is purchasing the counterfeit product. A consumer who indulges or participates willingly in this type of counterfeiting has little or no legal cover in case of losses. This type of counterfeiting is particularly observed in luxury brands market. The consumer can differentiate between an original product and a replica of it. Luxury brand products are those whose price and quality ratios are the highest in the market, i.e., the high price tag comes with the attributes of perceived high quality, exclusivity, and brand image. Thus, luxury brands become a perfect target for non-deceptive counterfeit products.

### **Stakeholders**

- **Consumers**

Consumers are at a high risk due to the consumption of counterfeit products as these products do not comply with health standards, sanitary codes, ingredient standardization and product testing, etc. This issue is especially prominent in the cosmetics industry. For example, a fake MAC kohl eyeliner was found to have 44 times the permitted levels of copper. Such dilution and substandard production practices cause harm to health and may be lethal as well.

- **Business/Industry**

The industries invest a lot in research and development of products and in protecting them legally as copyrights, patent, intellectual property rights, trademarks, etc. The

counterfeit producers blatantly steal the ideas and create replicas of these products. Since these replicas are produced cheap, their price points allure the consumers, leading to loss of revenue to the businesses and industries. For example, Designer dupes (fake/counterfeit) are sold at highly discounted prices.

- **Government**

The counterfeit industry generally uses small sweatshops/micro producers and informal means of sales which leads to loss of tax revenue and for transportation of these counterfeit products are done mostly through ship vessels so as to send bulk products and avoid custom checks and inspections.

### **Analysis and Findings**

Counterfeit industry not only poses a risk to the consumer but also the producers and manufacturer (brands). As the producers spend huge amounts of money on research and development of high-quality standardized products, the counterfeit industry mainly specializes in producing cheap and non-standardized replicas of the same, thus not only exploiting the brand but also rendering the consumers in a risky position. In terms of apparel – clothing, footwear and accessories, the risks faced by the consumers is not to a higher extent, but the producers on the other hand have to endure heavy losses in terms of brand replication, losses incurred by the brand due to sales of such counterfeit goods, trademark lawsuit expenditure, etc.

In various studies, it has been found that counterfeit industry has majorly thrived in the Asian countries, specifically China, Hong Kong, Thailand, and India.

### **Cosmetic industry**

1. The size of the Indian cosmetic industry globally is \$274 billion.
2. The current size of Indian cosmetic industry is USD \$600 billion(approx.) In India.
3. According to CII (Confederation of Indian Industry) market size currently is USD \$950 million, estimates a rapid growth of 20% per annum.

### **Indian textile and apparel industry**

1. The Indian textiles and apparels (T&A) industry accounts for approximately 4% of the global T&A market.

2. The Indian textile industry contributes approximately 5 per cent to India's gross domestic product (GDP), and 14 per cent to overall index of industrial production (IIP).

3. The apparel industry in India grew at 13% from Rs. 2,432 billion in FY10 to Rs. 6,484 billion in FY18.

### Demographics

- The correspondents were consisting of both males and females, majorly from the age group of 15-25 (82%)
- Almost half of the correspondents (46%) were graduates, 22% of the correspondents were post graduates and 22% were 12<sup>th</sup> standard graduates.
- 66% of the correspondents were students, 24% were employed while the rest were unemployed.
- Since a major proportion of the consumers were students, it was evident that a majority of 64% were not earning, primarily dependent on their parents' income.

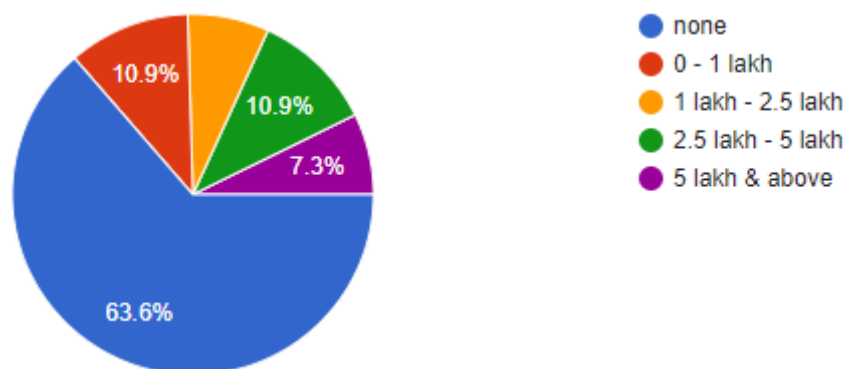
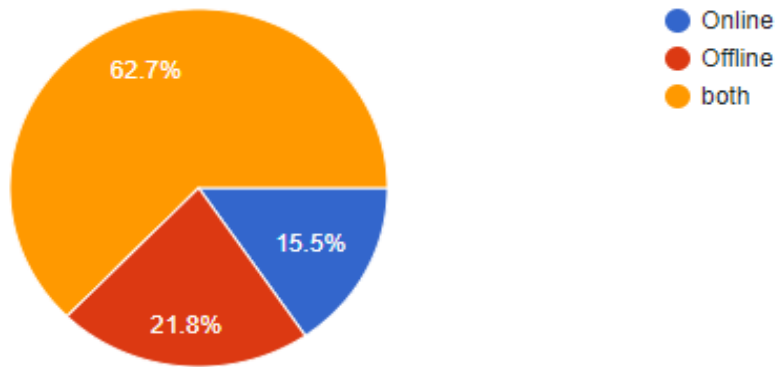


Figure 1 DEMOGRAPHIC FEATURES OF CONSUMERS

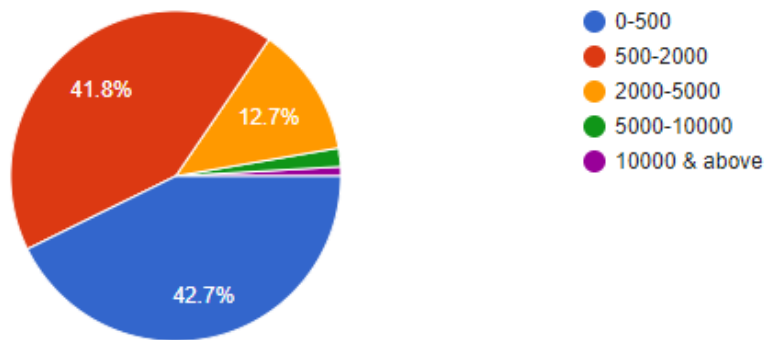
### Buying Preferences

Generally, the consumers (64%) prefer a mix of both online and offline methods of shopping. 21% of the consumers preferred shopping offline and only 15% preferred shopping online for cosmetics, apparels, and accessories.



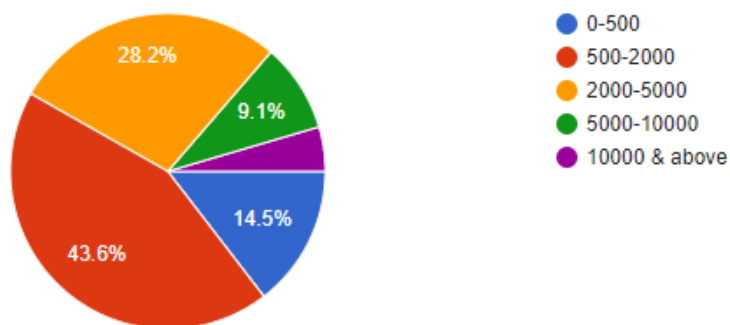
**Figure 2 BUYING PREFERENCES OF CONSUMERS**

Q1. On average how much do you spend on cosmetics (skincare, haircare and makeup) in a month?



*Figure 3 AVERAGE SPENDING ON COSMETICS*

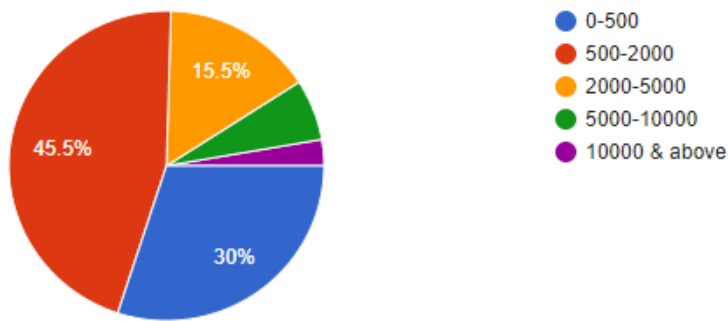
Q2. On average how muc



**Figure 4 AVERAGE SPENDING ON FOOTWEAR AND ACCESSORIES**



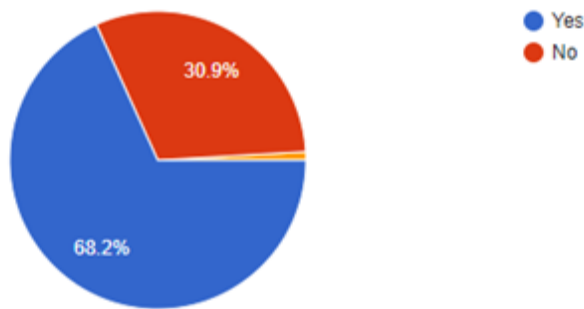
Q3. On average how much do you spend on footwears and accessories ( bags, wallets, belts and eyewear) in a month?



**Figure 5 AVERAGE SPENDING ON APPAREL**

**Counterfiet Goods**

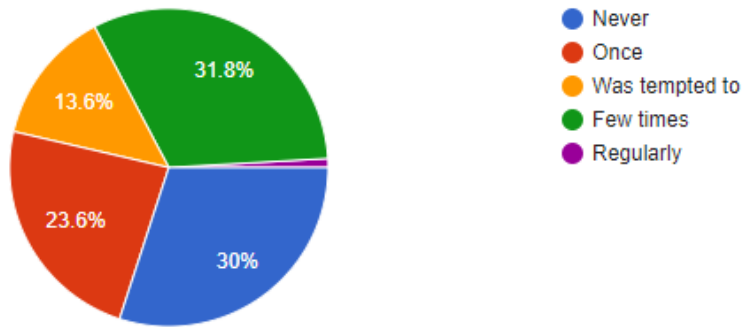
Out of the total respondents, 68% have come across counterfeit products. While 30% of the consumers calim to have not come across counterfeit products.



**Figure 6 CONSUMER CAME ACROSS COUNTERFIET GOOD**

Q4. Have you ever bought a counterfiet luxury good?

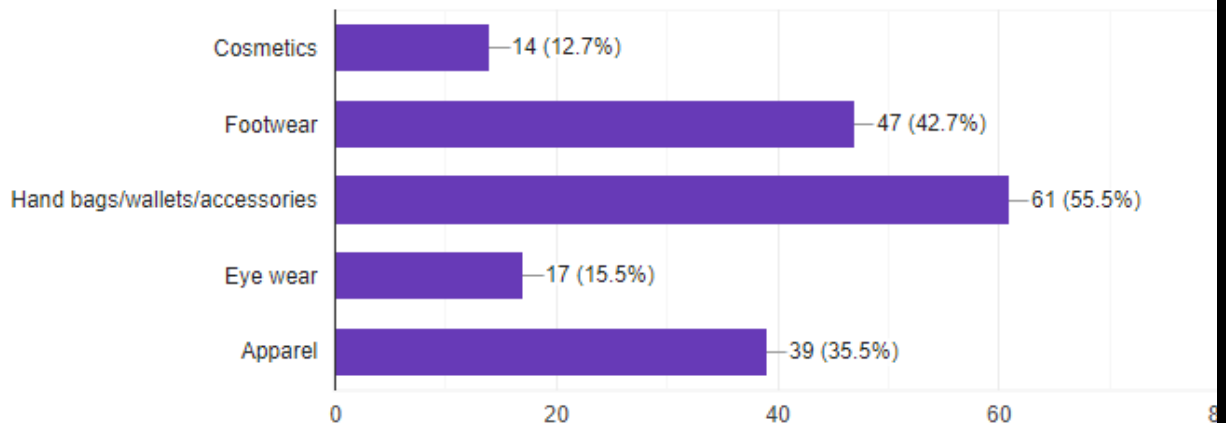
Almost 50% of the respondents had purchased a counterfeit product at least once, knowingly.



**Figure 7 FIG. 7 PURCHASE OF COUNTERFIET LUXURY GOOD**

Q5. Which category of products will you be willing to buy or have bought counterfiets of?

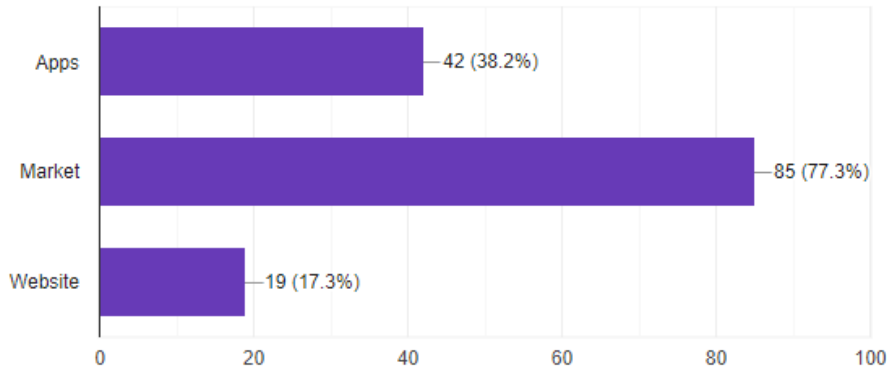
Half of the consumers were fine with purchasing counterfeit accessories such as wallets, handbags, belts, etc.



**Figure 8 WILLING TO PURCHASE A KNOCK-OFF**

Q6. When it comes to purchasing a counterfeit item where do you buy it?

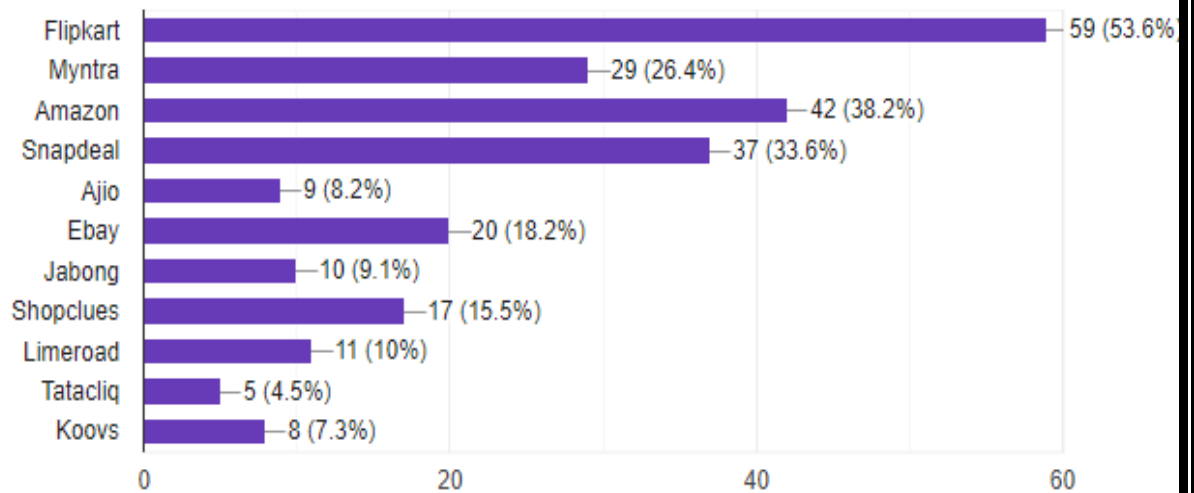
Conusmers did prefer buying counterfeit both from markets and online websites and applications such as Social media stores and website that deal in countefreit products.



**Figure 9 PREFERABLE PLACE TO BUY A KNOCK-OFF**

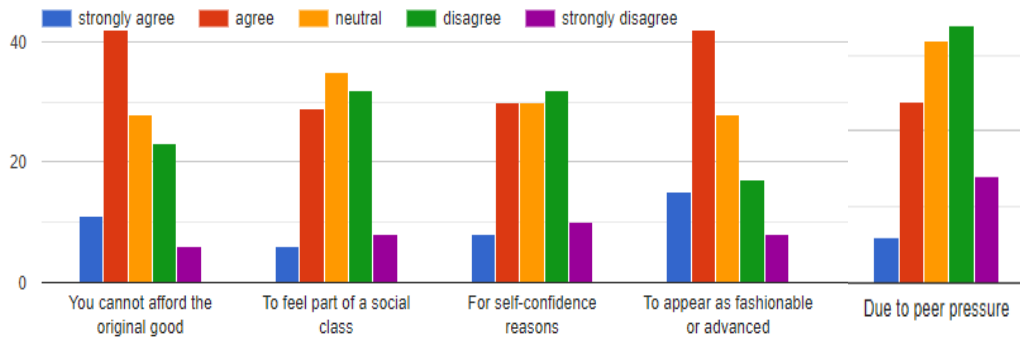
Q7. Have you encountered any counterfeit good issues on the following?

When it comes to the online websites, majority of the consumers have encountered counterfeit product issues on websites such as Flipkart, Snapdeal and Amazon. These websites are found to deal with multiple categories of product providing a larger listing of products which makes it difficult to keep a track of the products' genuineness.



**Figure 10 COUNTERFIET ISSUES WITH THE SHOPPING APPS**

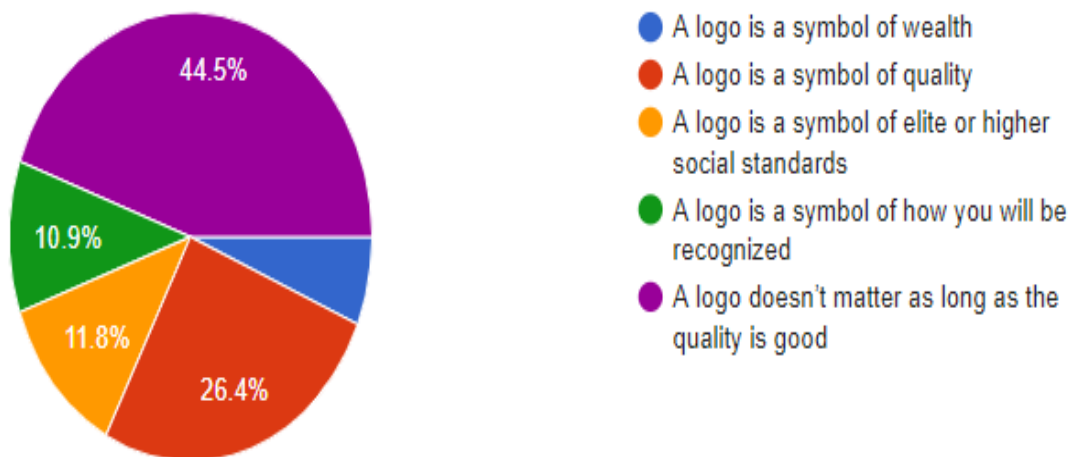
Q8. Why have you thought of buying counterfeit goods giving up on the quality?



**Figure 11 REASONS TO BUY A COUNTERFIET GOOD**

The reasons behind consumers consuming the counterfeit products were mainly highlighting the facts that affordability and keeping up with trends were major factors guiding this consumption decision. Apart from this, peer pressure seemed to be the least guiding factor.

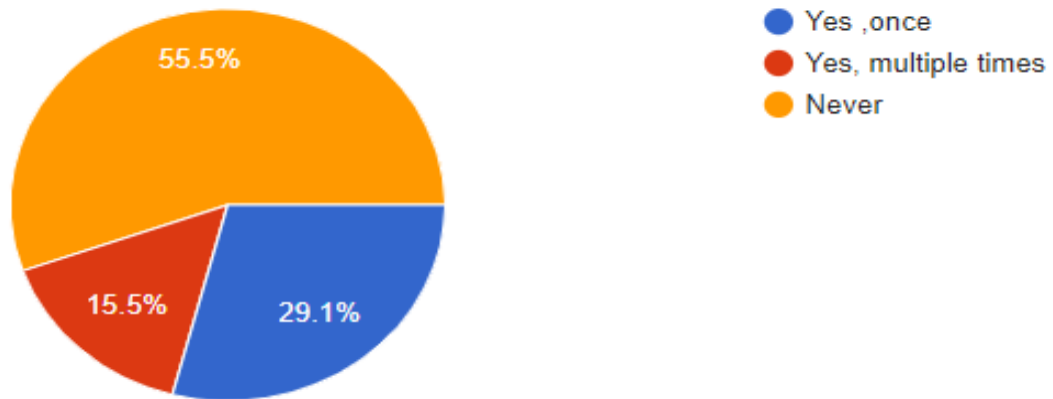
Q9. Which statement do you (consumers) agree with the most?



**Figure 12 STATEMENT AGREED BY CONSUMERS**

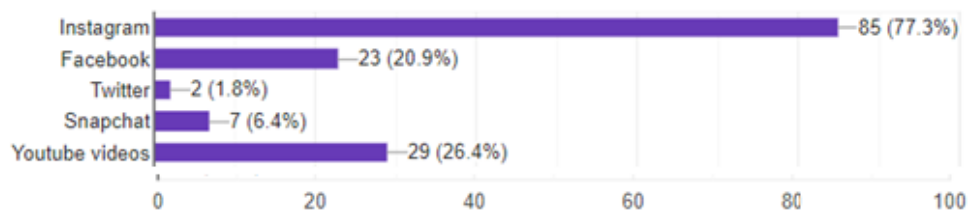
Consumers decided that the quality of a product should be good irrespective of whether the product is genuine or not. But a quarter of the respondents felt that a logo/symbol of a brand matters more as compared to the quality as it is an indicator of wealth, higher social status and recognition. Logo equates to quality was the thought of another quarter of the respondents but the quality may not be the same if the product is a counterfeit product.

Q10. Have you previously purchased a cosmetics item via a social media post (by clicking a link from a post, advertisement or page)?



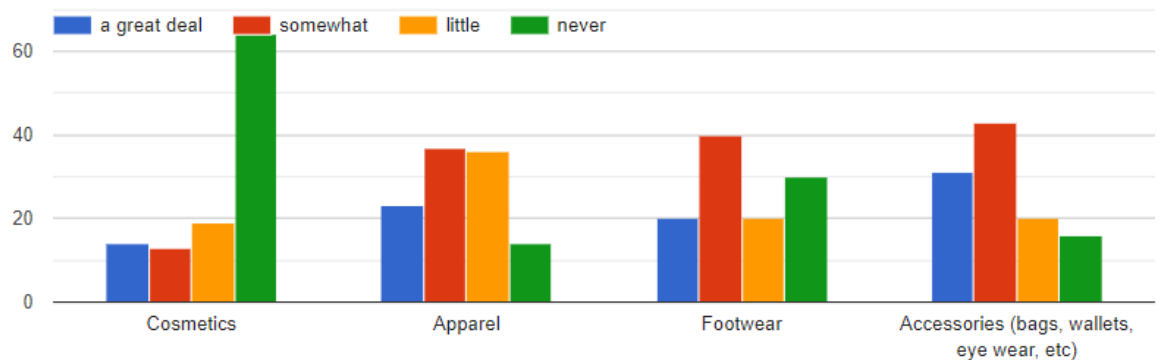
**Figure 13 PURCHASE FROM A SOCIAL MEDIA AD. OR A POST**

Q11. Which social platforms have influenced your shopping preferences (especially in the case of luxury goods)?



**Figure 14 PLATFORMS INFLUENCING THE SHOPPING PREFERENCES**

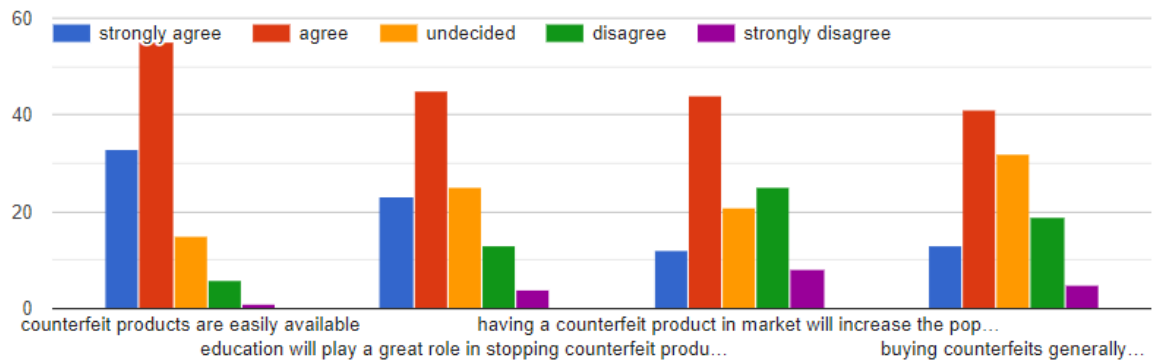
Q12. Which are the categories of product you don't mind purchasing counterfeit of.



**Figure 15 DEMAND OF COUNTERFEIT PRODUCTS**

A majority of the consumers have indicated their non preference of purchasing counterfeit products in the cosmetics categories. As for apparel, footwear and accessories consumers didn't mind purchasing counterfeit products.

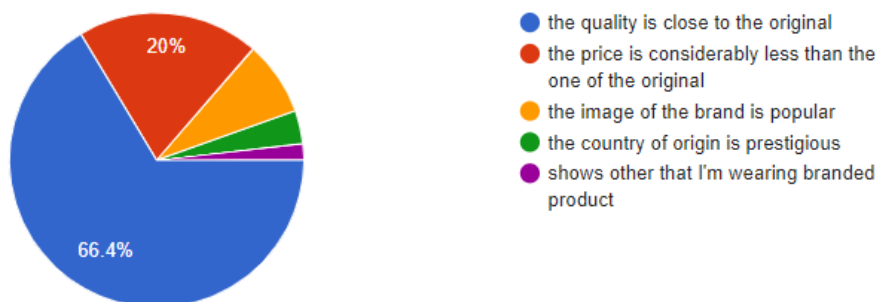
Q13. What do you think ?



Ar

**Figure 16 STATEMENT AGREED BY CONSUMERS**

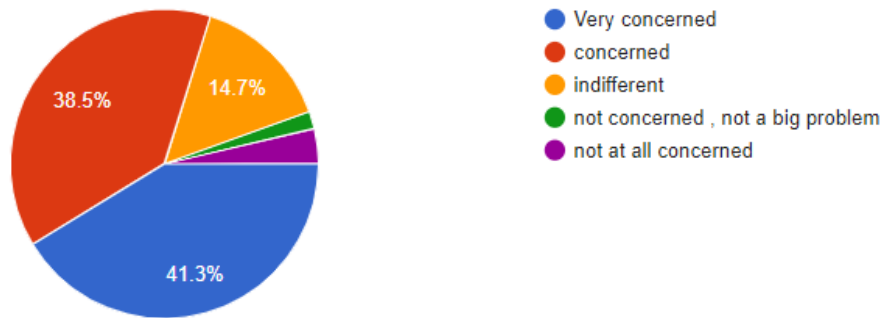
Q14. I Would buy a counterfeit product if



**Figure 17 PREFERENCES TO BUY KNOCK-OFFS**

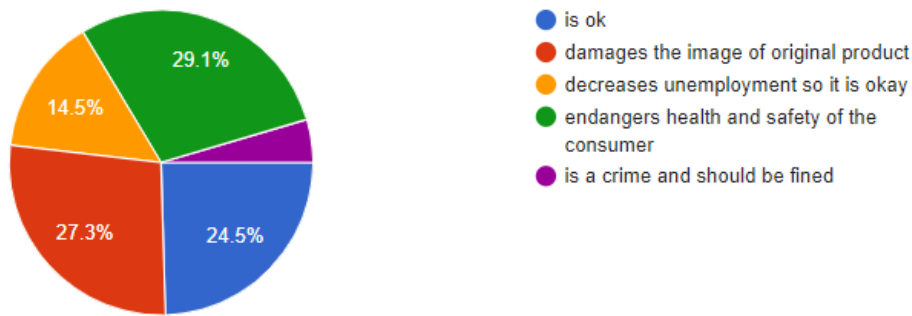
Respondents were comfortable in purchasing counterfeit products if they were of close quality to that of the original products. The second factor for the preference was the price difference. Brand image and social factors did not weigh in as much.

Q15. How big a problem does you feel that fake item is in the cosmetics industry?



**Figure 18 CONSUMER CONCERN FOR COUNTERFIET AS A PROBLEM**

Q16. In your opinion, buying a counterfeit product.

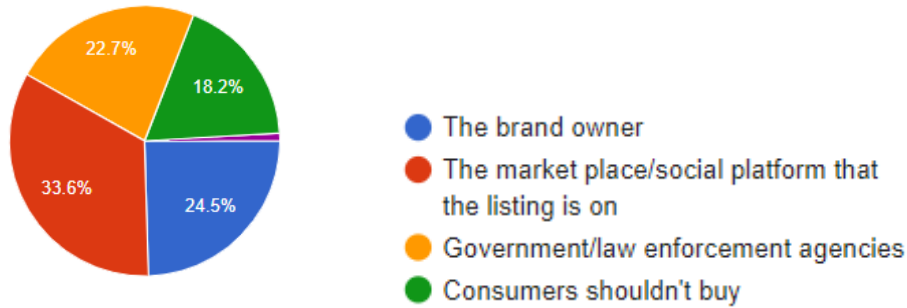


**Figure 19 CONSUMERS OPINION ON BUYING A COUNTERFIET**

As for the effect of the counterfeit products, respondents had mixed opinions. Overall, the most notable effect was the negative impact of counterfeit products and the hazards of consumption of such.

Q17. In your opinion, whose responsibility is it to remove replicas or counterfeit products from online platforms and channels?

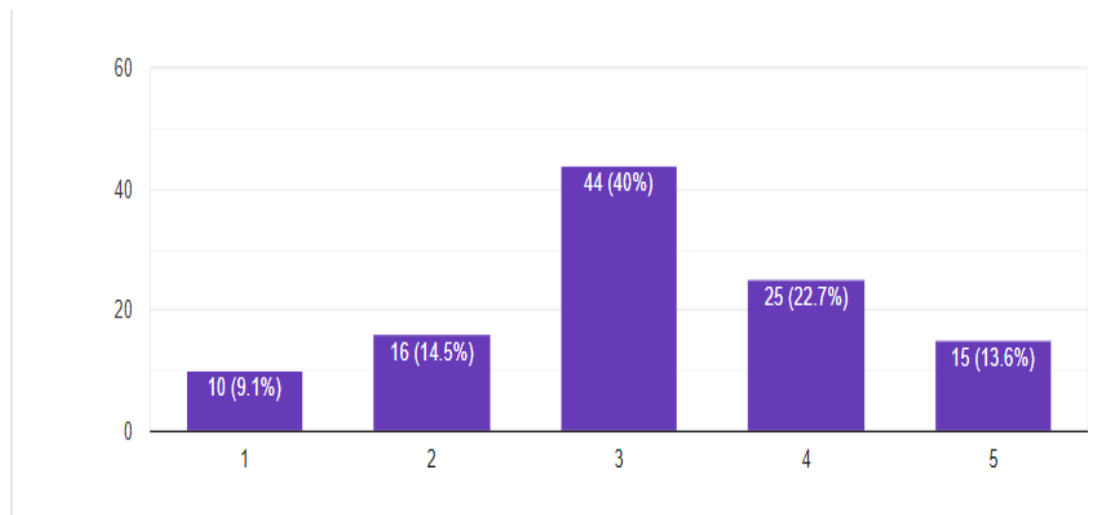
Respondents felt that it is the responsibility of the brand and market place/platform on which the listing is published to ensure that the consumers are being provided with genuine and standard quality products. As for the government's role in this can be to implement transparency policies in supply chain and enforce policy measures to curb counterfeit products.



**Figure 20 RESPONSIBILITY OF COUNTERFEIT GOODS**

### Identification of Goods

Q18. On a scale of 1 to 5, 1 being not confident at all and 5 being very confident, how confident do you feel about your ability to spot a fake cosmetics item/apparel online?

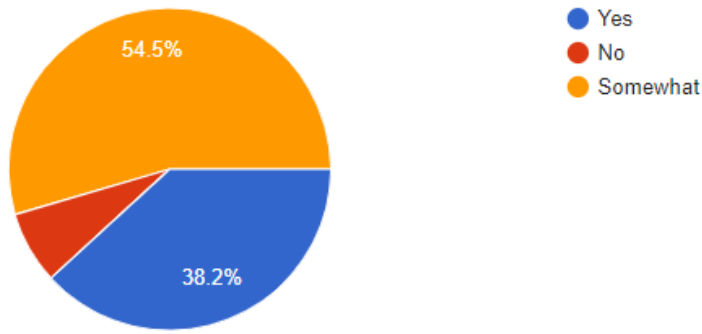


**Figure 21 CONSUMERS CONFIDENCE OF IDENTIFYING THE GOODS**

A majority of the respondents were moderately confident about their ability to identify a counterfeit product. Consumers can improve their ability to identify a counterfeit product by making informed choices before purchasing. This can be done by doing a little research about the product, especially if its high end or luxury, before making the purchase.

Q19. Can you distinguish between a counterfeit and an original product?

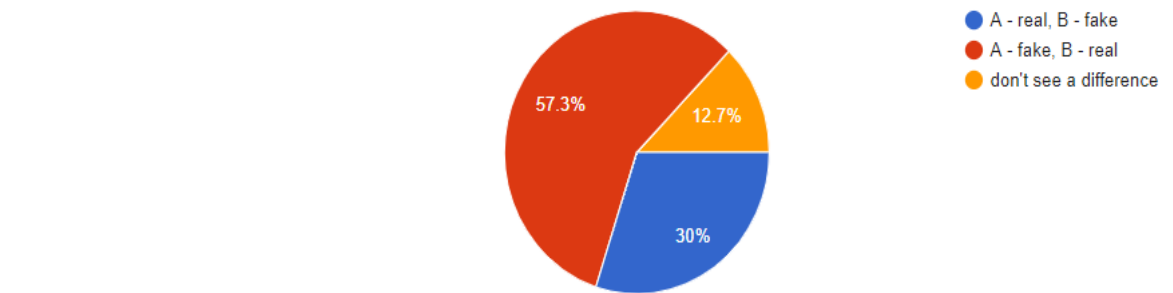




**Figure 22 DIFFERENCE BETWEEN ORIGINAL AND FAKE**

Due to the lack of proper measures on the supply side and the lack of knowledge of the quality checks on the consumer side, majority of the respondents felt that they could maybe identify a fake product from a real one. In most cases, there are plainly identifiable marks or symbols on counterfeit products which distinguish them from the real products. It can be extremely visible in case of knock offs, while first copies or high-end replicas may look extremely similar to the original product.

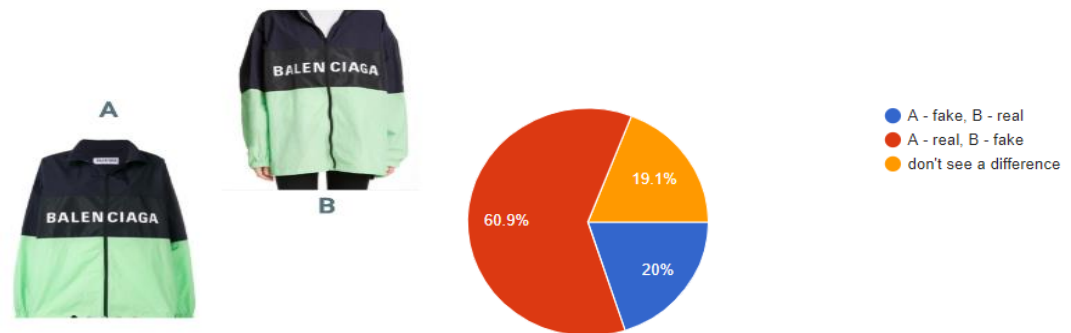
The respondents were asked to identify a group of products which looked very similar but one was a counterfeit product while the other was a genuine product.



**Figure 23 IDENTIFYING GUCCI BELT**

The product A is counterfeit, and the product B is real.

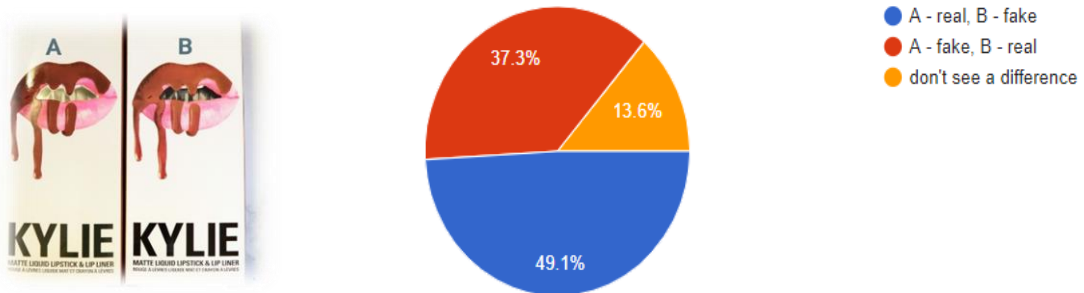
30% of respondents failed to recognize the original product, and 12.7% couldn't differentiate.



**Figure 24 IDENTIFYING THE ORIGINAL PRODUCT**

The product A is real, and the product B is counterfeit.

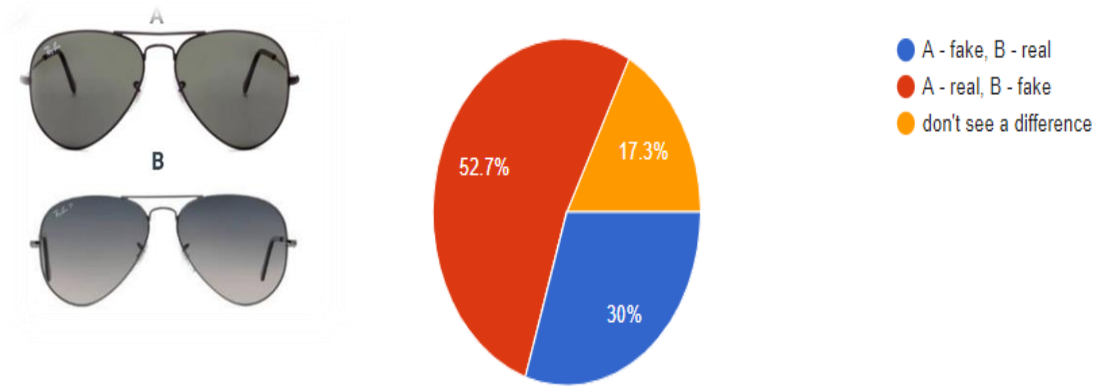
60.9 % of respondents failed to recognize the original product, and 19.1% couldn't differentiate.



**Figure 25 IDENTIFYING KYLIE LIPSTICK**

The product A is counterfeit, and the product B is real.

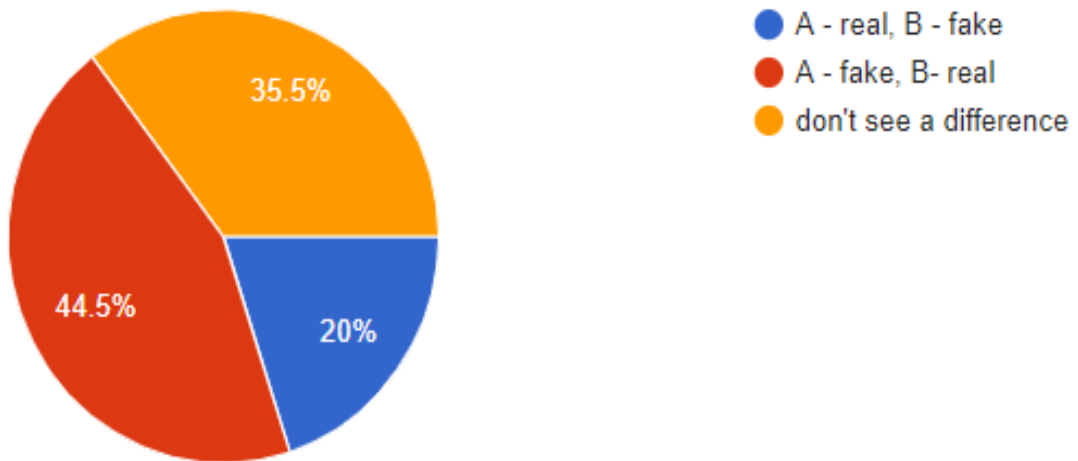
49.1% of respondents failed to recognize the original product, and 13.6% couldn't differentiate.



**Figure 26 IDENTIFYING RAYBAN SHADES**

The product A is real, and the product B is counterfeit.

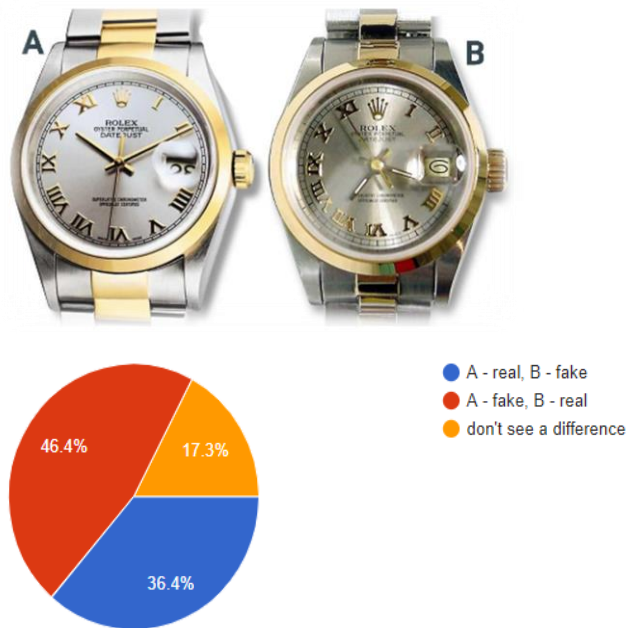
30% of the respondents failed to recognize the original product whereas 17% of the respondents couldn't differentiate.



**Figure 27 IDENTIFYING NIKE SHOES**

The product A is real and the product B is counterfeit.

Almost 45% of the respondents were unable to identify the original product from the fake whereas 36% of the respondents failed to differentiate between the products.



**Figure 28 IDENTIFYING ROLEX WATCH**

The product A is real and the product B is a counterfeit.

46% of the respondents were unable to identify the original product, 17% respondents couldn't differentiate between the products.

### **Consumer Opinions**

The main concerns of the respondents with respect to counterfeit products in the **cosmetics category** were as follows:

- **Ingredients** – the ingredients used on the production of the counterfeit good are often substandard and barely follow safety standards or guidelines given by concerned departments of standards. This is the primary reason of being able to sell products at heavily discounted price, it is simply due to the fact that ingredients are cheaply sourced and may as well be hazardous to health.
- **Quality** – It is possible at times that replicas, or first copies, may work just as well as the original product as generally high-end, luxury brands generally account for the cost of branding as well in the price of their product. So, if a replica/first copy has been made in the same standards as that of the original product and the quality matches
- **Shipping** – A few respondents were concerned that original products might be exchanged midway, during transit, with counterfeit products, which may cause not

only the loss of product quality but also the money spent on the purchase of the original product.

- Labelling – the package of any product, be it an original or a copy, should have the details of the date and place of manufacture, expiration date, contents of the package, ingredients used in the product. Etc. Ensuring this is a hard task as the counterfeit products may copy the details of the packaging of the original product.

As for the general opinion of the respondents **about counterfeit apparel and accessories**, following were the most common viewpoints:

- Respondents felt that if a consumer is well aware of a product being a fake/counterfeit product and is willingly purchase it, then it is alright. This is directly corresponding to the non-deceptive type of counterfeit.
- Price (Affordability) – respondents were highly in favor of counterfeit products due to the price point on which they are sold. Price seemed be to be the sole factor that was strongly driving the consumption of the counterfeit products.
- Quality – respondents highlighted the fact that if a product is of durable quality, is a decent reproduction of the original product and has a close resemblance to the original product with respect to the logo and other distinguishing marks/symbols, then it was preferable to purchase a counterfeit. But this borders on infringement of trademarks of the high-end bands.
- Availability and Accessibility – Due to being available to all the consumer classes at an affordable price point and easier access to counterfeits of branded clothing, respondents were inclined to purchase the counterfeit products as compared to brand products. This point simply hinges on the fact that most of the counterfeit products are made in the image of branded products which are exclusive and are not readily available to all classes of the society. Due to this, most of the respondents felt it was feasible to purchase a counterfeit product.
- Guarantee – some respondents felt that a counterfeit product may not provide the guarantee of the durability and quality of the product as compared to an original product.
- Social standards – purchasing counterfeit products of brands was feasible, according to some respondents, for the social appeal. That a person who is seen

wearing or donning a branded product adds to his/her social status seemed to be another factor that led to an increase in the consumption of counterfeit products.

- Changing trends – a few of the respondents highlighted the fact that due to transient trends, consumers preferred purchasing counterfeit as compared to the original product because investing in a high-end product which might not be in trend later on was a big commitment which could be avoided by purchasing a much cheaper, and similar replica of the same.

## **RECOMMENDATIONS**

### **Precautionary Measures**

- Before placing an order/purchasing online, the consumer should do a background check of the seller: name of the company, the geographical address, the contact details, etc. This is important to know whether the company can be easily reached in case of any issue with the product.
- Search about the product, read reviews of other buyers and if possible, check the official website before purchasing a product. Often times, the positive reviews are found to be fake or fabricated as well, care must be taken.
- Check whether the website is legit and analyze the general layout of the website and the description of the product listed. It should appear professional and without errors.
- The product should have a proper description and images listed, providing all necessary information regarding the product. The consumer can then make a comparison of the product received and the product listed.
- The price of a counterfeit product is usually heavily discounted and so it may seem dubious to an informed consumer, thus, a consumer should try to compare the original product and the product listed. The original product and its corresponding information are usually available on the actual brand's website.
- Verify the authorized retailers on the official websites.
- Use secure means of payment and ensure that there is a logo of padlock on the page and the website address begins with "https" instead of just "http", the added 's' stands for secured.
- Read terms & conditions carefully before making a purchase.

## **Anti-Counterfeit Measures**

In a bid to curb counterfeit products, some anti-counterfeit product labeling and packaging techniques have been suggested globally to ensure the Genuity of the product. They are broadly of two types: Overt and Covert features.

- **Overt Features**

These are such features which are visible on the products. These are installed to enable the consumers to verify the authenticity of the product. These are also purposed to make it difficult for production of replicas or fakes of the products. These overt features cannot be reused or removed without being damaged or causing damage to the actual product. For example, shrink seals, film wrappers, embroidered or engraved marks, etc.

- **Covert Features**

These are such features which are not visible to the plain eye, i.e., these are hidden features on the products. There are meant for the brand owners to be able to identify the products' genuineness. The consumer will not be aware of such covert features nor will have the means to verify it. Such features include usage of UV ink (which is only visible under UV light and is invisible otherwise), micro text or image embedded in the object for authentication process etc.

- **Supply Chain Transparency**

This is a solution suggested for global application where different technological measures have been suggested to aid and promote transparency in all the levels/stages of the supply chain.

Companies should assess the extent of infiltration of counterfeit products in their brand product categories and then take measures to make their supply chains more transparent and visible in order to limit the entry of counterfeit products and ensure timely detection of such products.

This can be done by guided usage of anti-counterfeit technology along with global standards of supply chain so as to enable the producers to access information about the products at key points in the supply chain and then to share the information among the concerned stakeholders.

Such measures adopted for transparency of supply chain are critical to increase trust and transparency into trading partner relationships. Products should be identified at all stages of packaging and transportation levels with unique identification numbers which are universal and can be identified internationally.

Such measures can include Barcode system, Tracking and tracing system through batch/lot numbers, expiry information, etc. which could be tracked and traced online in a compiled register/database which is accessible to all and is interoperable with various systems, both internally and externally.

The various stakeholders involved in the supply chains should be accountable and responsible and privy to the latest information and to record information pertaining to the whereabouts and standard checks of the products.

1. 2D Barcodes – a square or rectangle containing many small, individual dots such as QR codes, etc. These codes can store significant amount of data and can be printed or etched on a product and can be used at the various stages of supply chain.
2. Watermarks – images or patterns which are embedded in the design of a product's packaging. They can be generic or customized.
3. Micro Text – these can be special and unique small text, code or symbols which are covert and difficult to replicate. These can help in authentication process of products.
4. Holograms – These are 3D image formed by the interference of light. It is popular as it can verify the authenticity of products as it can incorporate various data forms.
5. Tamper evident seals.

- **Spot Authentication**

The easiest way to ensure the curbing of counterfeit should be to enable the consumers to perform authentication of a product by means of Unique ID or barcode scan, on the spot, using their cell phones. It will help in added awareness against counterfeit and brand protection.



- **Education and training**

Suppliers - It is important to train and impart education to the suppliers and to give them tools and abilities to distinguish between the actual/genuine product and the counterfeit product. The training should cover not only quality assurance and security assurance to ensure the timely detection of deliberate efforts of contamination of the supply chain with counterfeit products.

Consumers – Educating consumers will help them distinguish between the genuine products and help them in avoiding purchase of fake/counterfeit products. This will also be instrumental in the process of consumers helping identify the sellers of counterfeit products as well.

### **Responsibility of a platform in curbing counterfeit products**

- The online platforms should have a strict verification system before allowing a retailer to sell their products on their website.
- If the platform becomes aware of any such issues pertaining to counterfeit products and consumer exploitation, it is their duty to remove the listing and take necessary measures to ensure that proper action is taken against the retailer.
- The platform should inform the authorities immediately.

### **Institutions working against counterfeiting industry**

- **BASCAP – Business Action to stop Counterfeiting and Piracy**

An initiative taken by the International Chamber of Commerce, has developed a campaign “Fakes cost more, I buy real!” to generate awareness amongst consumers and to create a collective and coordination plan with simple, straightforward messages about counterfeiting being a major issue that affects everyone. The main aim of this program is to inform people and urge business concerns to communicate this message in a consistent manner creating a unified campaign and a call-to-action against counterfeit industry.

## **CONCLUSION**

The objective of this study was to depict the role of materialism in current knowledge and the consumption of counterfeit luxury brands. The consumer behavior in regards

to buying counterfeit products has been driven by quite a few factors, price being the most affluent among them. There is a need to implement strategies that will reduce the demand of counterfeit products available in the market. To curb the proliferation of counterfeit products in the market it has become an absolute necessity to inform and educate consumers about the true impact of purchasing counterfeit goods, as well as how to avoid making such purchases.

Public and private sector stakeholders throughout and across industries must work together. Law enforcement by government officials at national and international levels, and private-sector participants from all industry sectors and at all points in the supply chain need to work for greater visibility, traceability and transparency across all the supply chains.

The key reason for such low implementation rates of anti-counterfeit measures among Indian companies is due to the lack of knowledge and understanding on the core components which are necessary to incorporate in an effective anti-counterfeit solution.

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## **CHAPTER 5**

### **IMPACT OF BANNING SINGLE USE PLASTIC**

#### **ABSTRACT**

Plastic is a miraculous substance, its benefits are undeniable, it's lightweight and easy to make. These plastic qualities has led to a boom in its production over the past century and that's a major problem concern for the whole world. We are unable to cope with the amount of plastic waste we have generated and millions of tons of plastic is being produced every year, to cope with this problem the government of India decided to ban the use of single use plastic but later on decided to phase it out by 2022 after knowing the harmful effect of imposing a blanket ban on single use plastic.

This research is based on the 'Impact of banning single use plastic'. A comparative study to tell the effect of plastic ban on producers, retailers and consumers. The study explains the size of plastic industries in Jaipur region, it's production and recyclability. The research tells the average annual market of plastic in Jaipur. It broadly tells us the point of view of producers and their ideology on the government's policies regarding the ban. It not only covers producers but also the consumers, their point of view.

Our research mainly focuses on meaning of single use plastic, govt. policies on ban, producer's and consumer's point of view, facts and figures about plastic market in Jaipur, consumer's habits regarding plastic in Jaipur, problem faced in the ban, the actual ground report regarding the single use plastic. The research also suggests some of the possible solution in tackling the problem. Our research work is based on the Jaipur region only.

#### **INTRODUCTION**

This is the era of rapid development, growing infrastructure, the era where there is a boom in all kinds of products, everyday millions of products are being manufactured,

factories work at full pace, in such a situation availability of raw materials becomes a tough task, in light of such a problem there comes a material which is cheap, malleable, lightweight, water resistant, the material called is 'Plastic'. Nowadays plastic has become so common that almost every manufacturing unit uses it. Since the 1950s, the production of plastic has outpaced that of almost every other material. Undoubtedly, the benefits of plastic are undeniable. The material is cheap, lightweight and easy to make. These qualities have led to a boom in the production of plastic over the past century. And, that is it is the biggest problem everybody should be concerned for, we are already unable to cope with the amount of plastic waste we generate and millions of tons of plastic is being produced every year, which is not biodegradable.

Much of the plastic we produce is designed to be thrown away after being used only once. As a result, plastic packaging accounts for about half of the plastic waste in the world. As only 1-13 percent of the plastic items are recyclable, the rest ends up either buried in the land or water bodies, eventually reaching the oceans, leading to polluting of water bodies and killing of marine life. Most of the plastic is not biodegradable and over a period of time the plastic breaks up and releases toxic chemicals into the water bodies, which in turn make their way into food and water supplies.

Due to all these factors the government of India decided to ban the single use plastic, which later on was revised to curb its use and phase it out by the year 2022, after knowing the harmful effects of a complete blanket ban on single use plastic. Due to this ban and later on phasing out of plastic, producers faced many problems, they were confused as what should be their future target, because government could announce any new policy and producers could incur losses. Our research revolves around the 'Impact of banning single use plastic', producer's problem, consumer's problem, and government action to cope with it.

- **Meaning-**

- **Single-use plastics**, or disposable plastics, are used only once before they are thrown away or recycled.
- **Single-use plastic meaning:** Single-use plastic is a form of plastic that is disposable, which is only used once and then has to be thrown away or recycled.

- **Single-use plastic items:** The single-use plastic items include plastic bags, water bottles, soda bottles, straws, plastic plates, cups, most food packaging and coffee stirrers.

- **Government Policies about Single Use Plastic-**

This is what Indian government decided regarding single use plastic:

- India would phase out single-use plastics by 2022, Prime Minister Narendra Modi announced at the Sabarmati River front in Ahmadabad on October 2, 2019.
- The statement that India would phase out single-use plastics by 2022 was a reiteration of the commitment that the Indian government made in 2018.
- On World Environment Day (June 5), 2018, the then environment minister Harsh Vardhan had announced that single-use plastics would be phased out by 2020. Later, that deadline was revised to 2022.
- Phase one - Creating awareness about single use plastic
- Phase two - Curbing the use of single use plastic and collecting the waste
- Phase three - Recycling the waste single use plastic collected

- **Different Kinds of Plastic-**

There are various kinds of plastic used according to their characteristics, the seven types of plastic include:

- Polyethylene Terephthalate (PETE or PET)
- High-Density Polyethylene (HDPE)
- ; Polyvinyl Chloride (PVC)
- Low-Density Polyethylene (LDPE)
- Polypropylene (PP)
- Polystyrene or Styrofoam (PS)
- Miscellaneous plastics (includes: polycarbonate, polylactide, acrylic, acrylonitrile butadiene, styrene, fiberglass, and nylon)

## **OBJECTIVES**

- Single-use plastics, or disposable plastics, are used only once before they are thrown away or recycled. A disposable is a product designed for a single use after which it is recycled or is disposed as solid wastes.

- According to UN Global Report, “Plastic is very cheap – which makes it ubiquitous, resulting in one of our planet’s greatest environmental challenges. Our oceans have been used as a dumping ground, choking marine life and transforming some marine areas into a plastic soup. In cities, plastic waste clogs drains, causing floods & breeding disease. Consumed by livestock, it also finds its way into the food chain.”
- After knowing all these, we as a group felt that some step should be taken as college students whether a small step or big step but people must be aware about the ill effects of the plastic they use and we should reveal the ground report of the plastic ban & its impact on industries. So that government can also know what are the point of view of producers’, consumers on their policies. Based on the above-mentioned reasons, the following objectives are identified: -
  - Analyzing the government policies.
  - Analysis of producers’ and consumers’ point of view on single use plastic.

#### **METHODOLOGY**

Our research is based on the facts and the figures which were collected by the field surveys, interviewing the traders, producers, and industrialists, collecting the data about the effects of banning single use plastic and revealing the ground report after the ban. The team surveyed, collected data, filled questionnaires of producers and users, we also surveyed about the views of producers and users on the government policies regarding the single use plastic ban.

- **Area Covered-**
  - RIICO Industrial Area
  - Bani Park
  - Vishwakarma Industrial Area
  - Sita Pura Industrial Area
  - Bias God am
  - Vaishali Nagar
  - Indira Bajar
  - Kartarpura Industrial Area
  - Malviya Nagar





*The facts and figures revealed in the research are as follows:*

○ <b>Number of Organizations covered</b>	–	<b>25 organizations</b>
○ <b>Most common plastic used</b>	–	<b>Polypropylene (PP)</b>
○ <b>Least used plastic</b>	–	<b>Polystyrene or</b>
<b>Styrofoam (PS)</b>		
<b>&amp; Miscellaneous plastic</b>		
○ <b>Annual plastic production in Jaipur</b>	–	<b>Rs. 4,80,00,000 Approx.</b>
○ <b>Average monthly plastic production (approx.)</b>		<b>–Rs. 30,00,000 - 40,00,000</b>
○ <b>Awareness of government policies</b>		<b>–100 %</b>
○ <b>Avg. level of agreement on govt. policies</b>		<b>–Neutral, as proper implementation is not done</b>
○ <b>Producer’s views operate with them</b>		<b>–Govt. should do R&amp;D, co-operate with them</b>
○ <b>Organizations’ corporate social responsibility</b>		<b>–Recycle plastic</b>
○ <b>Disposal of industrial waste agencies</b>		<b>–Send them to recycling agencies</b>

● **Producer’s Policies-**

What does producers decided after the policies and directions given by the central government are as follows:

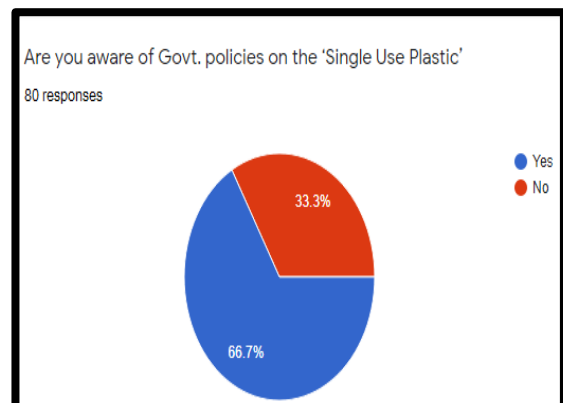
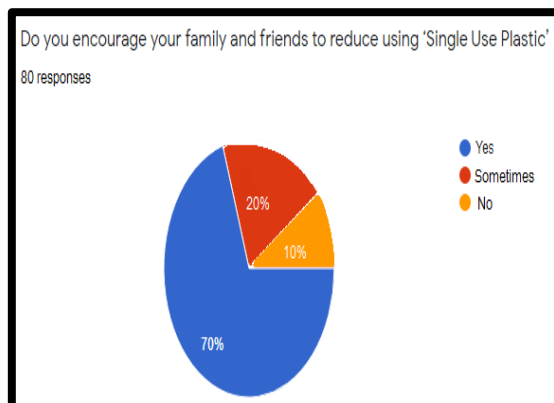
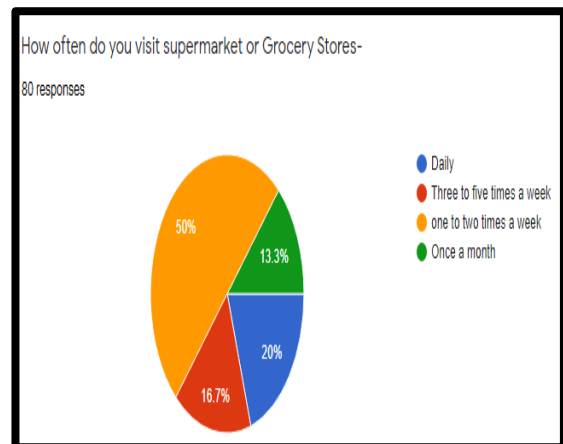
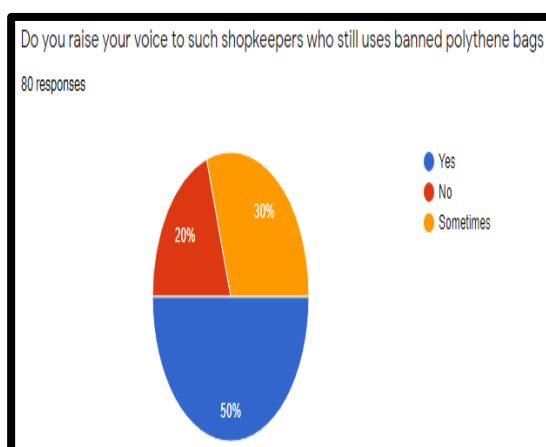
- **60%** producers are trying to decrease the production of Single Use Plastic, as they are facing a decrease in the demand of single use plastic from local retailers.
- **60%** producers are focusing more on those plastic that can be recycled.
- **All** of the producers surveyed are ready to accept any kind of changes government would make, provided the changes have given adequate time to be implemented.

- All the producers send their waste plastic to the recycling agencies.
- 12% producers are trying to shift to the alternate of plastic.

- **Producer's Point of View-**

This is what producers feel and their view regarding the policies made:

- Producer's view on single use plastic is that they know it's harmful for environment, but they urge to user's that they should dispose it correctly.
- Producers are in favour of government policy about single use plastic but they want more co-operation from the government officials.
- Producer's want government should do R&D on the alternatives of the plastic and initially should give subsidies to them so they can shift from plastic to its alternative.
- They want government should co-operate with them, instead of imposing heavy penalties.

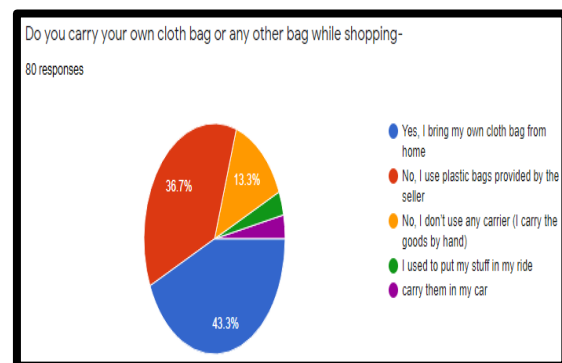
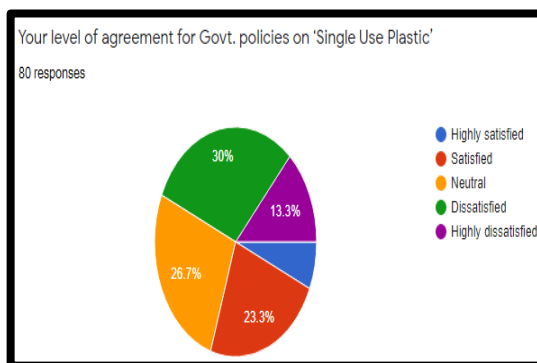


### **Data Analysis on User Habits and Awareness-**

Statics regarding the consumers habit, awareness, and responsibility.

**User's Perspective -** Facts and figures of consumers regarding their usage of single use plastic:

- Users are a lot more aware than that of before, around **63.3%** of users carry their own bag while shopping.
- **66.7%** of users are also aware of the govt. policies.
- **50%** of users also raise their voice against the shopkeepers who still uses banned polythene.
- **70%** of users also encourage their family members not to use banned



polythene.

- But at last, since there is no other option viable, they are bind to use plastic.

### ● **Problems arising in the ban-**

Why can't government impose a ban on plastic items is as follows:

- Govt. cannot impose a complete blanket ban on the plastic industry as the measures will be too disruptive during an economic slowdown.
- Govt. has shelved the plan temporarily and decided to curb its use in phases because of the ongoing economic slowdown and the fear of massive job losses in the plastic industry.

- Central govt. has told states to enforce existing rules against single use plastic products, as there is no other proper alternative available of plastic in today's scenario.
- It's good for other industries as their demand has risen due to awareness in people of single use plastic, such as paper, cloth, jute bags industry, plastic recycling industry.

- **Ground Report-**

This is what actual ground reality is, and the impact of policies:

Producer –

- All the producers are unhappy of the current scenario of the plastic policies by the govt. as there is no proper support of the govt. to producers.
- Heavy penalties are imposed, losses are being incurred in the plastic industry due to downfall in the demand, they want govt. should do R&D on the alternate of single use plastic and should co-operate with them.

Users –

- Users are in favour of govt. policies that at least govt. had taken any step towards this direction.
- But due to the improper implementation of policies and no other proper alternative available of plastic, they are bound to use the polythene.

- **Suggestions-**

These are some ways suggested by us, as how plastic problem can be reduced without banning it:

- Strengthen plastic waste management system.
- More of Paper and cloth bags should be used.
- Recycling agencies of the plastic should be given a boost.
- More and more awareness should be made of single use plastic.
- Disposal of plastic waste should be done properly both by producers and users.
- Limit the use of single use plastic wherever possible.

- **Conclusion-**

This is what can be concluded from the research:

- The conclusion from the research is that there is awareness among the people about the harmful effects of using single use plastic.
- Producers are facing some decline in the demand of plastic from the market.
- Government officers are not strict enough to cope with the plastic problems.
- Producers, manufacturers, and traders are ready to support the govt. but in return they also want support from the govt. officials, they said they are ready to adapt but govt. should do R&D for the alternative of plastic and also govt. should give them proper time to adapt so that they should not incur losses.
- Without proper alternative there cannot be a complete ban on plastic.

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## Chapter 6

### Study of *The Forest of Enchantments* by Chitra Banerjee Divakaruni Through the Lens of Feminist Theory

#### ABSTRACT

We propose to study *The Forest of Enchantments* by Chitra Banerjee Divakaruni and analyse the marginalized characters in the *Ramayana* through Feminist theory. *The Forest of Enchantments* portrays not only the elements of honour, love and duty but also brings out the inherent sexism that has prevailed in the Indian culture since time immemorial. The victory of good over evil and plight of women is depicted through the eyes of Sita and hence the epic is retold with a feminist perspective. The book talks about Sita's love for Ram, her courage to forgive and forget and eventually to stand up for herself. The epic (*Ramayana*), however, elucidates only the male characters' point of view. This project focuses on unravelling the stories from the marginalized characters' viewpoint. This book mentions women characters who are relegated to margins: Kaikeyi, Surpankha, Mandodari and alike. This project aims at understanding the nature of gender inequality with reference to the epic, *Ramayana*. It also entails the reasons as to why Ram and other male characters are kept high on the pedestal than the female ones. The project aims to study the issue of identity crisis in female characters. This project holds relevance today because even in the current scenario, females are relegated to the periphery. This project traces the reasons behind it and compares those to the contemporary times. We wish to create awareness in the society about the crucial role of female characters in *Ramayana* and how masses in the present world can learn from her.

**Keywords:** *Feminist Theory, Identity Crisis, Gender Inequality, Myth, Archetype*

#### INTRODUCTION

Chitra Banerjee Divakaruni's work *The Forest of Enchantments* is a masterpiece work that entails elements of "Sitayan"; the entire lifespan of Sita and her marital journey with Ram. Through this research, we want our readers to feel rooted in reality and not take it as a fictional concept, because as the author endeavours to portray that

*Ramayana* is also a love story at its heart besides being a morality tale. We wish to bring forth not only the story of Sita, but also the marginalised female characters of the epic, so that enough justice can be done to them. The author handles out a perspective to the readers on the sufferings of both the major and the minor women characters; tragic sufferings created by misunderstandings and boundaries of faith and fidelity – all to live in a restricted social order. It has been noted that all the female characters including Sita, Kaikeyi and Manthara, have to depend on Rama for their retrieval of faith or that they seek their end goal through him.

Through our research, we intend to give unique voices to all the female characters, so that *Ramayana* comes to be known as not only Rama's story but all the female characters as well, for each female character's destiny and fate contributed in some way to Rama accomplishing his final kings-manship.

#### **Role of Women in *Ramayana*:**

*The Forest of Enchantments* is the Sitayan that the author brings forth to heighten Sita's stature and to highlight other marginalised female characters in *Ramayana* folklore. It presents a very human story of some of the other women in the epic, often misunderstood and relegated to the margins: Kaikeyi, Surpanakha, Urmila and Mandodari. All women characters make some kind of sacrifices at different points in their respective lives. Kaikeyi, who is manipulated by Manthara to plot the whole treachery of banishing Ram to the forest is shown as evil, but in the most human sense, overpowered by motherly love for Bharat. She plans the entire controversy only so that Bharat be crowned as king. By the end of the novel, we see Kaikeyi as a disillusioned woman who seeks nothing but forgiveness from Sita and Ram.

Surpanakha, who is considered the root of it all is also heightened as a human in an asura body. She is a woman who only seek some kind of affection from Ram. She is shown as a woman who is deeply affected by her 'not-so-good-looks' and suffers internally. There are instances in the novel where Surpanakha is not blamed for getting her nose cut, but Laxman. This is because Laxman could have persuaded her to leave him and the divine couple alone in the woods just by having a decent conversation induced with respect, as she, like any other individual, deserved. Instead, Laxman goes on to dismantle her face under the misconception that since she is an



asura, she has to be treated in a harsh manner. Had Laxman empathised with Surpanakha's psyche at all, the tale would not have happened as it did.

Urmila was Sita's sister. She was abandoned by her sister Sita and husband Laxman in the palace for fourteen years. She confined herself to her personal quarters and asked Yama, lord of death to redeem her from all her troubles. Yama, instead of granting her death wish, introduced her to his sister, Nidra, goddess of sleep, where she told Urmila that Laxman had already prayed to her and asked for the boon of no sleep for fourteen years so that he can safeguard Ram and Sita in the forest.

Laxman agrees to the deal that once he returns to the palace, he will sleep unhindered for fourteen additional years to make up for the laws of karma. Upon knowing this, Urmila quickly agreed that she shall sleep in place of Laxman for the entire time being, thus sacrificing her personal life and the palace luxuries. The author highlights her sacrifice in the novel, unlike in Valmiki's *Ramayana*.

Mandodari, on the other hand, shows a different suffering of women bound in marriages. She keeps her calm even when Ravana brings several women to Lanka and establishes non-institutionalised relationships with them. She is bound to stay shut when Ravana wrongly orders their new born baby girl to be murdered on a far distant land. She is forced to curb her motherly love and agree to his husband's order. She does all this because this is how *Ramayana* portrays a queen's 'normalised' behaviour.

The author opens with a scene wherein Sita is already residing in Valmiki's ashram with her two sons; Lav and Kush, who are unaware that Ram is their father and that they have been banished to the forest for no fault of their own. Sita is advised to write *Sitayan*; a tale of her journey in her own words, where she is the protagonist. She tells her entire life story, keeping her in the centre, and all others in periphery for a change. The way the author uses first person narrative helps the readers to relate to her first hand because this way we see her plight very closely.

At the end, we would like our research work to be thought-provoking rather than being considered on the basis of theoretical nature. We want our readers to be put in a place where they are urged to ponder upon the plight of women in today's world, in relation to *The Forest of Enchantments*. We want to bring forth new questions and new objects we have not seen before, and not want to settle for the basic answers. In

the end, to see like a feminist is not to stabilize, but to destabilize. The more we understand, the more our horizons broaden for a better future for females.

**Aims/Objectives:**

Our aim is to study *The Forest of Enchantments* by Chitra Banerjee Divakaruni and analyse the marginalized characters in the *Ramayana* through feminist theory. To identify crisis issues in female characters and their lives. Our target audience were varied individuals from the age group between 15 to 45 years. This is because these individuals are thorough with the epic and will have their own respective definitive opinions.

**Statement of the problem:**

The research problem that arises is that only the male characters' point of view has been brought to the forefront in *Ramayana*. *Ramayana* sings of Rama's courage and right manship as a king. The epic portrays elements of dishonour, immoral duty and inherent sexism. Through this project, Sita's viewpoint and opinions have been brought out in the open.

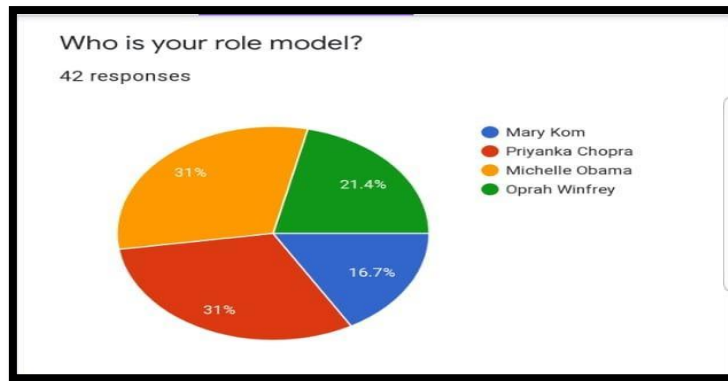
**Methodology:**

We propose to do empirical research by preparing questionnaires, interviewing people and observing their behaviour on this issue.

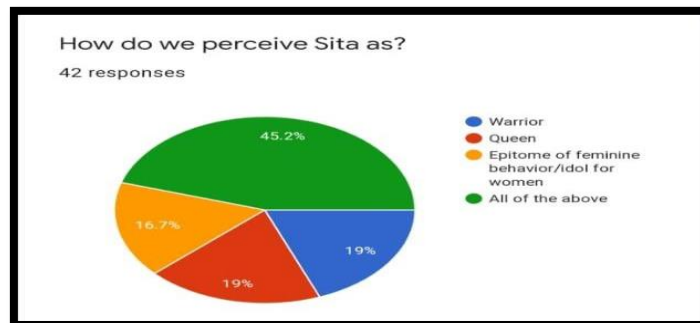
**ANALYSIS OF QUESTIONNAIRE**

This analysis discusses how *Ramayana* as an epic has both seeped ideas into the society's mind and how individuals interpret it today. We focus on nowhere degrading the epic whilst collecting data on how it can be viewed from a different angle given the current mindset of people.

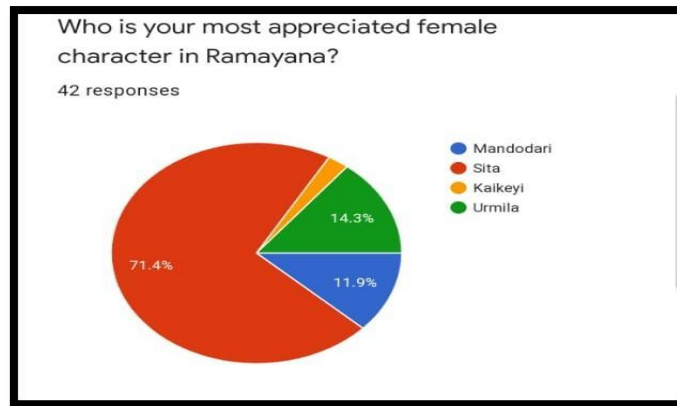
Our sample size was 42. The age group of the sample size was 15-45 because people varying in between these ages are well aware of the epic and will therefore make an informed decision. The employment status varied; some were students while some were employed.



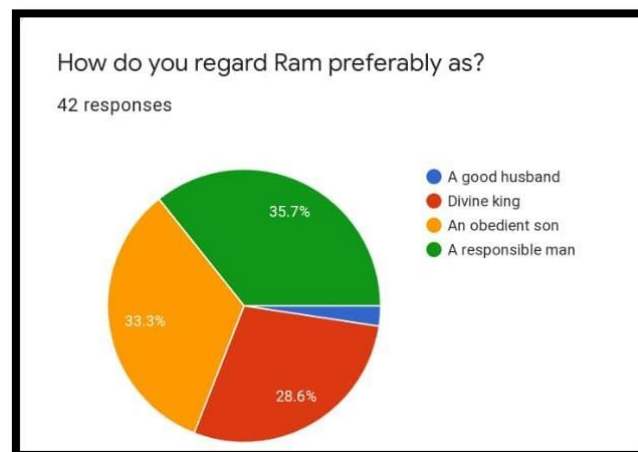
1. Beginning with this questionnaire, we wanted to analyse which qualities of women are the fiercest to people. Each woman in the options below characterises a different quality, Priyanka Chopra radiates positivity and hard work. Michelle Obama radiates leadership and kindness. Oprah Winfrey radiates courage and optimism. Mary Kom radiates both mental and physical strength. Each woman has broken down conventional stereotypes to be what she is today. All respondents value their respective characteristics and appreciate them.



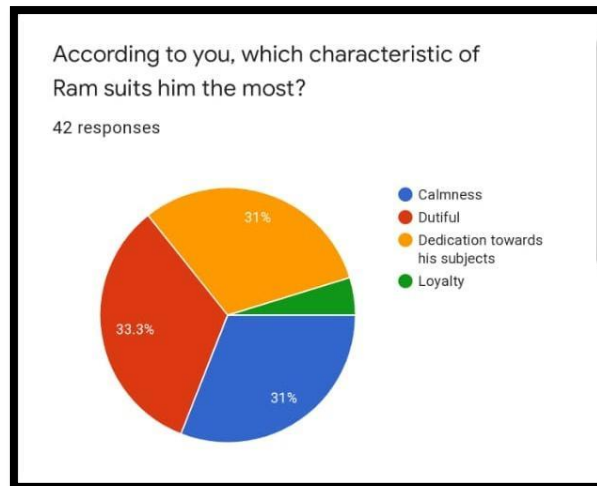
2. The above question tried to gauge the respondent's own perception on the character of Sita. The result shows that majority of the respondents perceive Sita as a warrior, queen and epitome of feminine behaviour or as an idol for women.



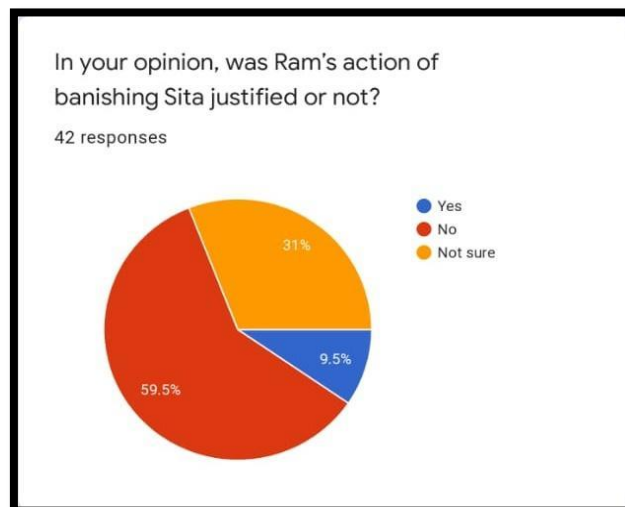
3. All female characters played their respective roles diligently, failing which *Ramayana* had not turned out as it did. All female characters offer some kind of learning to the readers. 71.4% respondents favoured Sita over any other female character. 14.3% prefer Urmila while 11.9% like Mandodari. 2.4% people believe Kaikeyi to be good because by the end, even she apologises for her wrongdoings.



4. Ram set an example for all people who look upon him. Each action of Ram was looked upon as an act of “dharma”. However, he failed to keep up to his duties as a husband. Only 2.4% respondents believe that he was a good husband. 28.7% respondents consider him as a divine king while 33.3% people believe he was an obedient son. 35.7% believe that he was a responsible man.



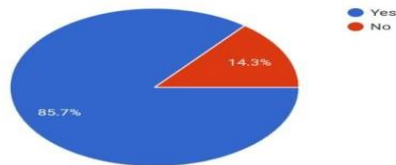
5. Ram was the great exponent of an idol figure for every generation. He consisted all the divine characteristics of a noble man but the propensity varied. On the basis of his actions 33.3% respondents believe that the characteristic of “duty” suited him the most while 31% people believe that he was calm and dedicated towards his subjects. But very few, think that he was loyal.



6. Ram tricked Sita into leaving the palace. He ordered Laxman to take Sita to Valmiki's ashram and leave her there. This act of deceit was considered a wrongdoing by 59.5% responders. 31% responders were not sure while the remaining 9.5% respondents believe it to be right.

Conditional Questions- Urmila was abandoned by both her husband Laxman and sister Sita, when they accompanied Ram on his banishment. To compensate for Laxman's long lost sleep of 14 years, she herself went to sleep in his place denying all luxuries of palace life. Do you think Urmila's sacrifice was undervalued in Ramayana?

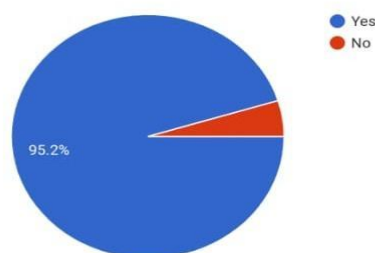
42 responses



7. After Laxman abandoned Urmila, she asked Yama, Lord of Death to release her from the pain and suffering. Yama, however, told Urmila to request his sister Nidra, Goddess of sleep for the same. Upon having this conversation, Urmila got to know that Laxman had given up fourteen years of sleep so that he could safeguard Ram and Sita in the woods. Laxman will have to sleep for upcoming fourteen years to make up for the lost sleep. Urmila realised that Laxman could lose his youth years for this, so she gave up all palace luxuries and went to sleep for fourteen years to compensate for Laxman. Her deed went unnoticed in *Ramayana*. 85.7% respondents believe it to be true while 14.3% respondents disagree.

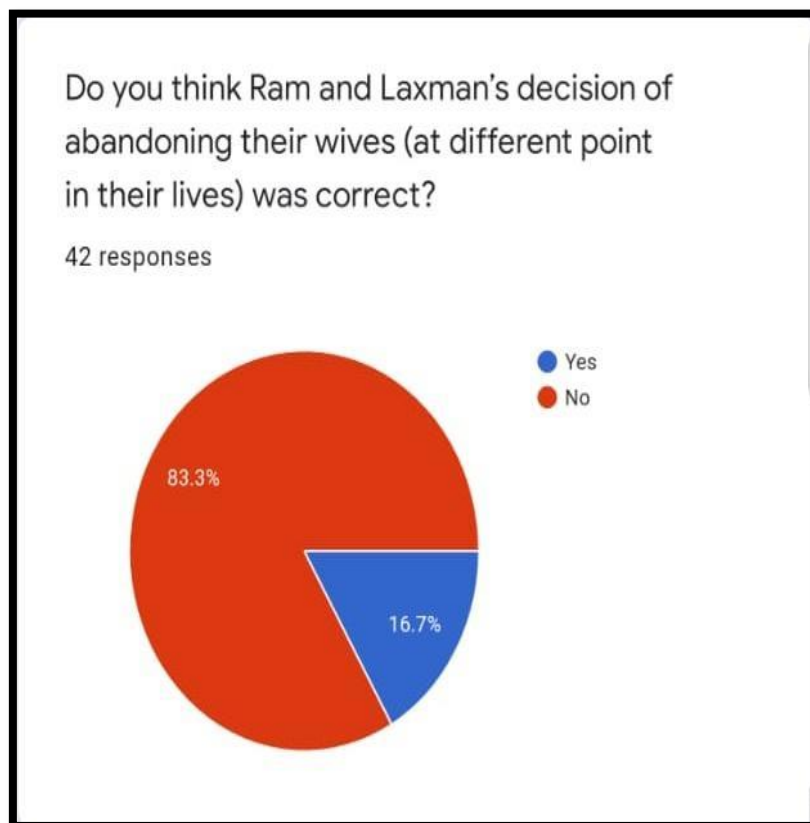
Having already been abandoned once after being rescued from Lanka, Sita was put through sacred fire to prove her chastity, she was asked again to do the same when she was brought back to the palace after being banished to the forest. At this point, Sita denies to go through the chastity test to prove her innocence because of her self-esteem. Do you think her decision stands correct?

42 responses

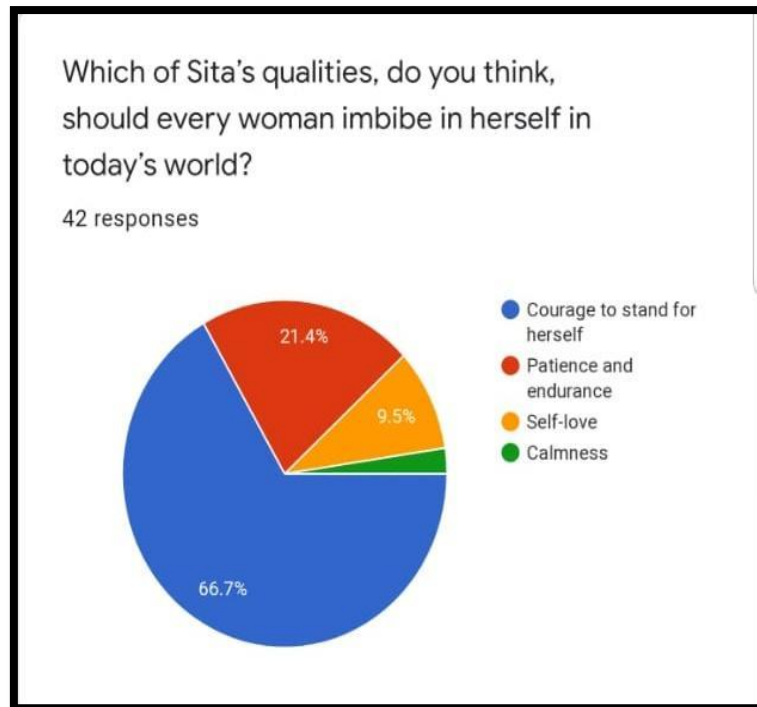


8. After Ram rescued Sita from Lanka, he put her to a chastity test to which Sita qualified despite feeling embarrassed that her husband did not trust her enough. Later when they restored their rightful thrones as king and queen, Ram gave into the words of gossip mongers that Sita is not chaste. To avoid having any further questions raised at him as a king, he betrayed Sita and left her off to the woods. After many years, Ram decided to bring Sita back, however, only after she passed through the chastity test gain, this time in front of the entire kingdom.

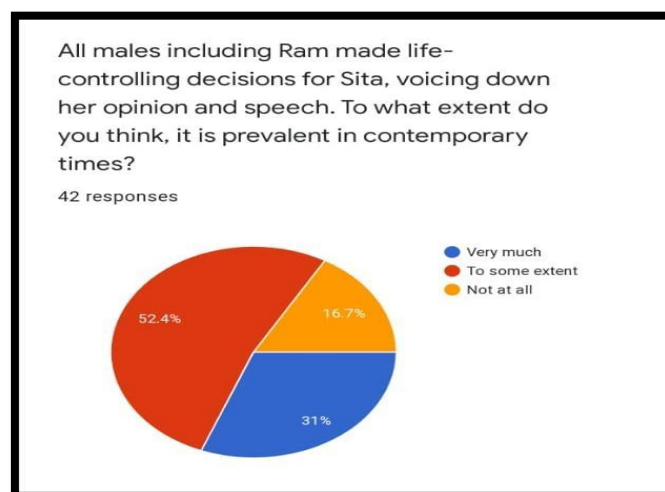
Sita felt heartbroken that her husband yet again could think less of her. Just because he wanted to prove to gossip mongers and keep his name upright as a king, he put Sita through shameful and embarrassing tests. Sita, after having realised her worth, decides rather to seep into the earth, leaving behind the fact that she was ever so pure. Sita stood for her self-esteem. 95.2% respondents believe that her decision was correct because she eventually decided not to take any further blows of patriarchy.



9. Both Laxman and Ram abandoned their wives at different points in their lives. It was found that 83.3% respondents believe that they should not have done so. Both Urmila and Sita had their respective say for their life decisions. Their opinions should have been valued.



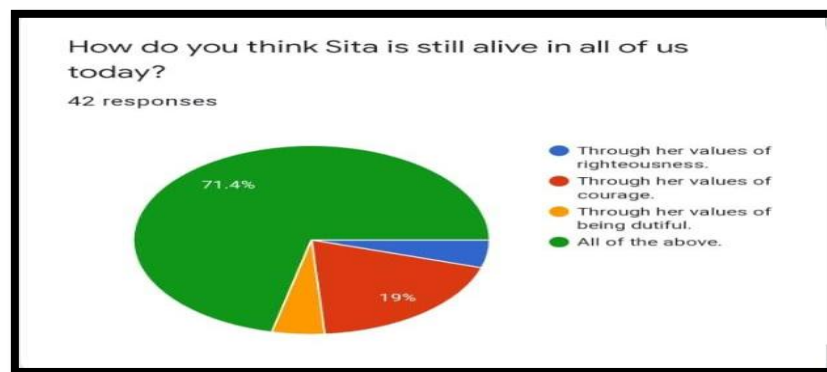
10. This question connects the epic to the current time period as it suggests the qualities which women should imbibe in today's world. 66.7% respondents believe that a woman should have courage to stand for herself, which stands true to our expectation from this project. 21.4% believe that women should have patience and endurance. 9.5% should follow self-love and calmness was opted by the least number of respondents.



11. Sita's voice was continuously compelled to hush right from her childhood. First the chairperson of Janak's Rajya Sabha did and then all the other male characters followed. Tracing that voicing down female opinions has been alive in the culture since then, this question wanted to evaluate how much positive reinforcement has



been brought until now. 52.4% respondents believe that it is still prevalent while 16.7% respondents believe that it is not the case.



**12.** Indian culture teaches us to look upon Sita because she offers so many life lessons and values. Every woman has a Sita in herself, the values however, vary in various proportions. 71.4% respondents believe that Sita is alive today in all of us through her values of righteousness, courage and the will to be dutiful under any circumstance. Sita lives on as not only a Goddess, but as a true idol.

## **RELEVANCE**

Through this research project, we wished to understand the nature of gender inequality and as to why Ram and other male characters are kept higher on the pedestal than the female ones. This project holds relevance today because even in the current scenario, females are relegated to the periphery. Through our research we are able to give voice to female thoughts and highlight that females were equally important in the happening of *Ramayana*. Our research helps people to ponder on those characters who are not male, yet they hold great significance.

The true significance of our research project lay in the thought that we wanted people's opinion on the plight of female characters in *Ramayana* and what all they should imbibe from them. And we succeeded in our attempt as most of the people think of Sita as a great warrior, an idol figure and want to inculcate the qualities of Sita in their real life. We endeavour to bring to the forefront a feminist point of view of the age-old story which we all know. From our research project and people's reaction it is clear that our work is thought provoking, having studied the time-lapse in terms of society's behaviour towards women, it stands out to be broadening the perspective of today's generation furthermore.

## CONCLUSION

Through our research, we wish to voice the female thoughts and highlight that female were equally important in *Ramayana*. We want our research to be thought-provoking. Having studied the time-lapse in terms of society's behaviour towards women, we wish to broaden the perspective furthermore.

This research is an examination of how the society perceives women as. This project traces the positive changes in the mindset of the people which have been brought with persistent waves of Feminist theory. Women and feminists have been reinforcing constant positive campaigns to bring a change in the world. Chitra Banerjee Divakaruni's book *The Forest of Enchantments* is such a ground-breaking work that so subtly, yet mighty, makes a bold statement that though patriarchy's roots are very deep, if each woman stands up for herself, then all of it can shatter. Ram, as we know it, is still looked upon as an idol, despite having done wrongdoings. Sita on the other hand, emerges as an idol too because of this book. She gets the respect, of which she was long due.

The book teaches us that though patriarchy is as old as time, it will break down someday if all of us keep moving forward. This project tells us that not every woman should be born as Sita, but should definitely emerge as one. This is the *Sitayan* we will give to our daughters, so that they may imbibe Sita's strength, and even more proudly to our sons, who will learn how a woman is to be treated, and how exactly not.

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## Chapter 7

### **An experiential learning approach through Gamified education**

#### **ABSTRACT**

Gamified learning has become the most popular topic of the last few years. Studies in gamified learning is checked and examined on different criterion in this particular study and content. Analysis method was used in order to identify trends in our very own nation. There were Approximately 315+ researches in different area. It is seen that research in many areas have begun in 2011 and increased every year. Gamified Learning has seen a boost nowadays, agree or not but it is one of the most innovative ways to learn new things. Research's show that approx. 95% youth likes learning through games.

This study aims to determine that how gamified learning is beneficial to the learners and does it have some disadvantages also, is it more interesting than traditional methods of learning, should there be any age limit on learning through games, can it clear concepts more easily than traditional methods, and are there any barriers in learning through games, can it increase productivity or enhance creativity. Based on a study on gamified learning, an online survey was distributed between students and their parents. Analysis of the survey shows that approx. 95.5% people are in support of gamified learning. On this basis we can say the gamified learning is a great way to learn new things so more and more people should adopt this method of learning.

#### **INTRODUCTION**

**Gamified learning** has become the most popular topic of the last few years. On certain criteria Studies in Gamification area are examined which are criteria in this study and content analysis method was used for identifying trends in this area. Web of Science scanned using Gamification as a predefined word without any restrictions on a total number of 313 studies were regarded as proper for the aim of the study and examined. It is seen that research in this area have begun in 2011 and increased every year [1-4]. It has been seen that motivational theories are mostly preferred in the

studies conducted in Gamification area. It was discovered that goal-duty, reward and progression sticks are the most used components as game.

It is seen that Gamification applications are frequently preferred in virtual environment, simulation and augmented reality learning environments and in parallel with these, these are also prioritised in learning areas such as public, service, food and health [2].

It is known that people have a tendency to play game. It is essential to prepare enjoyable learning environments for people who are in need of new search for playing game and having fun. Gamification concept which appeals to users from every age has arisen based on the idea of integrating structure of the games into education. Although concept of game is too old, approach of Gamification is a new concept. Gamification has become the most popular topic of the last few years [3].

## **REVIEW OF LITERATURE**

Gamification which emerges as the new face of education at this time it is referred as the process of inclusion of users into game. According to Bunch ball, Gamification refers to make the components and mechanics of game more enjoyable through non-play activities in order to generate behaviour change among individual. While Gamification approach is an appropriate method for obtaining positive outcomes in education and it leads students to adapt new behaviours through motivating them, making them to study more or learn new things; it also aims to keep people's motivation high and facilitate attachment and certain behaviours [6].

Level completion, awarding, specialization, professional development which lead to addiction among individuals playing game is used for improvement in education. Therefore, using the system in games for instructional aims would both make instruction more enjoyable and allow individuals to change their behaviours. To understand the playing spread It is necessary to look at the statistical data also to know the global gaming industry 99.6 billion dollars by 2016. When the game revenues at the country level are examined by 2016, it is seen that China ranked first with 24.2 billion dollars, followed by the USA with 23.4 billion dollars and Japan with 12.4 billion dollars [9]. Total Western Europe (Germany, France, England, Spain, Italy) totalling \$ 17.3 billion in game revenues. About 70% of total gaming

revenue is earned by these top 5 countries. In Turkey there are more than 20 thousand internet cafes and are visited by 7.5 million active players each month there [9].

The Game Designers, Developers, the average age of gamers in our country is 31 and there are more than 25 million active gamers. The average count of people playing on a daily basis is much more than 10 million, and the average time for playing is increasing all over the world. About 30 million people are active on the computer in turkey, playing digital games in the mobile phone or game console. Experts, an annual turnover of 600 million dollars in the sector in Turkey, said that the turnover of the world reached \$ 100 billion [6-8].

### **Survey**

We carried out a Survey on gamified learning contexts through a survey. Various ideas are discussed below how new learning methods can be developed along with what can be done to improve gaming-based learning.

We conducted a survey using google forms which consisted of eight questions out of which seven were single choice questions and one was short answer question.

This google form was filled by 53 people. Our target audience was parents, teachers and students.

By conducting this survey, we found that more people are in favour of learning through games.

81% people find that learning through games is more beneficial than traditional learning methods and 52% people believe that there should be an age limit on learning through games.

70% people believe that learning through games clear their concept more easily and 86% people believe that it enhances their productivity and creativity.

So, considering this survey we can say that most people are in favour of learning through games but there should be an age limit and time limit on the same.

Is learning through games more beneficial than traditional learning methods?	Which method is more interesting?	Should there be any age limit on learning through games?	Can Gamification clear concepts more easily than traditional methods?
Yes	Gamification	No	Not Tried
Yes	Gamification	No	Not Tried
Yes	Gamification	No	Yes
Yes	Gamification	Yes	Yes
Yes	Gamification	No	Yes
Yes	Gamification	No	Yes
Yes	Gamification	Yes	Yes
Yes	Gamification	Yes	Yes
No	Gamification	No	Not Tried
Yes	Gamification	No	Yes
No	Traditional	Yes	Not Tried
Yes	Gamification	No	Yes
Yes	Gamification	Yes	Yes
Yes	Gamification	Yes	Yes
Yes	Gamification	No	Yes
Yes	Gamification	No	Yes
Yes	Gamification	Yes	Yes
Yes	Gamification	No	Yes
Yes	Gamification	Yes	Yes
Yes	Gamification	No	Not Tried
Yes	Gamification	No	Yes
Yes	Gamification	No	Yes
Yes	Gamification	No	Not Tried
Yes	Gamification	Yes	Not Tried
Yes	Gamification	Yes	Yes
Yes	Gamification	Yes	Yes
Yes	Gamification	No	Yes
Yes	Traditional	No	No
Yes	Gamification	No	Yes

No	Traditional	No	Yes
Yes	Gamification	No	Not Tried
Yes	Gamification	Yes	Yes
Yes	Gamification	No	Yes
No	Gamification	Yes	No
Yes	Gamification	Yes	Yes
No	Traditional	Yes	No
Yes	Gamification	No	Yes
No	Traditional	Yes	No
Yes	Gamification	No	Yes
Yes	Gamification	No	Yes
Yes	Gamification	No	Yes
No	Traditional	Yes	Not Tried
Yes	Gamification	Yes	Yes
No	Traditional	Yes	No
Yes	Gamification	No	Yes
Yes	Gamification	Yes	Yes
No	Traditional	Yes	Not Tried
Yes	Traditional	Yes	Yes
No	Traditional	Yes	No
Yes	Gamification	No	Yes
Yes	Gamification	No	Yes
Yes	Traditional	Yes	Yes
Yes	Traditional	Yes	Yes

Have you ever tried gamification mode of learning?	Do you feel any barrier in learning through games?	Do you agree that learning through games can increase productivity, or enhance creativity?	Do you support learning with gamification?
No	No	Yes	Yes
No	No	Yes	Yes
Yes		Yes	Yes
Yes		Yes	Yes
Yes	There is no barrier.	Yes	Yes

	I learned. History from assassin's creed		
No		Yes	Yes
Yes	It effects our eyes	Yes	Yes
Yes		No	Yes
Yes	No	Yes	Yes
No	Yet not	No	Yes
Yes	Games are good for stress relief but for learning we can't much depend on games.	Yes	No
Yes	Not at all	Yes	Yes
Yes	Nope	Yes	Yes
Yes	No	Yes	Yes
Yes	Children tend to loose communication with teachers who teach in classrooms.	Yes	Yes
Yes	No	Yes	Yes
No	No not at all	Yes	Yes
No		Yes	Yes
Yes	Yes, learning through gamification cost very high and not every student can afford it.	Yes	Yes
No	Phone addiction	Yes	Yes
No	No	Yes	Yes
Yes	Don't think so	Yes	Yes
No		Yes	Yes
Yes		Yes	No



Yes	No	Yes	Yes
Yes	No	Yes	Yes
Yes		Yes	Yes
No	You can't ask your doubts.	Yes	No
Yes		Yes	Yes
No		Yes	Yes
No		Yes	No
No	In deep concepts cannot be learnt	Yes	Yes
Yes		Yes	Yes
No		Yes	Yes
No		Yes	Yes
Yes		No	No
Yes		Yes	Yes
No		No	No
Yes		Yes	Yes
Yes		Yes	Yes
Yes		Yes	Yes
No		No	No
Yes		Yes	Yes
Yes		Yes	No
Yes		Yes	Yes
Yes		Yes	Yes
No		No	No
Yes		Yes	Yes
Yes		No	No
Yes		Yes	Yes
Yes		Yes	Yes
Yes		Yes	No
Yes		Yes	Yes

Based on our research, we found several game design elements that are used to improve the way of learning in education. These game design elements include point's level, stages, badges leader board, prizes progress bars, storyline, and feedback.

We provided examples from our research to illustrate the various application or games that use these elements and are used by the students: -

- Udemy
- Khan Academy
- W3Schools
- Meritnation
- BYJU
- Entab
- School on Cloud
- StepeFocus
- Skool App
- Test Budha
- Dso School

Some educational applications that are used by students nowadays are:

- TED-Ed. 10M students.
- Khan Academy. 5.3M students.
- Coursera. 131K students.
- Memrise. 8.5K students.
- SoloLearn. 7.9K students.
- Yousician. 80K students.
- Duolingo. 158K students

Based on our research we also found that there also are several books available that specify gamification with learning how it's done, what are the advantages of it and far more. The gamified learning method is additionally suggested in bestseller books

Some books are: -

- Gamification in Learning and Education

Gamified learning not only makes learning interesting but also allows game players to unravel problems and learn lessons through repeated attempts and failures. This "positive failure" can motivate and help the scholars to line out a difficult mission.

## **METHODOLOGY**

For this research we used quantitative method for data collection. A survey was conducted using google form. For this survey we aimed at students and their parents. So, a form was circulated among them. There were 8 questions in the survey form, out of them 7 were single choice questions and one was single line answer question. The questions were designed keeping in mind the motive of this research. The questions were:

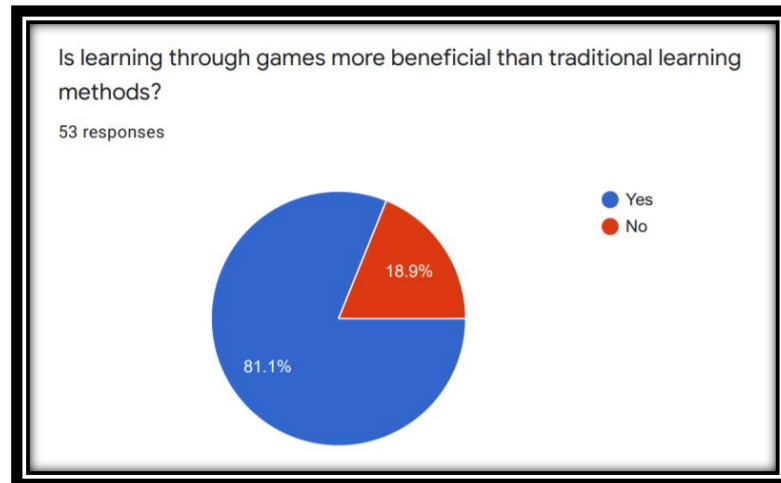
Is learning through games more beneficial than traditional learning methods?

- a. Which method is more interesting?
- b. Should there be any age limit on learning through games?
- c. Can gamification clear concepts more easily than traditional methods?
- d. Have you ever tried gamification mode of learning?
- e. Do you feel any barrier in learning through games?
- f. Do you agree that learning through games can increase productivity, or enhance creativity?
- g. Do you support learning with gamification?

## **CONCLUSIVE FINDING**

The survey was conducted using google forms and 53 participants filled the form.

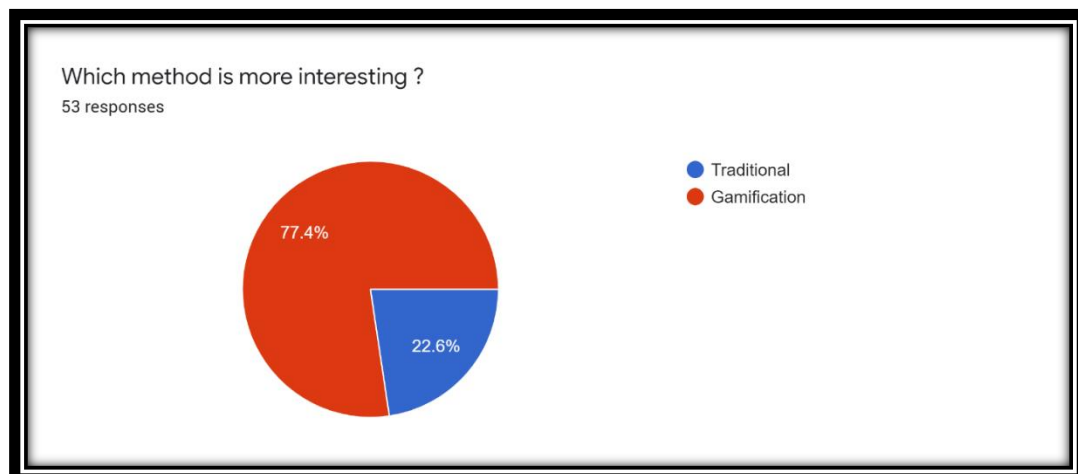
- After conducting this research, we found out that 95.5% people are in support of gamified learning.
- 90% of them agrees that it increases productivity or enhance creativity.
- 77.3% believe that it can clear concepts more easily than traditional methods of learning.
- 63.6% believe that there should be no age limit on learning through games.
- 95.5% believe that it is more interesting than traditional methods.



In this graph it is clearly visible that learning through games is more beneficial as 81.1% people agreed to it while 18.9% people believe it is not.

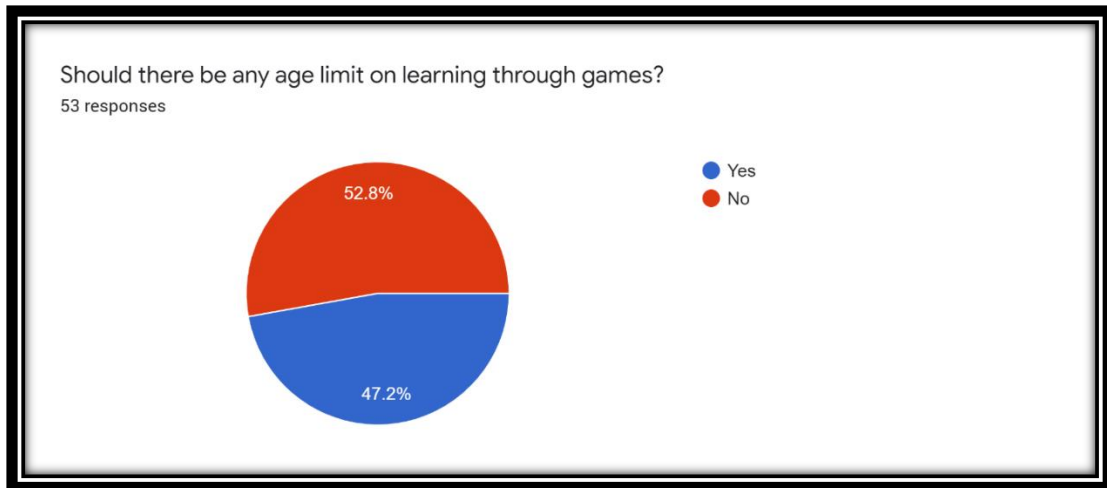
Gamified Learning gives the student live learning experience plus makes the learning more interesting through different games and exercises.

Students also have the access to attend the same class if he/she is unable to understand the topic which allows them to learn at their own pace which is one of the most important benefits of gamified learning.



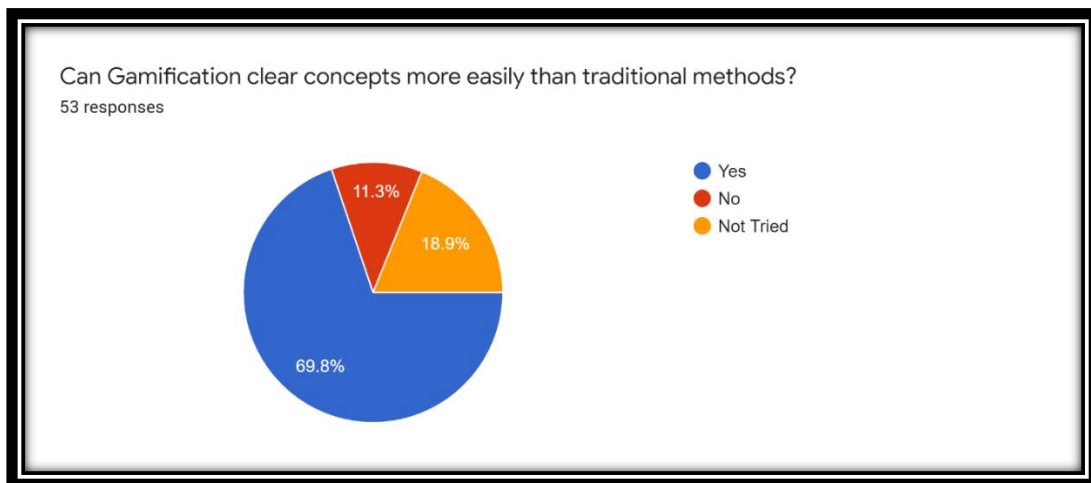
As we can see in this graph that Gamification method is more interesting because 77.4% people agreed to it compared to traditional learning method.

Gamified Learning offers different challenges to students which makes learning way more interesting, and allows students to think outside the box.



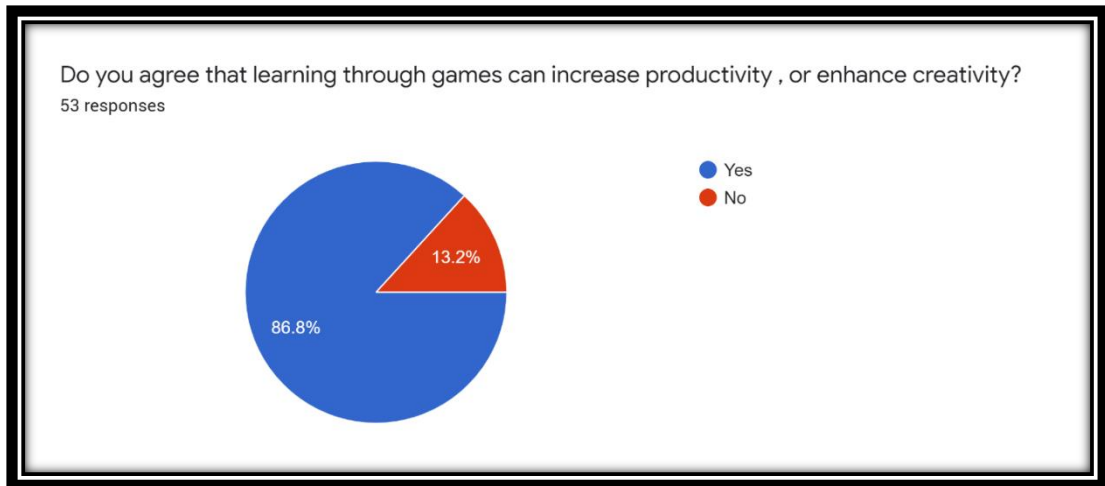
More people agreed (52.8%) that there should be no age limit on learning through games, compared to there should be (47.2%).

Learning through games is so flexible that it allows students of every age to learn and grasp the knowledge easily and also helps the students to learn to be creative from the day one.



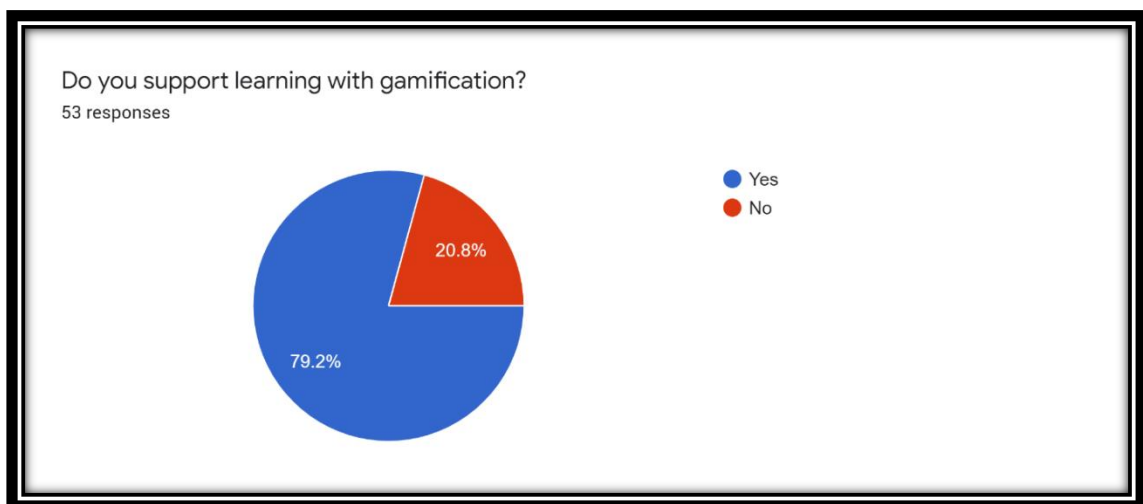
In this graph as we can see 69.8% people agreed that Gamification clear concepts way more easily than traditional methods while 11.3% people believes that it don't clear the concepts easily and the remaining 18.9% people have not tried the gamified learning method so they don't have the opinion.

Gamification clear concepts more easily than traditional learning methods as it promotes positive attitude towards learning, allows to develop memory skills and makes learning more engaging which makes it easier to understand compared to traditional methods.



86.8% people believe that learning through games can increase productivity, or enhance creativity while 13.2% believes it does not.

Gamified learning increases productivity as it allows to learn new skill and knowledge daily which makes student way more creative and also helps the student to increase their potential of learning and help them build self-constructed learning.



Larger section of people i.e., 79.2 % people support learning with Gamification, while 20.8% people does not support leaning with Gamification.

Learning with Gamification is the rapid and the developing change in the education system which allows both students and the teachers to learn new skills, enhance their creativity, makes them learn with ease, motivates them, and gives them daily new challenges plus this method of learning can be enhanced by the user experience and their feedback.

- However, there were some barriers also in learning through games:

- Phone or computer addiction.
- Cost
- It's effect on eyes

## CONCLUSION

Game based learning is a great way to learn new things easily. It has many advantages over traditional methods, some of them are:

- It improves conceptual knowledge by 11%
- It ensures learning retention up to 90%
- It generates roughly 300% more of completed tasks.

Unlike a standard classroom course, game-based learning increases engagement because it offers an experience that's challenging and pleasant. Having fun and learning at the same time is actually possible. Fear of failure is greatly reduced because there's no risk during the training process, but at an equivalent time, it's possible to find out from mistakes and proper them. On the basis of this research, we can say the Gamified Learning is the future of learning and more than 90% people are in support of it and it is more engaging than traditional methods and it has very few disadvantages and it also increases productivity and enhance creativity and can clear concepts more easily than traditional methods.

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## **B. Weblinks**

- 8 principles of gamified learning <https://www.teachthought.com/pedagogy/8-principles-of-gamified-learning/>
- Learning through games <https://www.ziiei.com/wp-content/uploads/2018/09/Learning-through-games.pdf>
- Learning through play: using games to educate <https://www.theesa.com/perspectives/learning-through-play-using-games-to-educate/>
- Five Reasons to use games in classroom [https://www.educationworld.com/a\\_curr/reasons-to-play-games-in-the-classroom.shtml](https://www.educationworld.com/a_curr/reasons-to-play-games-in-the-classroom.shtml)
- Five Benefits of learning through games <https://insights.learnlight.com/en/articles/5-benefits-of-gamification-in-learning/>
- BYJU'S [www.byjus.com](http://www.byjus.com)
- Instructions for Gamification Learning <https://www.amazon.com/Gamification-Learning-Instruction-Fieldbook-Practice/dp/111867443X>
- Wikipedia [https://en.wikipedia.org/wiki/Gamification\\_of\\_learning](https://en.wikipedia.org/wiki/Gamification_of_learning)
- Systematic Review of Gamification [https://www.academia.edu/36747370/A\\_Systematic\\_Review\\_of\\_Gamification\\_Research\\_In\\_Pursuit\\_of\\_Homo\\_Ludens](https://www.academia.edu/36747370/A_Systematic_Review_of_Gamification_Research_In_Pursuit_of_Homo_Ludens)



## Chapter 8

### Heritage Sites: A Quest for Conservation

#### ABSTRACT

The city of Jaipur is a renowned tourist attraction and garners tourists from across the globe. It's known far and wide for the beautiful cultural history it has harboured since the ancient times. The walled city holds within its land a plethora of old monuments and buildings of historical importance and thus got a place in the list of World Heritage Cities of UNESCO. However, does the city of Jaipur really stand up to this title or is something amiss? The condition of heritage sites in the city is deteriorating day after day. Despite the presence of NGO's and measures taken by the government, efforts fall short as is visible. It not only caters to pollution but also causes a loss to the historical significance. The present conditions of invaluable monuments that speak in volumes of our varied history and growth have been subjected to neglect with regards to their protection for the past few years. It becomes mandatory for the government to not just protect it with strict laws that are to be properly implemented but ensure that the people realize what their history, culture and city truly stands for.

A matter of identity is in close proximity to the architecture of the walled city. The officials as well as the general public need to join hands together to make this work. History is what binds us with our roots. Corruption of past evidences will mean disrespect to those roots. When it comes down to government initiatives then JDA and Nagar Nigam are two names that surface. It's important to note that they've been tasked with urban planning and development however; the setback that's prevalent is that there are no specialized personnel for conservation of heritage sites.<sup>1</sup>

The paper, without a doubt, highlights the problems that require immediate attention. It will also provide measures to implement existing law and devise new laws and raise awareness about the issues plaguing the history and culture of the city. Its usefulness begins and ends with enlightenment. The view of the walled city from a five storied building versus a magnified, close-up reality is what deserves dire attention from the public. Its importance cannot be undermined. We are at a point now where if we let things go with the flow and continue to watch the damage, they will never be undone.

This paper will focus on the urgency to act and protect heritage sites. It'll also cover the perception of locals towards their historical culture which in turn can help the planning authorities formulate awareness programs which are in accordance to their intellectual level and understanding which can gather public participation.

### **Keywords**

World heritage site, culture, awareness, irrevocable damage, public participation

### **Objectives of Study**

- To know about the present condition of Historical monuments.
- To identify the threats to heritage sites.
- To identify key aspects which require immediate attention
- To provide the government with necessary data to work with.
- To make citizens aware about the importance of and their contribution to integrity of heritage sites.
- To realize how deeply we're connected with these old buildings and forts that aren't merely a place for good times but places of major historical significance.
- To study the common problems and provide appropriate solutions.

### **Hypothesis**

- There is a lack of awareness among the citizens regarding conservation of heritage sites.
- There is no sense of urgency and priority among the concerned authorities.
- There is immediate need to ramp up the efforts to preserve the sites.
- NGOs are playing a vital role in spreading awareness regarding heritage sites.

### **Research Methodology**

- Primary Research Methodology.
- Survey and questionnaire.

- Random sampling (sample size 130)
- Also, use of online and offline sources like newspapers, articles, and various websites.
- The five heritage sites which have been covered in the project are:
  1. Hawa Mahal
  2. Galta Ji
  3. Nahargarh
  4. Jaigarh
  5. Jal Mahal
- The case of five deteriorating heritage sites have been taken up and study will bring to light the efforts that have been made to conserve them which will constitute the case study.

### **Introduction**

Jaipur is a part of the golden triangle which includes Delhi and Agra. In 2019 UNESCO declared Jaipur - world heritage site. Heritage sites are assets which contribute to the economy of any country<sup>2</sup>. The present condition of invaluable monuments is subjected to neglect with regards to their protection. It is the duty of the government to protect our heritage sites with strict laws that should be properly implemented. It is the ethical imperative of citizens to maintain integrity of our heritage sites. Factors responsible for deterioration of historical structures are Pollution, Salt Crystallisation, Lack of Maintenance, Scribbling or Graffiti, Natural Calamity etc.<sup>3</sup>

On 18 November 1727, Maharaja Jai Singh II founded Jaipur to combat problems of congestion and living space. The insightful architecture of Jaipur is the result of Vidyadhar Bhattacharya's visualization, from whom the king sought help<sup>4</sup>. The present scenario gives an excess of problems such as congestion, population growth and water scarcity. Looking at the condition of heritage sites in Jaipur such as Jal Mahal, it clearly stands as an epitome of not just a threat to a historical monument but the environment as well.

Jaipur has always been a city full of tourists because of its different attractions and the mix of old and new culture. The capital of the royal state of Rajasthan, with the old city surrounded by walls and gates decorated with paintings on the backdrop of a gorgeous pink hue, Jaipur, the pink city successfully manages to retain its old world appeal. It is home to a few UNESCO World Heritage sites including Amer Fort and Jantar Mantar. Jaipur is home to many splendid forts, palaces, temples and museums. Jaipur is filled to the edge with active local bazaars where one can shop for local handicrafts and jewels to your heart's content. Popular bazaars in the city include Bapu Bazaar, Tripolia Bazar and Johri Bazaar. Jaipur is also very well known for its local food and the most famous dishes include the Ghewar, Pyaaz Kachori and Dal Baati Churma. Jaipur is also known as the 'Paris of India'.

Majestic buildings, tales of heroic battles, splendid forts and palaces, and multi-faceted characters, Jaipur has long been one of the shiniest cultural jewels in the history of the Indian subcontinent. With friendly people known for their hospitality, Jaipur offers an abundance of options for travellers.

This research project deals with the current problems of implementation of laws for protection, public participation, awareness and importance of our history and culture. Tourism industry of Jaipur city is the biggest plus point that differentiates it from the rest of the states. Hence, it becomes vital to make this our first and foremost priority.

The pink city, at one point in history was hued pink as a gesture of hospitality. Cultural identity is a factor that needs immediate address. This research will bring to light the efforts of the Jaipur government and what it needs to achieve to stand up to an international title of 'World Heritage Site'. A mechanism needs to be derived wherein emotions are coupled with concern. Only this can truly bring the attention of authorities towards immediate conservation of heritage sites. Herein enters the role of public.

Development doesn't mean sole focus on industrialization and urbanization, construction of roads and railways. It isn't confined to these aspects but rather stands for a holistic approach that accounts for the growth of a city without disloyalty to the

culture and history. It's vital to consider ourselves a permanent element of our city because it defines us through and through. A matter of pride arises when one belongs to the Pink city.

The present conditions of invaluable monuments that speak in volumes of our varied history and growth have been subjected to neglect with regards to their protection for the past few years. It becomes mandatory for the government to not just protect it with strict laws that are properly implemented but ensure that people realize what their history, culture and city truly stands for.

A matter of identity is in close proximity to the architecture of the walled city. The officials as well as the general public needs to join hands together to make this work. History is what binds us with our roots. Corruption of past evidences will mean disrespect to those roots. When it comes down to government initiatives then JDA and Nagar Nigam are two names that surface. It's important to note that they've been tasked with urban planning and development however; the setback that's prevalent is that there are no specialized personnel for conservation of heritage sites.

Although the city of Jaipur was architecturally very well planned, it was not planned to withstand the new problems of which king Sawai Maan Singh and his team was unaware. New problems include pollution. As the population is increasing in Jaipur, whether it's the immigrants or the birth rates, pollution is also increasing. Sulphur dioxide, Carbon dioxide and nitrogen oxides are some of the major pollutants that are causing decay to the forts.

Another factor which causes damage to the heritage sites, which is a natural cause and prevailing from primitive ages, is salt crystallization. It is a major cause of deterioration for buildings made with stone. Most of the forts and homes of ancient times are made of stone, be it Nahargarh fort, Amber fort or the others.<sup>5</sup> Salt crystallization is a process in which salt makes its way to the pores of walls and ceilings, and then crystallizes. Along with the natural calamities like earthquakes, there is much more that the government needs to take care of.

Trees, when growing near any walls or buildings displace the ground a little bit with their roots. Although a single tree can't do much of the damage but a whole bunch of them can make a difference over longer periods of time.<sup>6</sup> Weathering is also a major factor which affects the buildings. Hygiene is one more important thing to be kept in mind when living in the era of Swachh Bharat Abhiyan. At most of the heritage sites in Jaipur, there is no convenient facility for toilets and dustbins, which is causing the surroundings of the sites to stink in garbage. Lack of awareness is also a major problem. Other states like Gujarat and Kerala are investing in tourism promotion but there is no such thing happening in Rajasthan. There is a large influx of tourists though, but most of them are foreigners and make their way to Jaipur by personal research. There is a need of making the locals aware of their cultural sites and their importance. The foreign tourists are not contributing much to the litter; it is the locals who are ignorant of their culture and their heritage.

"Maintenance is going on" signs are seen sometimes in some parts but the process takes forever to complete and is inefficient most of the time. There is a need for fences and stuff to the delicate parts of the sites so as to avoid unnecessary damages. There is a lack of proper guarding at places; CCTV cameras need to be installed at all the places and they should function as well.

Furthermore, a systematic approach needs to be adopted to accelerate the development of Jaipur without causing harm to what sets it apart, the heritage sites.

The following five heritage sites serve as an example of how dire the need of the hour is to conserve the heritage sites:

### **1) JAIGARH**

This magnificent structure overlooking the Amer fort and the Maota lake, built on the 'hill of eagles' is famous for the world's biggest cannon on wheels, named 'Jaivana'. Even though the cannon itself can be considered unscathed, sadly we found that the same cannot be said about the fort. The entity once guarding the Amer fort seems to be in immense danger of slowly diminishing. There is a huge lack of attention paid to it in terms of maintenance or renovation. Not only has this led to substantial fall in the

tourist count over the years at the site but also pushed the identity of the infrastructure further into the list of long-lost names inside history books.



## 2) JAL MAHAL

Jal Mahal is in the middle of Man Sagar Lake which is currently not in a good condition because of the increased disposal of waste like leftover food packets, plastic etc. Different organisations like Green Dream Foundation, which is an environmental conservation organisation has been working towards the clean-up of Man Sagar Lake and have also been working towards educating the visitors about the ill impacts of Plastic Pollution and irresponsible waste management on our environment and health. Four tons of trash has been cleaned up by volunteers of different organisations like Green Feels India and Resource E- Waste Solutions. It's the duty of citizens to keep cleanliness around the world heritage site of Man Sagar Lake through sustainable solutions. There are a lot of balloon litter which is really harmful for marine life. The clean-up drives should be encouraged and Rajasthan Tourism should work towards it.



### 3) Nahargarh Fort

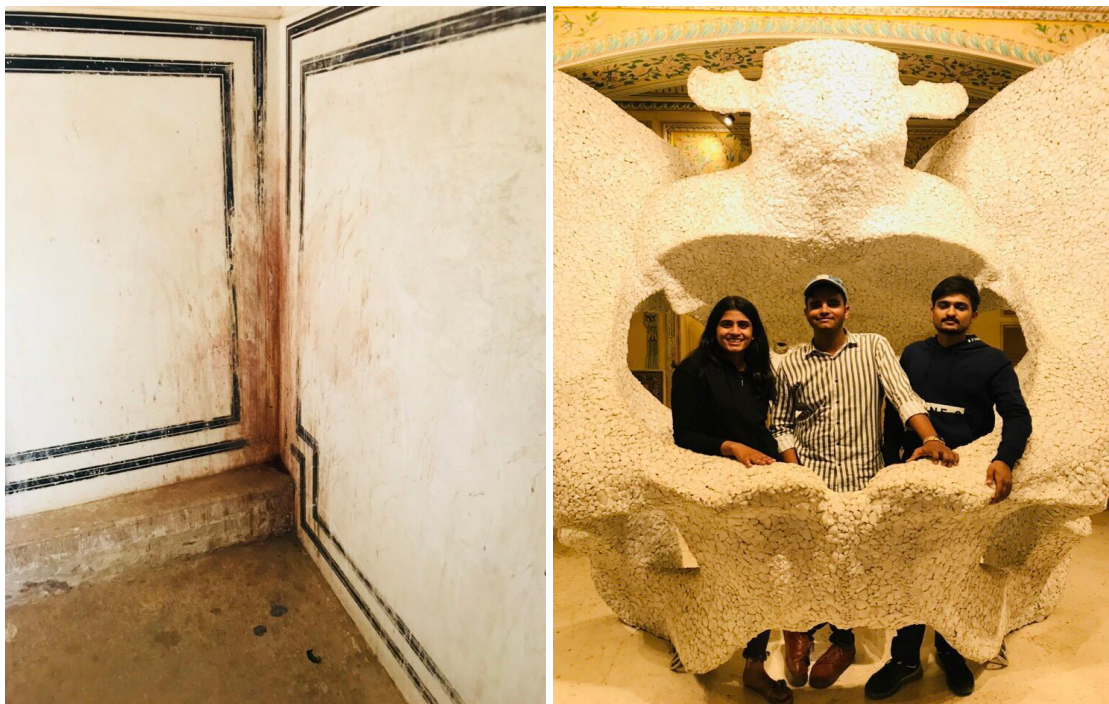
It is positioned on the edge of Aravalli hills in Jaipur. It was built in 1734 by Maharaja Sawai Jai Singh II and it was further extended by Sawai Ram Singh II. The fort was constructed as a place of retreat on the summit of the ridge above the city. The Walls of the fort were extended over the surrounding Aravalli hills. Though the condition of the fort is quite good but there are many places inside the fort which need



to be renovated, we have observed that on the walls of Nahargarh Fort many people have written their names and slogans, people throw the waste here and there inside the fort which is not a good sign. In our survey we've observed that there is no proper signage for the look-out areas. Step well and the tank of the Nahargarh are not properly maintained and the water has turned green in colour.

In a survey we observed that many places of the fort are under renovation like the wall of the fort is repainted and some of the places which are little damaged will be repaired, so it is a good step taken by the government.

Jaipur wax museum is another attraction which was built in the Nahargarh Fort by the Government of Rajasthan with support of the Department of Archaeology, Department of Tourism which attracts the international tourists as well as the local tourists.

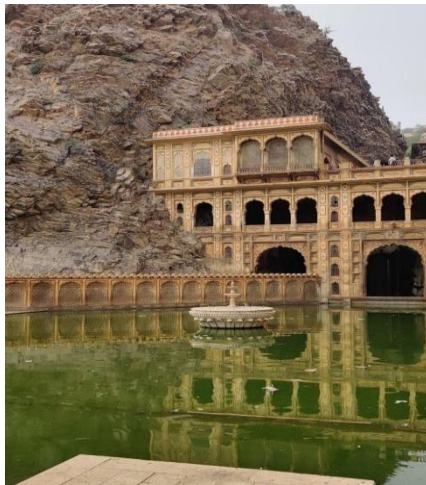


### **5) Galta Ji Temple**

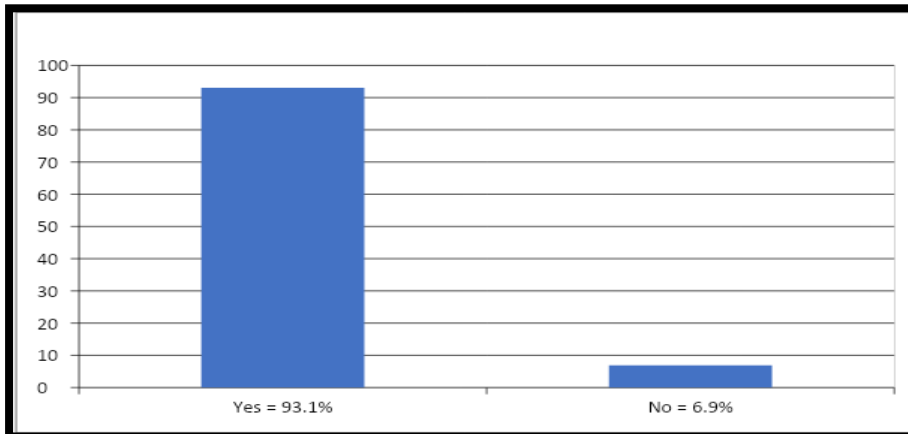
There are more than 10 temples at Galta Ji which have different Pujari's and a head Mahant who handles all the management.

- The Mahant is the one who is responsible for the maintenance and hygiene of Galta Ji's temples and its compound.

- There is good enough parking for vehicles but not much dustbins for trash management.
- Although there are workers assigned the task of cleaning, only the walkway was clean and the litter is lying unattended in the corners.
- Anyone willing to, can donate any amount they want to the Temple and it will all go to the head Mahant who will use that for maintenance of the site.
- There are small ponds at Galta Ji which stink. They have turned green and you can see polyethylene, slippers and wrappers floating around.
- One can see monkeys playing around which add to the attraction of the site but they are a big headache for hygiene too. And one can always see trash thrown by them at any time of the day
- There are small shops inside on the sides of the walkway and there are wrappers and polyethylene lying around on the path which is not cleaned in days together.
- One can easily notice the cracks in the walls and roofs at certain points.



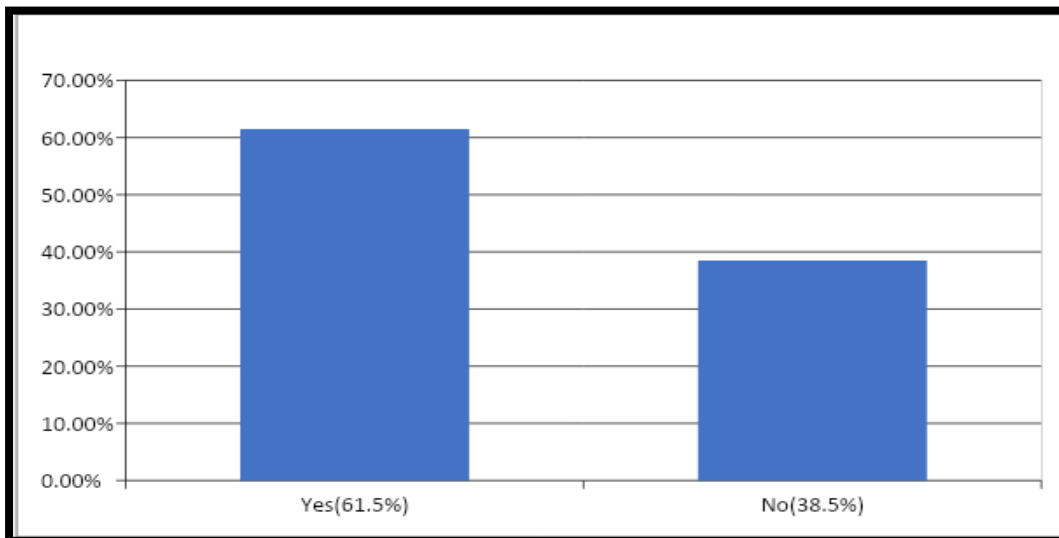
## KEY FINDINGS AND ANALYSIS



**Table1:**

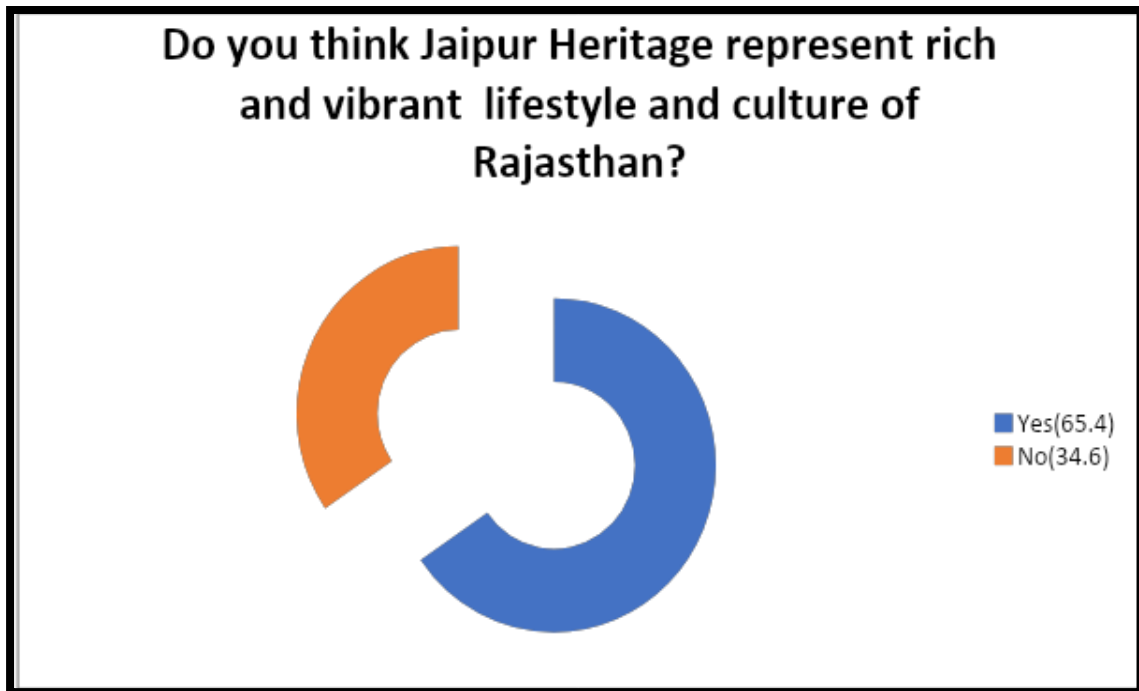
93.1% respondents agree that Heritage sites do add to the image of a city.

**Table 2:**



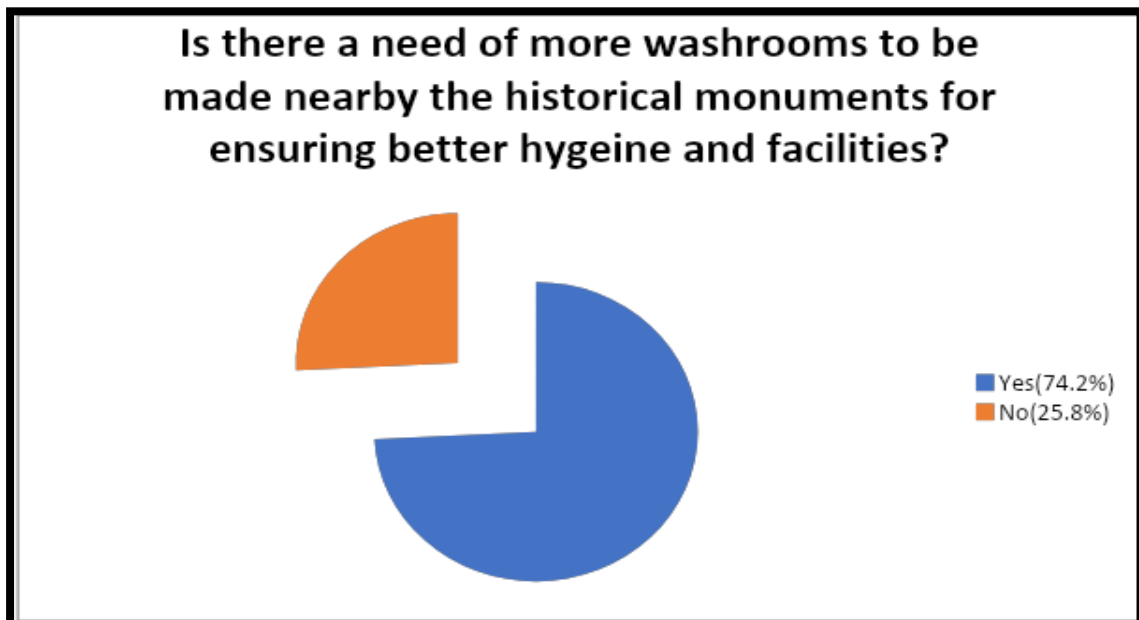
UNESCO has placed Jaipur in the list of World Heritage cities, but 38.5% of respondents are of the view that the government of the city is not making sufficient efforts to preserve heritage sites of the city, while 61.5% seem to be satisfied with the effort made by the Government.

**Table 3**



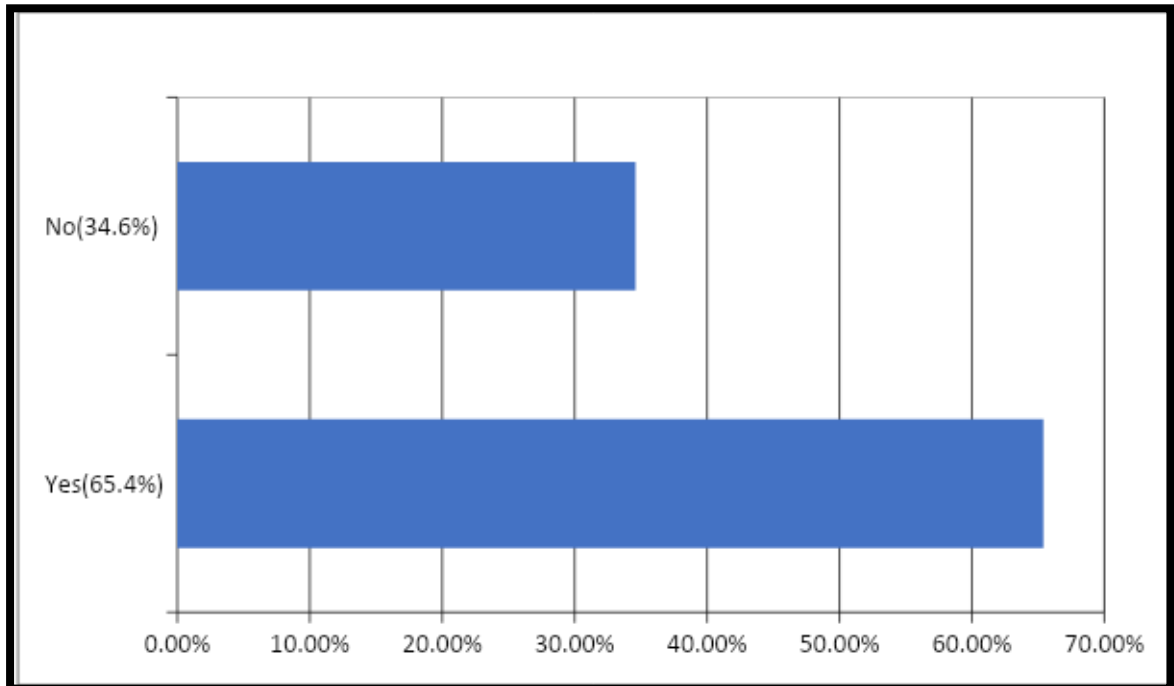
65.4% of respondents agreed that Jaipur Heritage represent rich and vibrant lifestyle and culture of Rajasthan while 34.6% expressed a different opinion.

**Table 4**



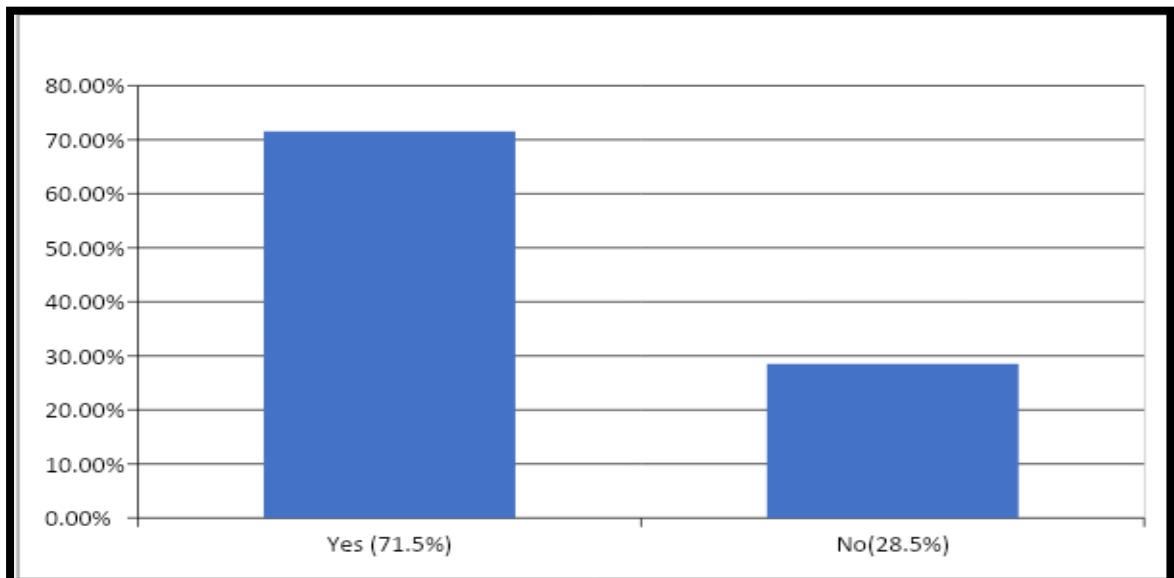
74.20% respondents expressed the need for more washrooms to be made near heritage sites for ensuring better hygiene and facilities.

**Table 5**



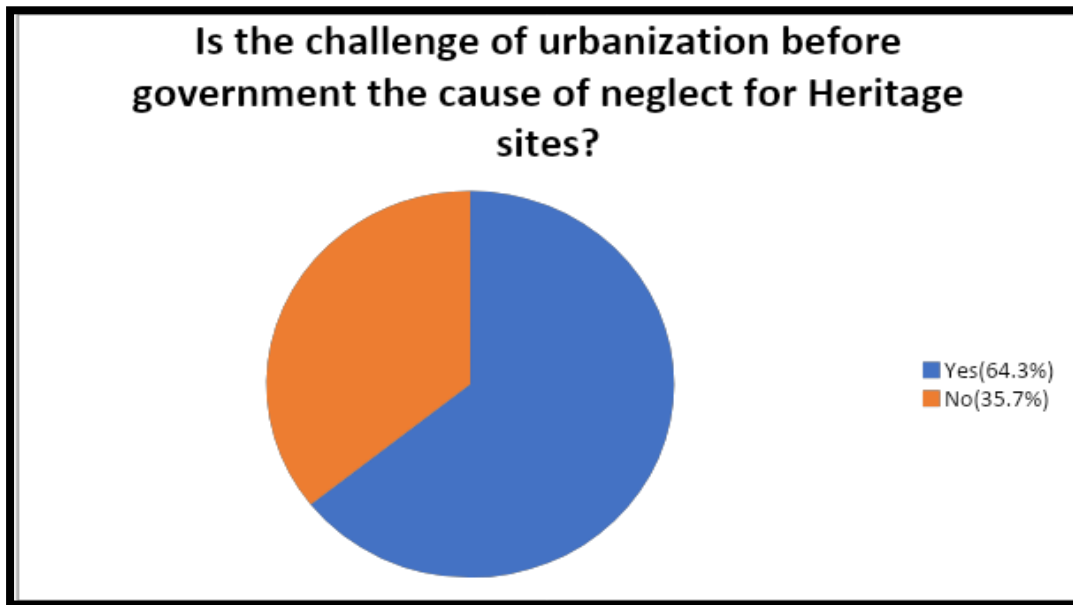
When asked about the reason for deterioration of Heritage sites in Jaipur 65.4% of respondents held neglect of Government and citizens responsible for the same.

**Table 6**



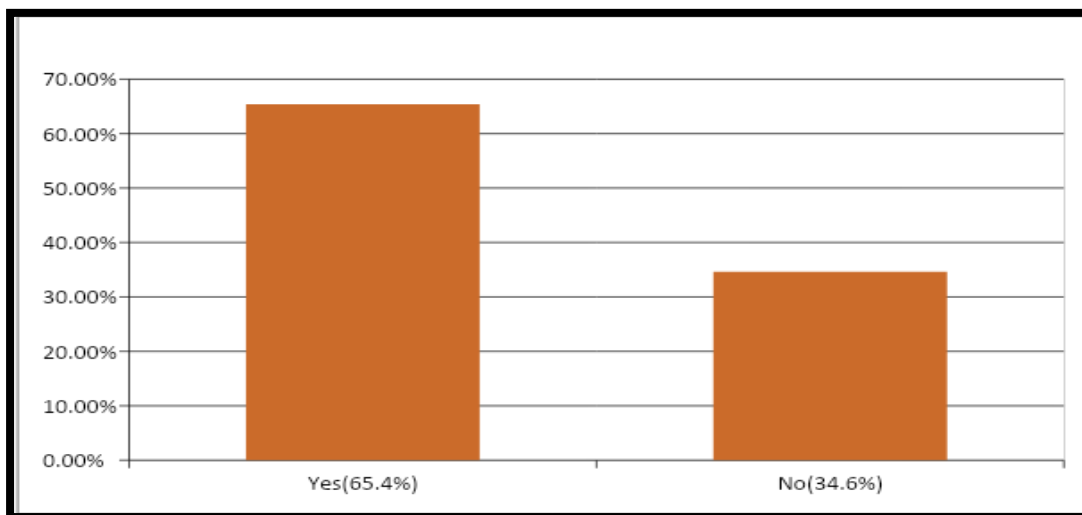
71.5% of respondents expressed the opinion that awareness programs regarding conservation and importance of heritage sites for the tourism industry can cater the situation.

**Table 7**



64.3% respondents were of the view that the Government feels pressurised to deal with many other challenges posed by increasing population and urbanization and therefore gives second priority to the issue of conservation of Heritage sites.

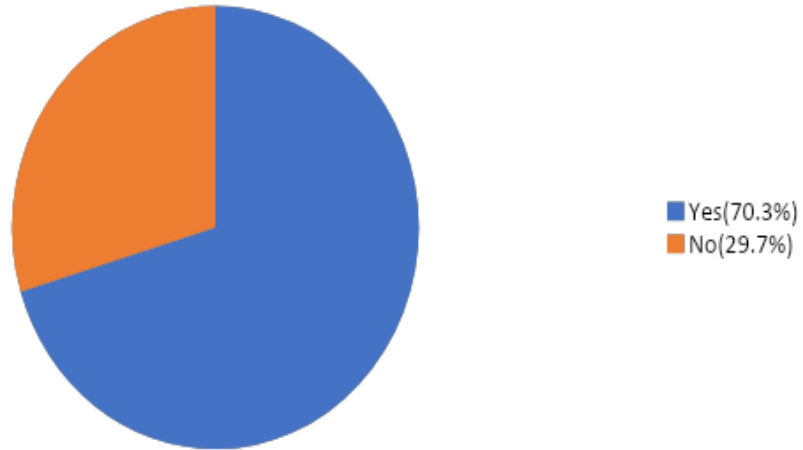
**Table7**



34.6% of respondents were of the view that though Jaipur is internationally famous for tourism but has failed to live up to its rightful image, 65.4% of respondents had a positive view regarding it.

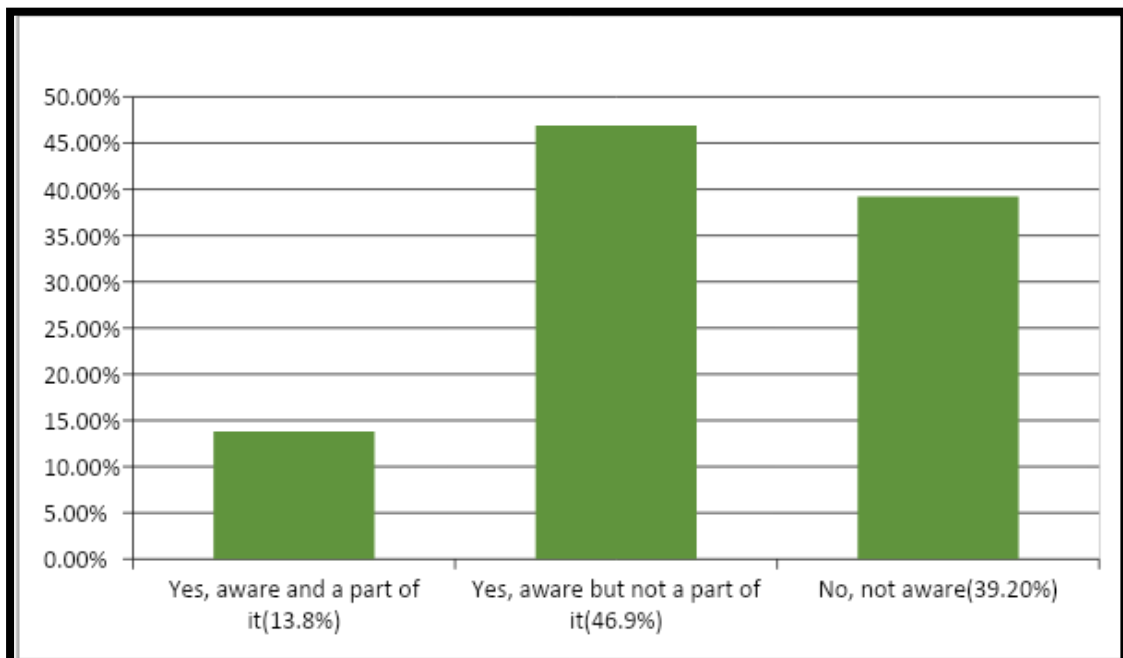
**Table 8**

**Is there a need for tourism industry to contribute in preserving Heritage sites which propel their business?**



70.3% of respondents held the opinion that to make things better Tourism industry should come forward and play the required role to preserve Heritage sites which propel their business.

**Table 9**



When asked that if the respondents are aware about the working of NGOs for conservation of Heritage sites only 13.8% said that yes, they are aware and are also a

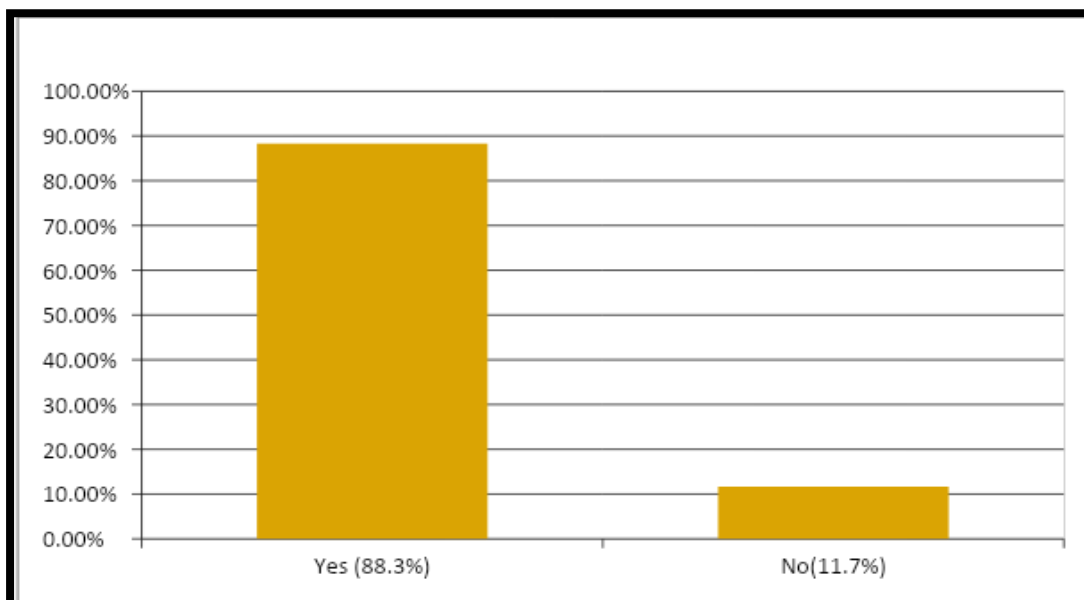
part of NGO's, 46.9% said that they are aware but are not a part of any NGO of this kind while 39.20% were totally unaware about contribution of NGO'S in this regard.

**Table 10**



82% respondents gave a ray of hope when they expressed that they play the role of a responsible citizen in creating awareness whenever they see a local harming any historical monument

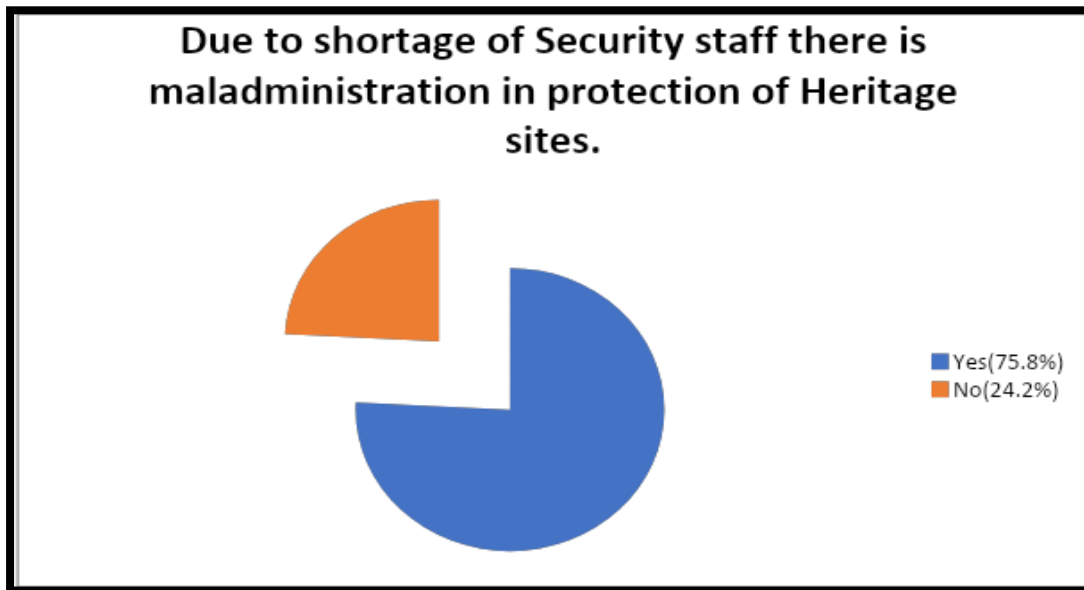
**Table 11**



88.3% respondents gave affirmation that they have visited historical monuments such as Hawa Mahal, Jaigarh, Galta ji, Jaimahal, Nahargarh.



**Table 12**



75.8% respondents expressed the concern that shortage of Security staff leads to maladministration regarding the protection of Heritage sites.

**Table 13**



68.8% respondents expressed the opinion that damage is caused to heritage sites because of lack of provision regarding fine and penalty on those who harm the beauty of heritage sites.

## **Conclusion**

Heritage sites form an integral part of our history and culture hence it becomes imperative to uplift their condition. On the one hand, there's talk of sustainable development and on the other, it's important to realize that conservation of our past remnants is what sets a foundation for the future generations. We need to sustain our cultural identity in order to establish the vitality of our roots. The current deterioration of such sites due to ignorance, scientific and other causes have to be combated before the damage becomes permanent. It's important to pierce through our conscience and dig deeper into what we aim for in the long run. The government needs to prioritize before it's too late. It will only be possible through public intervention and awareness. The work of NGO's can prove to be a great help in spreading public awareness. Strict policies to maintain cleanliness is the need of the hour. Everyone has to work in synergy to sustain cultural identity. There are gradual changes but once proper laws are passed and implemented, at least the rate of destruction can be slowed down. This research delves into the current problems, loopholes in policy-making, specialized personnel requirement, public participation and awareness programs and the importance of culture that needs to be conserved through means of survey, questionnaire and case studies.

## **Suggestions**

- High quality washable paints should be used on the walls. So that the scribbling can be easily washed off.
- Workshops targeting youth should be organised in colleges and schools regarding conservation of heritage sites.
- More dustbins should be installed.
- Water treatment and waste management plants should be installed at Galta Ji.
- Advanced alternatives like geopolymer binders which are stronger and more durable than cement can be used in maintenance work.
- Government sponsored volunteer projects can play a vital role in maintaining cleanliness of heritage sites as well spreading awareness about the conservation of the same

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## CHAPTER 9

### IMPACT OF MOMENT MARKETING ON CONSUMER PURCHASING

#### ABSTRACT

This research work was aimed at studying the impact of the marketing strategy 'Moment Marketing' on consumer purchasing decision. The study also explained how consumers and moments are connected and used together to promote a product.

This research also explained the evolution of moment marketing and various other concept related such as Neuro Marketing, Emotional and physiological Marketing. To carry out these, the researchers generated primary data. The data were generated using questionnaires as the research instruments which were administrated to various respondents in Jaipur city and on social networking sites (Instagram, Facebook). There are various other factors affecting the consumer purchasing decision for a product. Hence, we conclude that this young marketing technique is an effective medium to reach the consumers on a large-scale promoting their product and sales.

**“We really have advanced to a stage in advertising, where we are all talking about stories and selling the emotions in those stories, instead of selling the features and benefits of a product”**

#### INTRODUCTION

In the era of digitalization, marketing is the heart of business. It is a key to promotes and sell the product. Digital Marketing is defined as a method to an organization that allows, seeing how the product is performing in real-time. With the passage of time the definition of this term had been sophisticatedly evolved as an effective to create a relationship with the consumers that has depth and relevance.

With the evolution of technologies, adverts can be relevant to consumers when aligned with current affairs; this is where Movement Marketing comes into picture.

*What's Moment Marketing?*

Moment Marketing consists of two words i.e., *Moment* and *Marketing*.

- A particular moment is the point in time at which something happens.
- According to Philip Kotler:

“Marketing is satisfying needs and wants through an exchange process.”

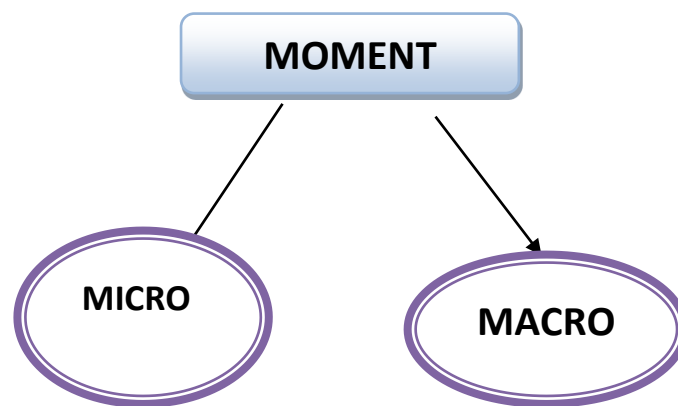
Moment Marketing is the art of leveraging current events which people relate to easily in marketing campaign.

**According to William Grobel**

“Moment Marketing is the ability to take advantage of an event to deliver relevant and related, seemingly spontaneous and often fleeting interactions with customers in real time.” It has emerged a few years ago as a source of interacting with viewers both online and offline. For example, if we create campaigns that embrace the moment and cater to current events, we are far more likely to target our current audience.

Further the marketing could be done on various moments

Types of Moment: -



- **Micro Moments:** - The moments which do not stand out and are less obvious. These moments are consumer centric and understand the consumer’s engagement when you reach out to them, when the moments are right for the brand and the consumer are crucial. For instance, a competitor’s TV commercial; a change in weather; pollution levels; social chatter etc.
- **Macro Moments:** - The key events which binds the interest of people throughout the year. For instance, major Sporting events, Religious Festivals/Holidays, Fashion Week, X Factor, Seasonal occasions like Bank Holidays, Easter, Summer, Christmas etc.

## **OBJECTIVES**

- To analyses the impact of Moment marketing on consumer's purchasing decisions.
- To determine the effectiveness of this young marketing concept.
- To examine the evolution of Moment Marketing.
- To study the degree of delta between Marketing and Moment Marketing.
- To study the effectiveness of Neuromarketing.

## **STATEMENT OF THE PROBLEM**

In this anticipated trend of Digital Marketing, The Moment Marketing came into force in recent years. Surely, it's insufficient in these days and age to run institutionalized battles that stay stable crosswise over channels, where adverts need to think about the recent developments.

Whether the new innovation adverts can be significant to customer when lived up to recent development which is why Moment Marketing is such a dominant strategy of current scenario.

Our key concern will be on the:

- Change in **consumer's purchasing behavior** due to Moment Marketing.
- New **marketing strategies** adopted by entrepreneurs and its effectiveness.
- Deep analysis will be done on **Neuromarketing concept**.

## **HYPOTHESIS**

The hypothesis of present research will be as follows:

- Significant difference in consumer's purchasing behavior due to Moment Marketing.
- There is no significant difference in consumer's purchasing behavior due to Moment Marketing

## **RESEARCH METHODOLOGY**

Defining the procedure for the market survey it is advised to base the research on the strong foundation of widely collected database and then moving towards new heights.

The study is based on the primary data analyses.

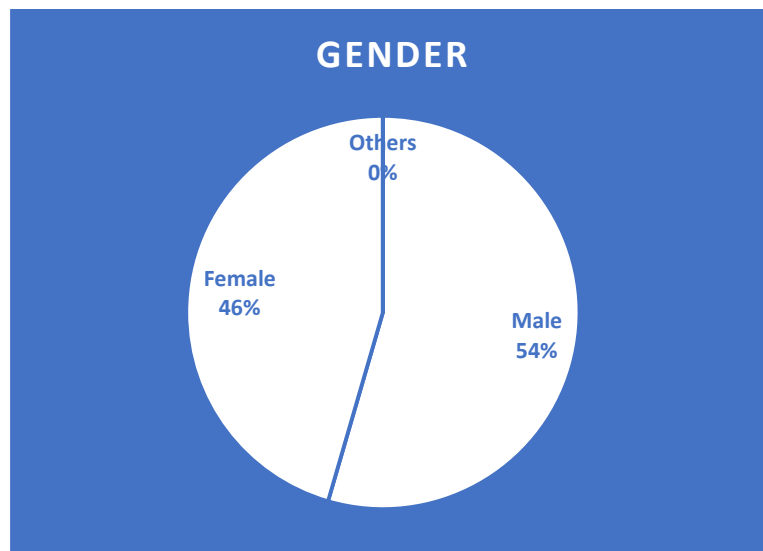
Primary Data Methods: - Analyzing the first source data and gathering information from the main source with the purpose of addressing the research problem at hand. For analysis of consumer purchasing behavior, a primary survey was conducted, using structured questionnaire, face to face discussions and personal interviews. The research was conducted in the Jaipur city.

- A survey was conducted among different age groups people distributed throughout the city and also from various advertising agencies.
- The questionnaire included demographic section, Awareness and attitude section, Preferences and Influence section.

### **Consumer preference analysis**

#### **(Demographic Section)**

##### 1. Gender



This statistic shows the gender distribution of social media audience in Jaipur is almost equal. Both male and female are equally oriented towards social media and uses it with same frequency.

##### 2. AGE

India is a youth-oriented country and through this analysis we conclude that the people aged from 15-25 years are more familiar with this new phase of digital marketing. They are more prone to the social media communication and companies target these potential consumers through the technique of moment marketing.

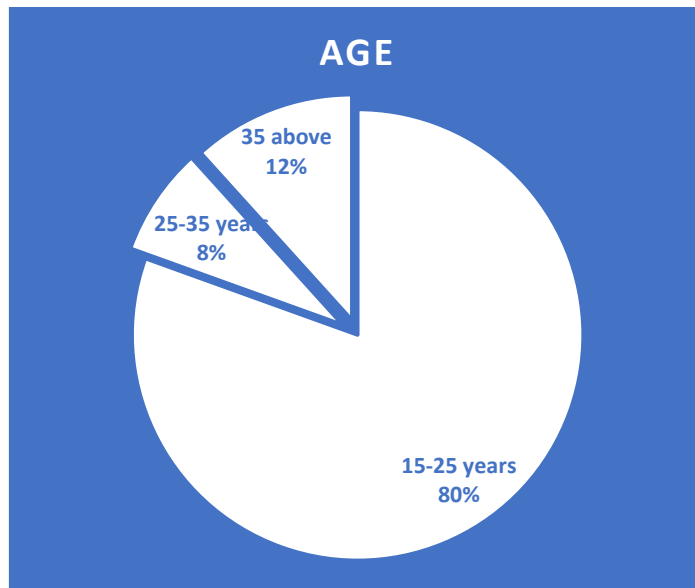
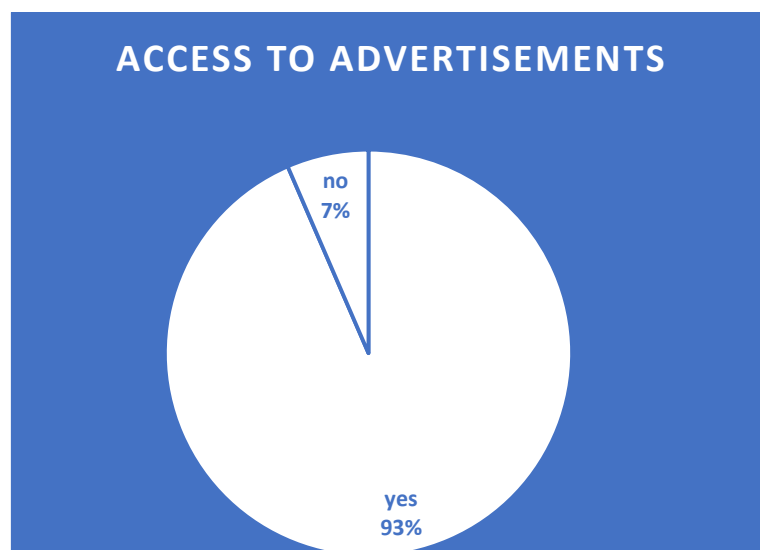


Figure 29

**(Attitude, Reach and Awareness Section)**

3. Have you ever been encountered by any kind of advertisement?

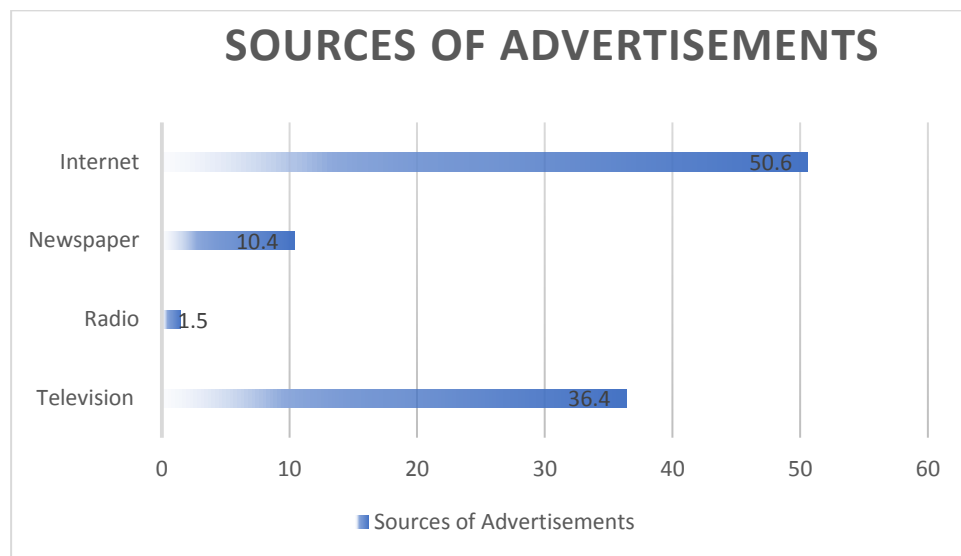
Advertisements have become the language of business. According to consumers getting regular information from advertisements is the most important attribute while selecting a brand or purchasing a product, which is being done by the companies through social media and networking. This analysis also shows that various brands have adopted this channel of advertisement and have reached consumers on large scale on regular basis.





#### 4. SOURCE OF ADVERTISEMENTS

Company adopts various channels for advertisements purpose. Through this study we came to know that Internet amongst all is the most preferred way of advertising a product. Considering its high-end reach and economical nature organization exploits this source the most.



#### 5. Have you ever heard the term MOMENT MARKETING?

In the era of digitalization, the young technique of Moment Marketing can be seen everywhere. Through this study we came to know that this young discipline is no more a taboo. Youth have not only started studding this marketing technique but also started implementing it in the most creative way. Interviewee is accepting that Marketing is turned into an Art and specialization with moment marketing

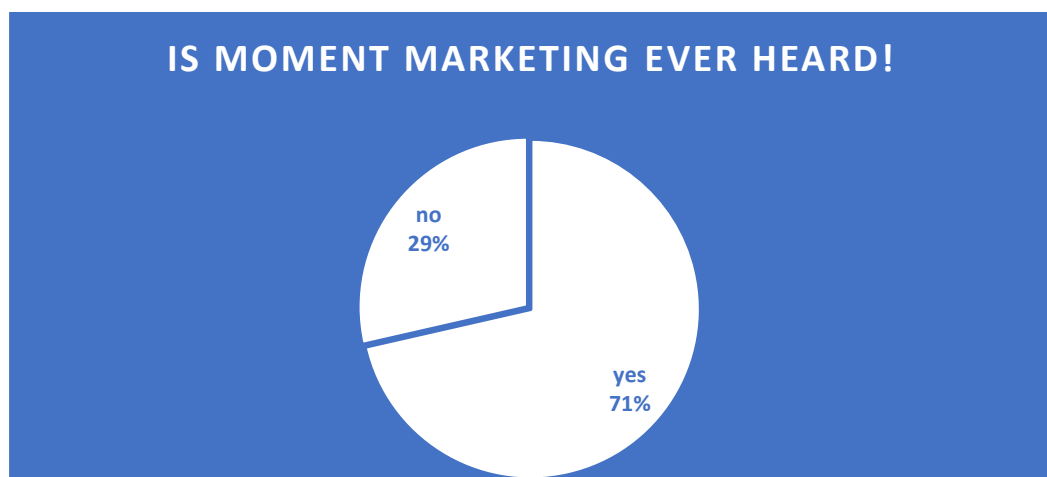
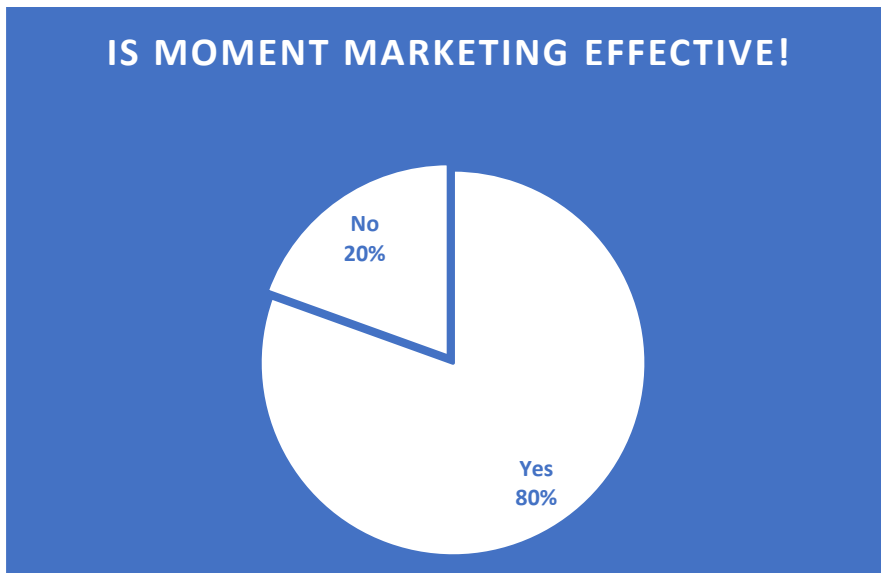


Figure 30

## 6. Is Moment Marketing an effective way to reach consumers?

Through this analysis we conclude that moment marketing is an effective way to reach consumer not only from company's point of view but also from consumers. Consumers believe that satisfaction could be maximized when the product has emotional connect.



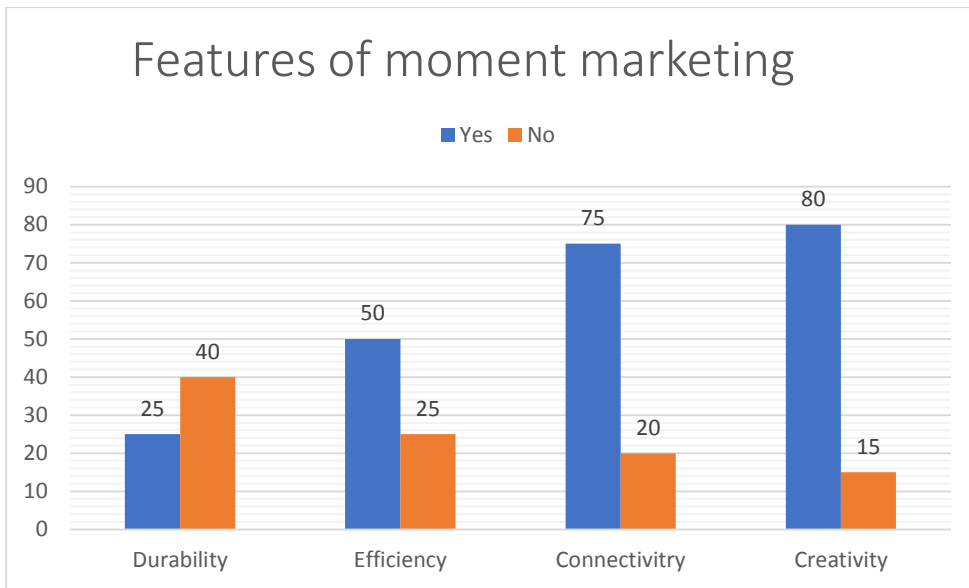
## 7. Features of Moment Marketing

Moment marketing is a technique of connecting a product with the current moment or event. Following features are essential for an advertisement to generate profit or benefits. Some of these are:

- Durability
- Efficiency
- Connectivity
- Creativity

Through This study we came to know that it is the Connectivity and Creativity that makes Moment Marketing different from Traditional Marketing.

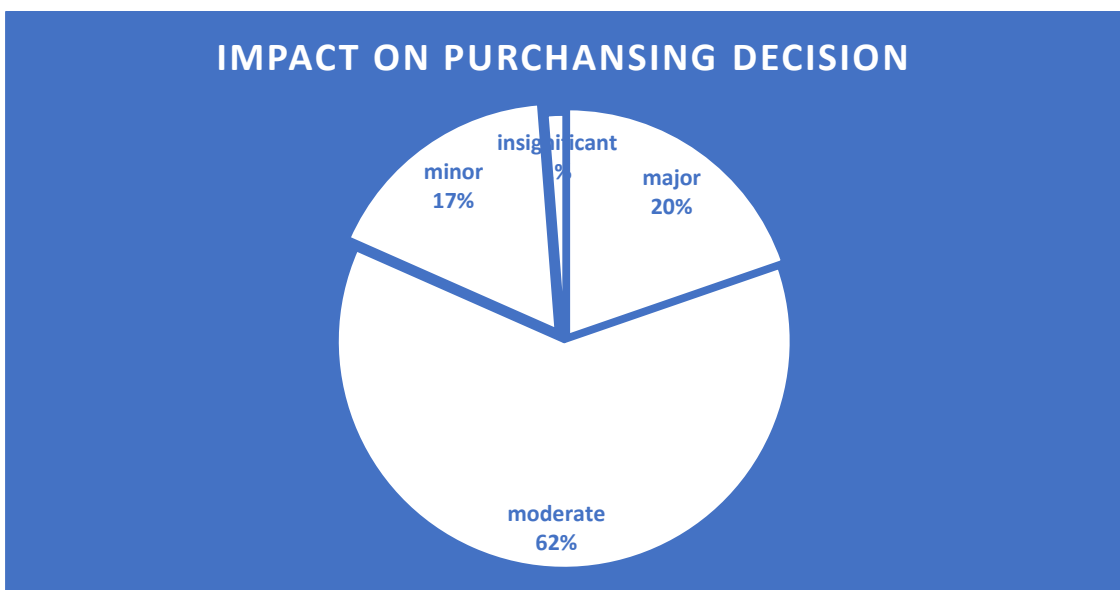
**Moment Marketing communicates when the consumer is most willing to listen and interact. Marketers understand the situation and consumer behaviour to capitalize benefits from various moments.**



### **Influence, preference & purchase decision**

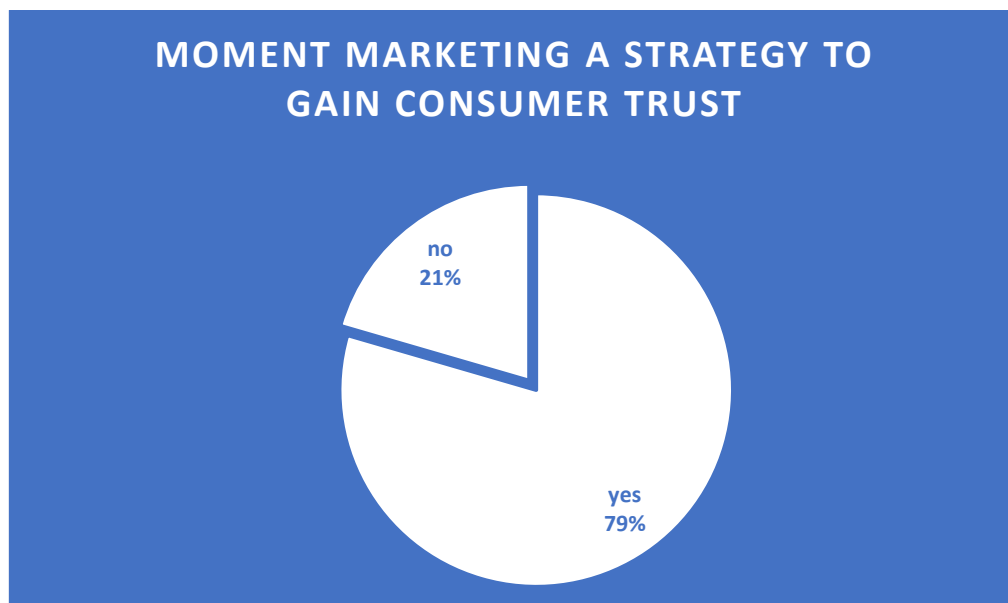
#### 8. Impact of moment marketing on consumer's purchasing decision.

As the study shows there is a positive relationship between moment marketing and consumer's purchasing decision. With the marketing of different product targeting different moments can help consumers develop an emotional connects with the product which directly affects their purchasing decision. It is believed that if company works on different moment creatively, they can capture their markets with an ease of action. With the regular advertisements on digital media moment marketing tempts consumers to purchase a particular product.



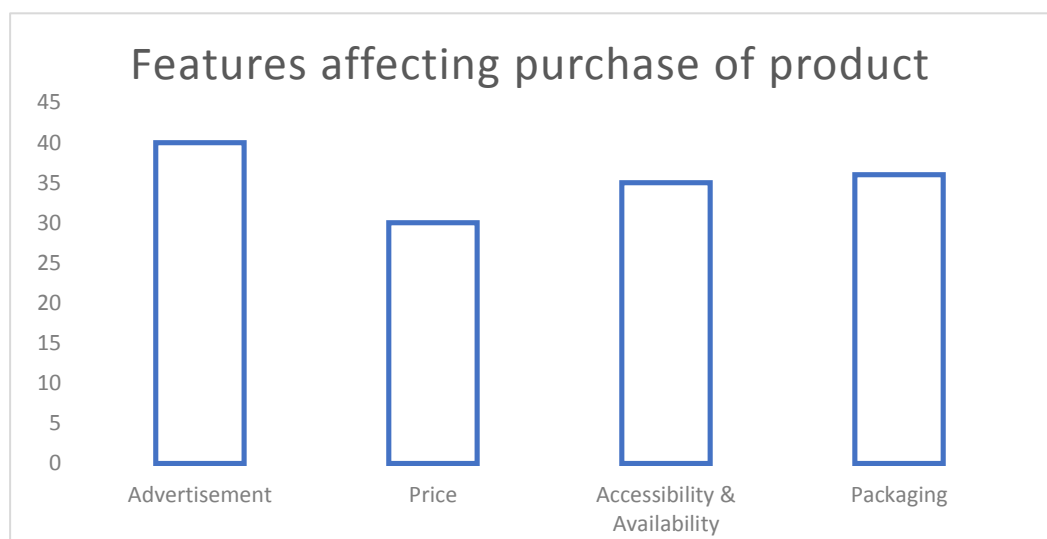
#### 9. Is moment marketing a new strategy to build customers trust and loyalty?

In the world of business gaining consumer trust and loyalty is of prime importance and through this study we recognized that moment marketing is a great source to build it. Moments marketing not only gives 24\*7 accesses to advertisements and information but also triggers the emotional connect simultaneously. Consumers develop a sense of belongingness towards the brands that make them familiar with the products.



#### 10. Features affecting the purchase decision?

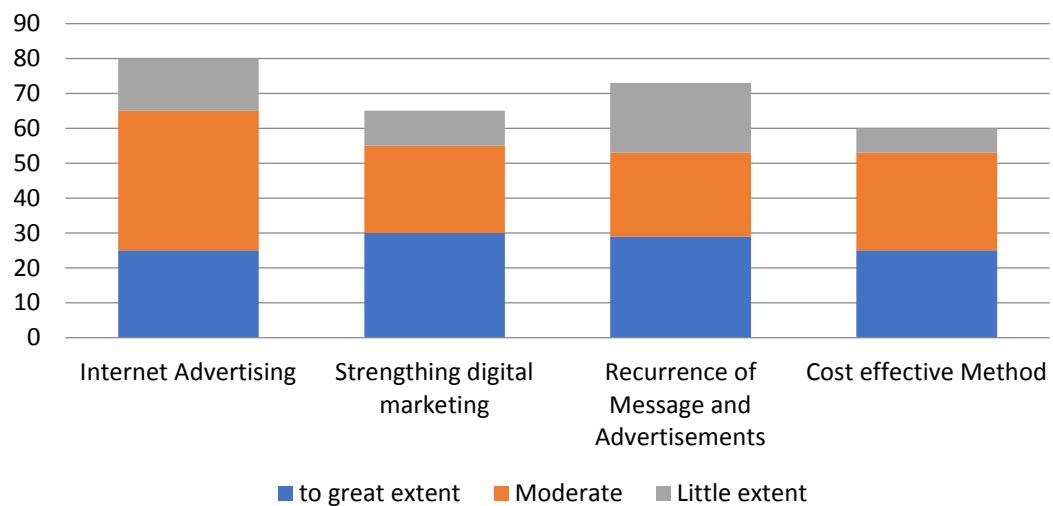
Through this analysis we came to know that Advertising is the most important feature affecting the purchase decision for the product. A customer presumes that a creative presentation containing brief details about product had a great impact on purchase decision as compared to its price. Consumers are willing to pay more if they become familiar to the product and its packaging.



## 11. Relation between Digital Marketing and Purchase decision.

In this new era of digitalization online marketing such as Moment marketing has a great importance. Through this study various points had been discussed & a conclusion is drawn that there is a positive correlation between digital marketing and purchasing decision. Customers use to prefer digital channels to buy any sought of product with at most convenience. We also conclude that internet advertising, digital marketing platform, interaction with consumers on web & moment marketing help in strengthen the market of brands.

### Digital marketing & Purchase decision



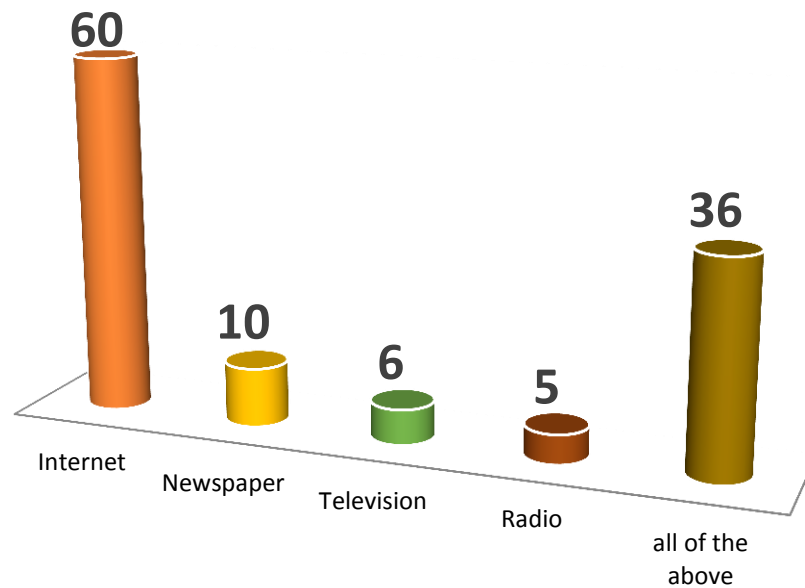
#### *Company preference analysis*

#### Channels for Promotion and Advertisement by Companies

Through this study we conclude that companies use internet as the most efficient mode of advertisement. Clearly it depicts why moment marketing uses internet as its prominent media for promotional purposes. There is a scope of high lateral diversion in future as companies have already started adapting internet for their promotional activities for its cost effective and speedy nature.

## Channels for promotion and advertisement

■ Internet ■ Newspaper ■ Television ■ Radio ■ all of the above

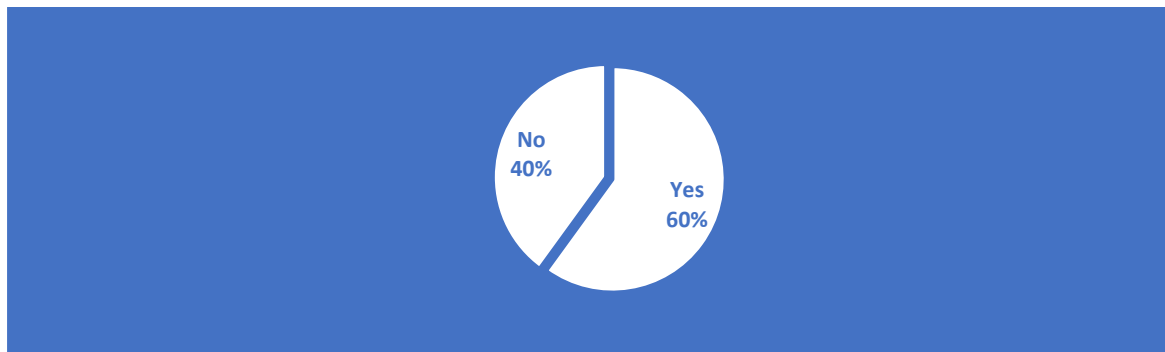


2 Is moment marketing a One-Stop-Shop solution?

This study reveals that moment marketing is no way near in replacing other marketing strategies but has the caliber to do so in future. Companies believe that moment marketing has the potential to target customers but as an exponential marketing strategy not as a main marketing strategy.

3. Does Companies have precise team to catch current affairs for moment marketing?

Through this study we came to know that organizations have specific team targeting moment marketing to promote their product digitally. They understand the need of hour and want to gain specialization in this arena so that they can gain competitive gain and expand their domain and consumer base.



## **KEY FINDINGS**

- People have already adopted moment marketing way before but were unaware of the term
- Certainly, moment marketing has a positive impact on consumer's purchasing decision.
- Knowing the present status of Moment marketing it clearly has a great scope in future.
- Marketing is based on product whereas moment marketing is based on brand.

## **CONCLUSION**

It can be concluded that there is a positive relation between moment marketing and consumer buying behaviour. If companies work on moment marketing, then they can influence the consumer buying behaviour, which can further induce sales. Moment marketing is much effective and cheaper than other kind of marketing strategies. If marketer wants to increase their share and want their customers to pay attention, they need to adapt moment-based approach for marketing.

**We really have advanced to a stage in advertising, where we are all talking about stories and selling the emotions in those stories, instead of selling the features and benefits of a product.**

## **RECOMMENDATION**

- We strongly recommend companies to implement this young strategy of marketing.
- We recommend marketing experts and authors to create awareness about this term "moment marketing" since most of the people are aware of the action but not the term.

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## **CHAPTER 10**

### **THE IMPACT OF ONLINE SHOPPING ON RETAILERS**

#### **ABSTRACT**

The retail sector is one of the fastest growing sectors in India. It is one of the backbones of economy and account for about 10 percent of country's GDP. Indian consumers are very particular about their products. The consumer choices vary based upon their preference towards online shopping verses offline shopping. Internet plays an important role in our life. We use internet daily for almost for every single work. The internet and traditional shopping both have their advantages and disadvantages. Online shopping doesn't require traveling long distances, offer more variety, remain functional 24\*7 offers huge discounts and extend the facility of customer reviews. On the other hand, traditional shopping allows customers to physically examining the products which otherwise online shopping lacks. In this paper an attempt has been made to highlight the growing impact of online shopping over the fixed shop retailers

#### **INTRODUCTION**

Online shopping lets customers review thousands of items in one place and pay for it in the comfort of their homes. This has affected retail companies and their strategies to stay in the competition with other retailers and online stores.

- Decrease in brand loyalty impacts retail companies.
- Online reviews impact retail companies.
- Smart phones impact retail companies.
- Company websites impact retail companies
- Online engagement impacts retail companies.

Although online shopping has come as a boon for consumers in India, there is a flip side to it as far as the retailers are concerned. As per the recent study, the turnover of the enterprises has gone down by around 51.4% over the past two to three years. This is a very disturbing trend and discouraging local retailers.



Traditional shopping has some limitations like- fix timing for customers to spend in market; if product is not selected at one shop, then it is time consuming to search various shops in the market. But at online shopping lots of varieties are available at a single click. Also, consumer cannot shop product late night after office hours. But online shopping provides consumers the 24-hour facility to shop. Also, if a person travels from one place to another, he can utilize its time to shop.

Therefore, the research has been conducted to study the effect on profitability on retail stores due to advanced e-stores, and to analyse the change in business pattern to achieve consumer satisfaction.

### **OBJECTIVE OF STUDY**

- To know the impact of online shopping upon customers
- Has exchange and return policies and payment method had brought a change in consumer behavior.
- To know the impact of e-commerce on retailers
- To know consumers point of view towards online and offline shopping.
- To examine problems faced by retailers.
- Main issue with online and offline shopping.

### **Hypothesis**

- To study the effect on probability of retail stores due to trend of e-stores.
- To analyze the effect upon pricing patterns of retail stores in recent times.
- To analyze the change in business pattern to achieve customer satisfaction.

### **Data Collection**

For the study, data is collected from two questionnaire, one from retailers and other from consumers. For the consumers using online mode for shopping, 106 was sample size. The survey was conducted in Jaipur city from 1<sup>st</sup> November till 1<sup>st</sup> December 2019. All 106 respondents filled the questionnaire truly and completely. In this survey 42% were male respondents and the female respondents account 58%. The age group of our sample varied from the youngest 15 years old and the oldest 55 years old. (Table 1)

<b>Gender</b>	<b>Number</b>	<b>Percentage (%)</b>
Male	45	42
Female	61	58
<b>Age</b>	<b>Number</b>	<b>Percentage (%)</b>
15-20	47	43.9
20-25	11	10.2
25-30	5	5.6
30-35	2	1.8
35-40	0	0
40-45	0	0
45-50	2	1.8
50-55	2	1.8

Table 1: Demographic Profile of the respondents

Types of stores that was taken for data collection comprising of various types of retail stores like clothing, electronics, printing press, confectionary business, auto parts retailers, restaurants, book stores, mobile phones etc. Number of stores surveyed is 36. More number of clothing stores were surveyed as clothing plays an important role in lifestyle nowadays followed by mobile phones retailers.

Table 2: Type of retail store surveyed

<b>S.no</b>	<b>Type</b>	<b>Number</b>
1.	Clothing	11
2.	Electronics	3
3.	Printing press	2
4.	Confectionery Business	1
5.	Auto diesel spares and services	1

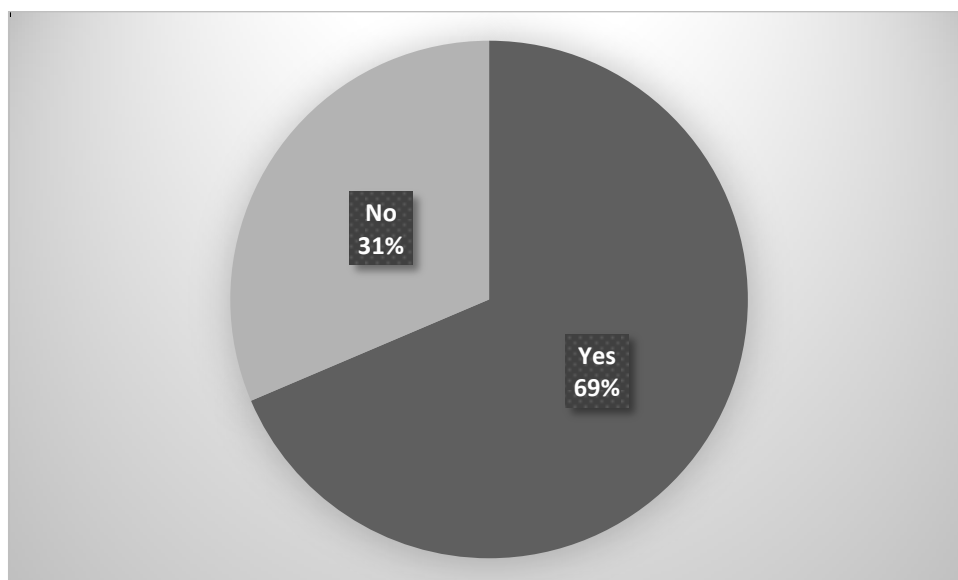
6.	Restaurant	2
7.	Men's garment and factory outlet	1
8.	Florist	1
9.	Photo studio	1
10.	Digital items	2
11.	Nutrition products	1
12.	Mobile phones	5
13.	Pharmaceutical	2
14.	Cosmetic hosiery stationary	1
15.	Bookstore	2

### DATA ANALYSIS

#### Part A: RETAILERS PERSPECTIVE

**Question 1: Is there any decrease in the average turnover due to online shopping??**

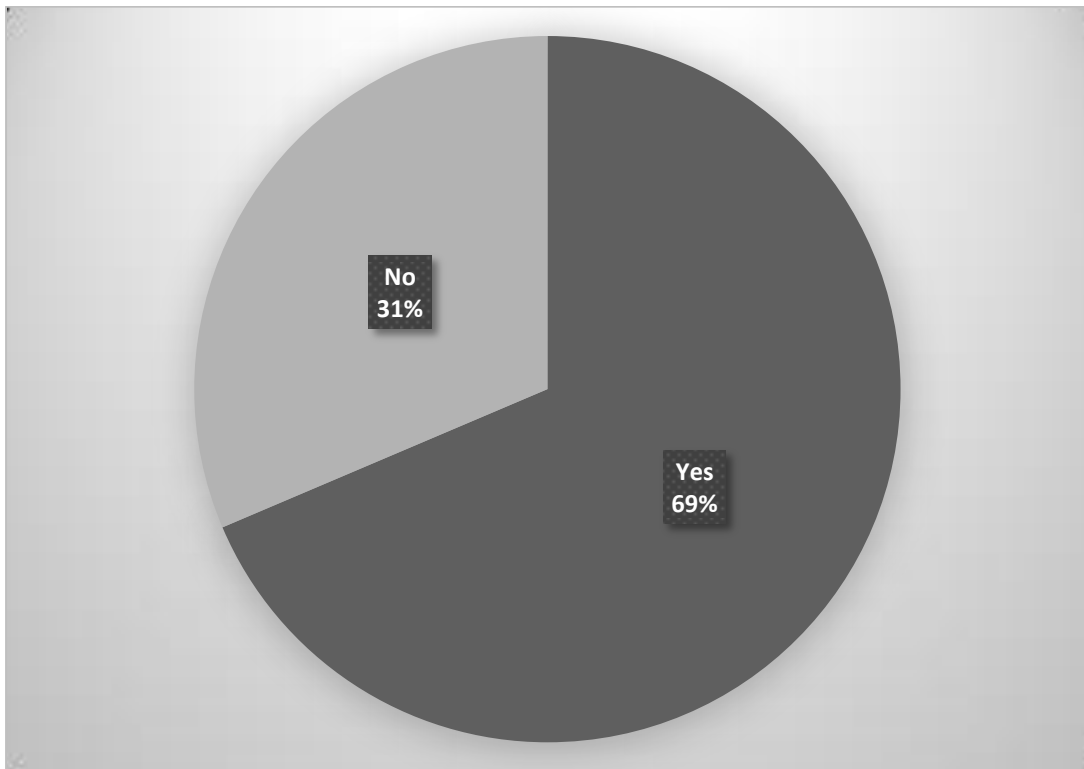
**Answer 1 (Graph 1-G.1) Most of retailers agreed that there has been decrease in average turnover due to online shopping.**



**Explanation:** According to the graph 1 (G.1), there has been decrease in average turnover due to online shopping. As nowadays people use more and more mobile phones and they need an ease for everything as they can shop from home and they didn't need to go anywhere and by this our first objective is achieved.

**Question 2:** *Have you made any increase in discount margin due to online shopping?*

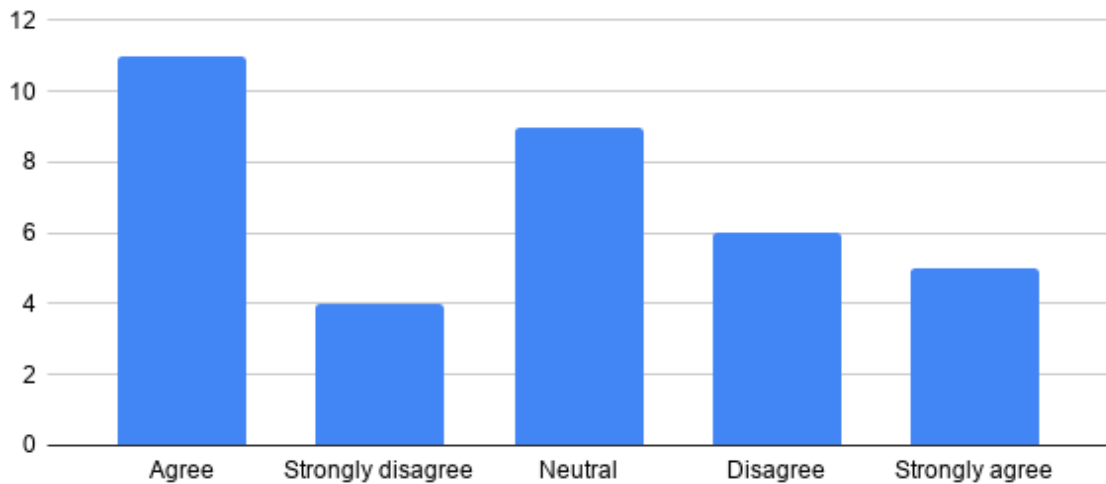
**Answer 1 (Graph 2-G.2)** *Most of retailers agreed that their discount margin is increased has been decrease in average turnover due to online shopping.*



**Explanation:** According to the graph 2 (G.2), retailers have made many discount schemes due to online shopping. As there is increase in online shopping, retailers have to be in the market and for increase in sales they have to increase discount margin.

**Question 3: Consumers now compare prices based on online reviews and it affects the retailers?**

**Answer 3 (Graph 3-G.3): Most of retailers agreed that consumers do the price comparison in online sites.**



**Explanation:** As we can see from the responses, we agree that consumers now compare prices based on online sites such as Amazon, Flipkart, Myntra and many more, because of these retailers have to suffer and at last they have to cut down the prices for increase in sales

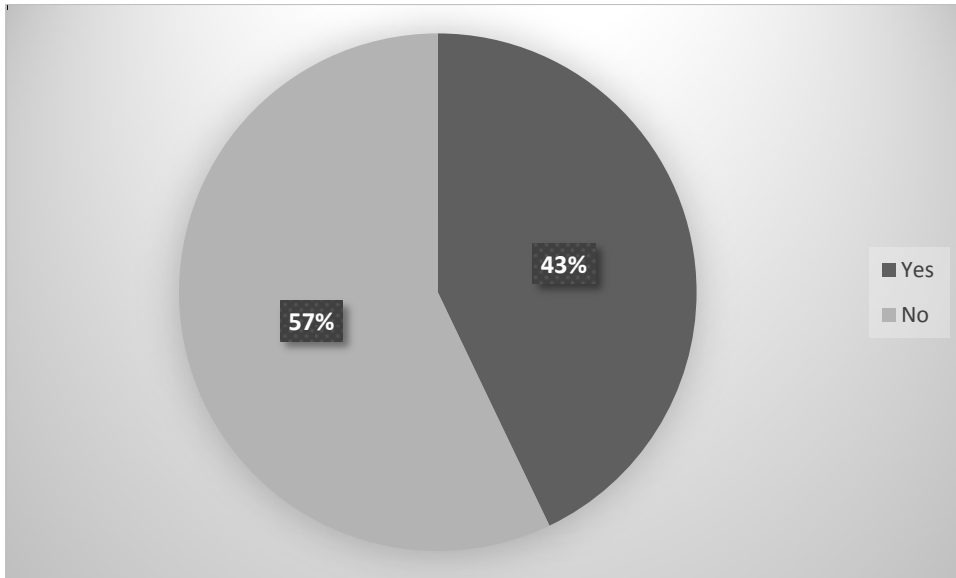
**Question 4: Did your stores have a reasonable return and exchange policies as compared to online shopping?**

**Answer 4: Most of retailers agreed that have returns and exchange policies which are very reasonable as compare to online shopping sites.**

**Explanation:** Mainly stores have better reasonable return and exchange policies as compared to online shopping as retailers know what customers want and what they will like as they have known their customers very well.

**Question 5: E-commerce had resulted in increasing your sales channel (b2b)?**

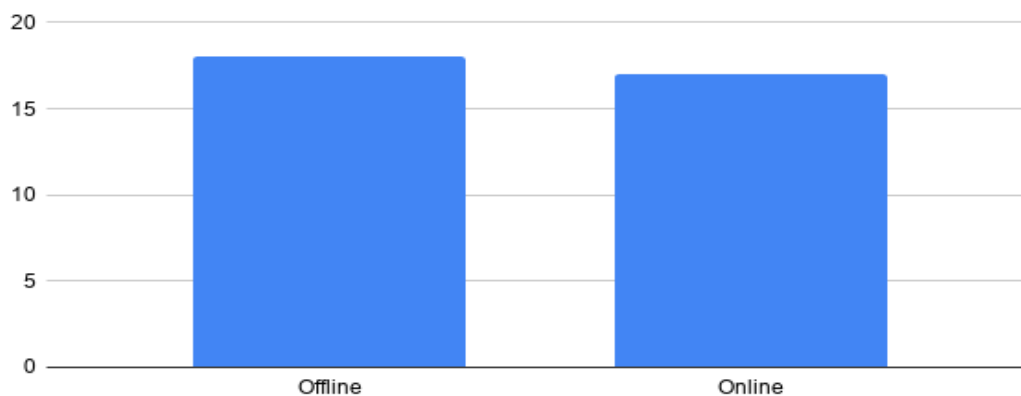
**Answer 5(Graph 4-G.4): Most of retailers agreed that have returns and exchange policies which are very reasonable as compare to online shopping sites.**



**Explanation:** More or less e-commerce has not resulted in increase in sales because people mainly of rural area they don't prefer online over offline so they don't switch to e-commerce. But, in coming years as we can see people will prefer e-commerce.

*Question .6 What do you prefer from your customers to make purchase?*

F.6



Retailers prefer from customers to make purchase offline as some shops have not switched to online payments as they think it is a long process to add bank accounts and do KYC so most retailers prefer cash over online payments.

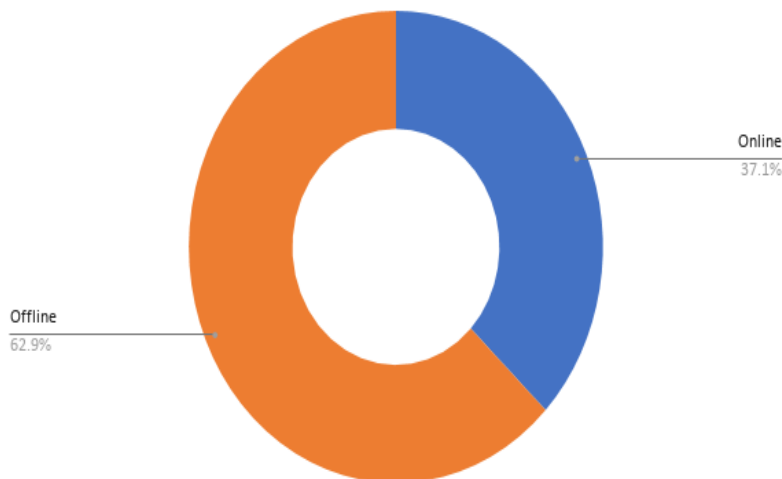
### T.3 impact of online shopping on retailers

Questions	Yes\no	Description
Q. Do you keep more variety of stocks now-a-days?	No	Rather they provide discount schemes and better exchange policies
Q. Do you provide after sale service personalized nature to your customers?	Yes	They provide sales services to increase their sales
Q. Is there any increase in window shopping now-a-days?	Yes	People only see the products and then they compare to online products and then they do shopping.

### Analysis on questionnaire of consumers

#### F.7

Count of Q1. What method of shopping do you prefer ?



Consumers prefer offline shopping over online shopping as many consumers now also trust retailers as they will provide reliable and better products. By this our **fourth** objective is achieved.

#### T.4

##### Q. 2Where do consumers get?

Better quality	Offline
Bargain for product	Offline
Better pricing	Online
Wider range	Online
Electronics	Offline
Books and media	Offline
Clothing and fashion	Offline

Consumers get wider range of products and better pricing at over online shopping and better quality for products as well as bargaining option over offline shopping

#### F.8

Q3. Which purchase are easier?	Q3. Which purchase are easier?
online shopping with online transactions	12
online shopping with cash on delivery;offline shopping with cash payments	10
online shopping with online transactions;online shopping with cash on delivery	2
offline shopping with cash payments	12
online shopping with cash on delivery	22
offline shopping with online payments;offline shopping with cash payments	1
offline shopping with online payments	5
online shopping with online transactions;online shopping with cash on delivery;offline shopping with cash payments	1
online shopping with cash on delivery;offline shopping with online payments	3
online shopping with online transactions;offline shopping with online payments	2

Most preferred method for purchasing goods is online shopping with cash on delivery with 38%. Second most preferred method for purchasing goods is offline shopping with cash payments with 34.3%. Next priority for the consumers is online shopping with online transaction. And the least preferred method is offline shopping with online payments with 15%.



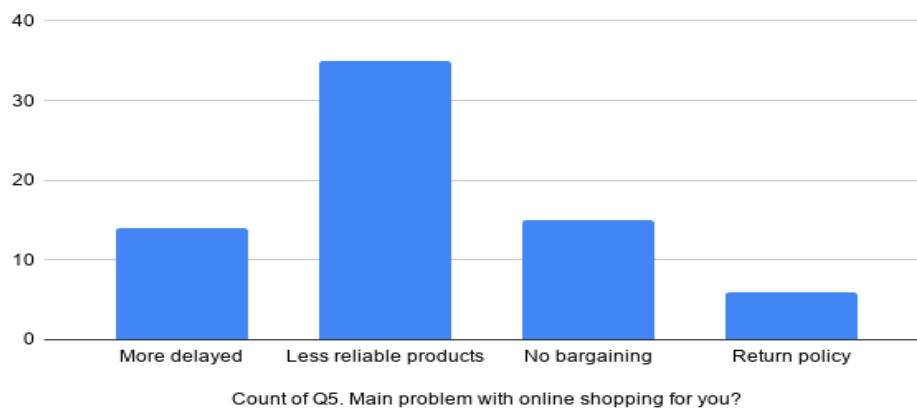
Q.4 most frequently purchased product: -

T.5

Consumers prefer to purchase good like electronics media and cloths majorly offline. Electronics being expensive goods consumers wish to satisfy and assure before purchasing the product. hence, here offline mode is most preferable to consumers

F.9

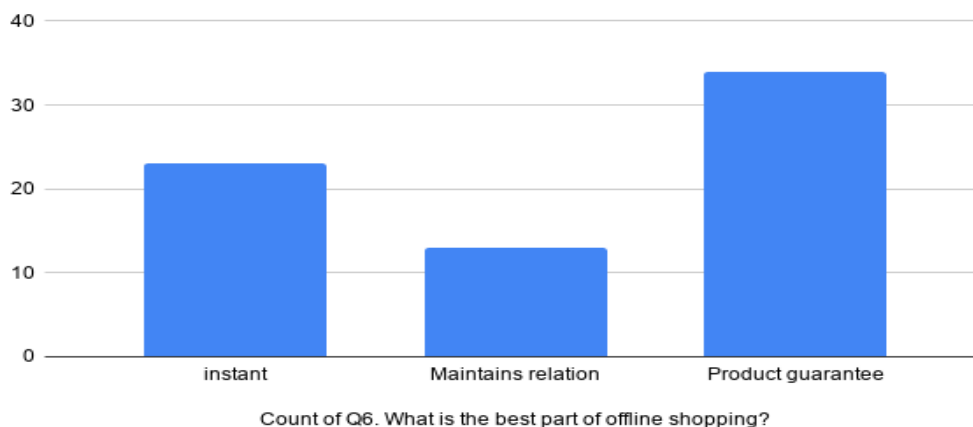
Q. Main problem with online shopping for you?



Consumers feel that products purchased online are less reliable with 50%. the second most big problem that the consumers face is difficulty in return policies online with 21.4%. Also, the consumers feel that when sometimes urgent it is only offline mode which is helpful as online shopping delays the delivery for product with 20%. Also, there is no bargaining option over online with 8.6.by this **sixth** objective is achieved.

F.10

Q. What is the best part of offline shopping?



The best part of offline shopping for the consumers is they can get product guarantee or warranty they can easily approach the seller or shopkeeper for something wrong with the products they purchased, with 48.6%. Also, offline shopping provides option for instant availability or instant packaging with 32.9%. Offline mode of shopping gives a chance to both retailer or shopkeeper and the consumer to build up and maintain relation with 18.6%.

F.11



Online shopping is safe because nowadays government has taken many serious actions towards online frauds and people are also aware and they know from which sites to buy.

Q.8 what is the best part of online shopping?

T.6

Less effort	57.1%
Return policy	17.1%
Price	18.6%
Packaging	7.1%

Strongly agree	17.6%
Agree	42.6%
Neutral	30.9%
Disagree	7.4%
Strongly disagree	2.5%

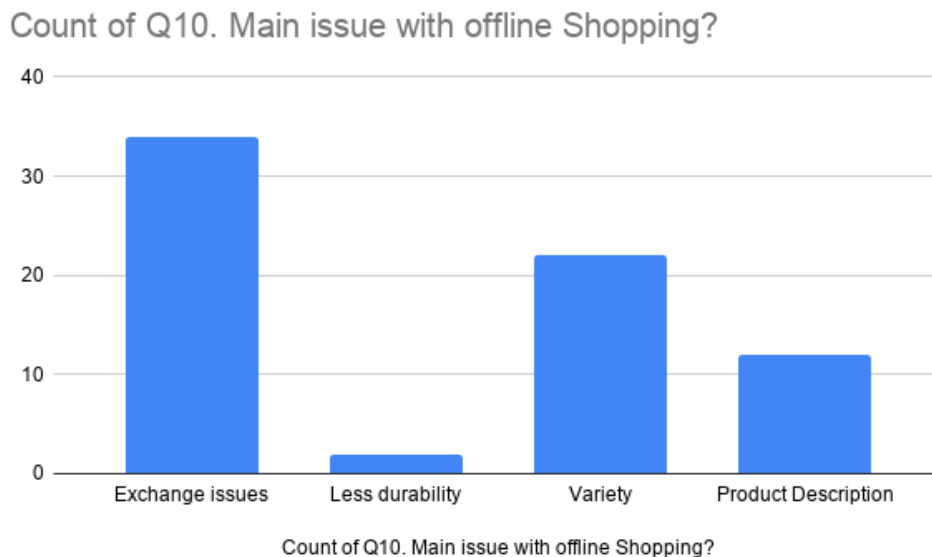
The best part of online shopping is it allow the consumer to have the required good or product at his place with keeping foot out of door and makes no efforts with 57.1%. Return policy pricing and packaging are not good part of online shopping.

Q.9 purchasing online requires one to able to ease with smart phones and be educated?

T.7

Purchasing online requires one to be able to ease with smart phones most of the consumers agree to this with 42.6%.

F.12



Main issue with offline shopping is exchange issue variety with 31.4% as many retailers don't prefer to exchange the products whereas online shopping provides an ease for 15 days. By this our **fifth** objective is achieved.

## Behind the scenes







## **Conclusion**

On the basis of the research done it is concluded that there has been decrease in average turnover of retailers due to online shopping as customers now compare prices from online sites. So, retailers now have made many discount schemes to increase their sales.

It is inferred that consumers get better quality and bargaining option at offline mode and wider range of products and better pricing at online mode. Also, e-commerce hasn't resulted in increasing the sales of retailers because people, especially living in rural area prefer offline over online shopping.

Thus, retailers are trying to provide more and more better services to consumers so as to maintain their position in the market.

- ✓ **DRASTIC CHANGE IN RETAIL SECTOR**
- ✓ **TRADITIONAL RETAILERS ARE MAKING NEW FORMATS**
- ✓ **MORDERN RETAILERS ARE OPTING BOTH ONLINE AND OFFILE MODES**
- ✓ **IMPROVING SERVICES AND VARIETYTO INCREASE SALES**
- ✓ **CONSUMER PREFER OFFLINE SHOPPING OVER ONLINE SHOPPING**

## **Recommendations**

- Retailers need to provide better exchange and return policies
- Offline shopping needs some changes like providing more varieties
- Retailers need to develop their online portals
- Retailers need to provide more reliable products

## **Limitations and scope**

The limitations and scope for future research are that the retailers need some changes like providing more variety and complete description of the products, better exchange and return policies, better guarantee and warranty services, better discount offers to the customers. Offline retailers need to develop their online portals (apps, website etc.) Where they can check reviews of customers and hence can design their products accordingly.

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## **Chapter 11**

### **Impact of Technology on Teaching & Learning at Higher Level Studies**

#### **ABSTRACT**

As now the technology is evolving day by day, it is contributing significantly in every sphere of life, and education is no exception. The emergence of technology has greatly affected the educational scene. The role of technology in education has been an important question since the potential of computer technology has transformed for the teaching and learning modules. It is important to find the answer due to the technological shift that schools and educational institutes are currently facing. Online as well as offline education both are important in their own way. With more technology exposure, students and teachers find easy and better ways to learn and teach. Using online platforms to learn, students can afford better access to resources and knowledge. Online learning also improves student's engagement with course material. It can encourage self-paced learning. For teachers, technology can promote innovative teaching techniques. As we are talking about technology, then teachers can also use technical devices such as smart board, projectors, computers, etc. to teach. On the other hand, offline teaching offers a strong interaction between teacher and student. It is easier to ensure that attendees are paying attention or not. Because classes are taken in person, it means students receive immediate feedback from fellow classmates and/or lecturers. But offline learning limits the classroom boundaries. Also, in a class there is only one instructor/teacher to teach, so students only get that much of knowledge as much as the teacher has. The virtual form of education also has a number of benefits. The most obvious is flexibility and pace of environment. Online learning is certainly more effective options for students. With online learning you can learn from anywhere, all you need is an internet connection. Other advantages include the savings of both money and time, because you don't need to commute etc. It also helps a student to develop self-discipline, from accessing course material to watching videos-recorded lectures. If you opt e-learning you have options to study at your own time without having to visit a classroom. Online teaching provides benefits to teachers also in a way better than offline teaching such as teaching through an online medium gives the instructor ability to connect with students located in diverse geographical

locations, without any travelling overhead. This provides teachers with immense, competent and improved opportunities to teach.

## **INTRODUCTION**

The term “technology” is an important issue in manlier fields including education. This is because technology has become the knowledge transfer in countries. Technology integration nowadays has gone through innovations that has totally changed the way people think, work and live [1-5].

- Technology is a gift of God. After gift of life, it is the greatest of God's gifts. It is the mother of civilizations, arts and science.
- Technology has changed the way we live our life. It has impacted different facets of life and redefined living. Undoubtedly, technology plays a major role in every aspect of life. Several manual tasks can be done automatically, because of technology. Also, many complex and critical problems can be solved with ease and greater efficiency with the help of modern technology. Thanks for application of technology, life has changed and it has changed for best.[2]
- Technology has revolutionized the field of education. Technology importance in schools can't be ignored. With the onset of computers in schools, it has become easier for teachers to give knowledge and for students to gain it. The use of technology has made the teaching and learning enjoyable.[3]
- Technology integration is not a one-step learning process, but it is a continual process of learning that provides proactive teaching-learning environment.
- Technology can be used in various ways where it helps both teachers and students to learn about their respective subject areas. A technology- related teaching and learning gives various interesting ways that includes educational videos, stimulation, storage of data, the use of databases, mind-mapping, guided discovery, brainstorming, music, World Wide Web (www) that will make the learning easier and more meaningful.[6]
- Technology helps teachers to design their lesson plans in an effective, creative and interesting approach that would result in students' active learning. Use of technology in teaching will enhance the learning process and maximizes the students' abilities in active learning.

- Three main stages for Technology to be highly valued and regarded by the teachers; integration, enhancement and complementary.
- Integration approach is about implementing right use of Technology in particular subject area that involved complex concepts and skills to improve student's achievement and attainment.
- Enhancement approach is about using Technology to give great emphasis on the topic introduced. For example, Microsoft PowerPoint is used to represent the topic in a very innovative and creative way that will lead into discussion and exchanging ideas with others.
- Finally, complementary approach is when the Technology is used to aid and support the student's learning. This approach allows students to be more organized and efficient in which they can take obtain the notes from computer, submit their works by email from home as long as they meet the deadline and looking for information from various sources provided online to fulfill the task given to them.[4]
- Most countries are facing similar problems but the teachers are not increasing the usage of the technology provided to them. The major barrier is the teachers' trust, as teachers are the person who implement the changes in their teaching and learning process.
- In addition, teachers' readiness and skills in using Technology are playing essential role in education. Teachers need sufficient skills to implement the technology and to have high confident level to use it in a classroom setting.
- Besides, teachers require insight into the pedagogical role of Technology, in order to use it meaningfully in their instructional process.
- Teachers who have gone through Technology course are more effective in teaching by using technology tools as opposed to those that have no experience in such training. Technology should be known by teachers in order to conduct a meaningful lesson.
- Teachers need to manage all resources in the classroom environment. Classroom management is one of the most important factors to increase the efficiency of education, ensure interaction, and reaching educational goals. [3]

- Teaching management is to plan teaching methods and principles in accordance with the environment to achieve educational goals through plans, programs and activities.
- The main goal of Technology implementation in education proclaimed to promote Technology in education for the following intentions:
  - ✓ To surround schools with dynamic and innovative learning environments for students to become more motivated and creative;
  - ✓ To enable students to gain wider range of knowledge and be able to access to internet for developing a global outlook;
  - ✓ To nurture students with capabilities of processing information more effectively and efficiently; and
  - ✓ To develop students with attitudes and capability of life-long learning.

From Year to Year, the Campus Computing Survey has shown increased use in classrooms of technology-dependent such as e-mail, Internet, course web pages, and computer simulations.

**“For the intellectual interactions that only humans can provide”**

Following this revised method of facilitating learning, traditional lectures can be replaced and pared down. In their place, classes can be more informal, seminar-like sessions with more free flowing discussion structured by students' interests, questions, and concerns. In other words, appropriate use of technology applications can help instructors to structure more active learning Opportunities. Research shows that active engagement in the learning process helps to motivate students and enhance their learning outcomes. New technologies can facility active engagement in learning by reducing the amount of class time when students sit passively listening to lectures. [4]

**“Can be custom-designed around the needs and interests of the recipient instead of around the scheduling and resource needs of the provision”**

With the help of technology, educational programs—even full degrees—can be structured around flexible course modules that students can combine in a variety of forms to meet their personal and professional objectives. Matthews suggests that technology-mediated education makes traditional academic calendars and rigid

curriculum structures obsolete because it can adapt education so well to individual learning interests and needs.[2]

**“Learning outcomes, as measured by student competencies [rather than course credits], is the quality measure that makes the most sense to consumers”**

In the new educational environment defined by technology, innovative institutions such as Western Governors University award degrees by certifying that students have achieved certain required competencies, regardless of where those competencies were acquired. Such a dramatic shift in the way educational achievement is documented would have been unthinkable before the advent of the free market educational system stimulated by the technology advances of the late twentieth century. Measuring competencies rather than credit hours represents another shift in favour of the consumer. As long as a student can document competence in a subject or skill area, it makes no difference where or how the learning occurred [6].

Technology's potential to lower the cost of education has been one of its principal appeals. The ability of computers and telecommunications to reach large audiences with the same high-quality educational programs has raised hopes for economies of scale never possible in the very labour-intensive traditional forms of instruction. To date, technology's promise to lower instructional costs has not been realized. Developing the infrastructure to support technology-mediated teaching and learning has been a very expensive proposition. The possibility remains, however, that new, advanced technologies may eventually lower the costs of higher education as researchers and educators learn how to blend technology-delivered and traditional instruction in a more cost-effective manner.

## **REVIEW OF LITERATURE**

- Technology has changed the way students learn and how they interact with their professors for help and questions. Making not only students change their method to learn but changing teacher's method to teach. [2,5]
- This literature review provides information about the changes on educational technology with their main events on how has change student's way of leaning.

- It provides statistics on how much time students spend on technology and their improvements. It recognizes positive and negative points of view about the topic and how teachers are getting assistance for this technology. [4-6]
- Technology has become part of our lives with the pass of the years, to the point most people will start depending on this technology. One of the changes most people have notice is inside the classroom. [2,7]
- Students observe a variety of common tools to identify the major types of technology according to the human desires most of them meet, and then fake initial definitions of technology.
- Teacher's education system is to prepare their students to meet the demands their classes in the future will ask. By teachers having the access to technology can make a huge change on their way of teaching making students have a better learning experience.
- Students and teachers have seen the advances, noticing how technology has expanded the opportunity to study. Starting, from the invention of paper and pencil, to overhead projectors, all the way to having the opportunity of experiencing the new touch technology era.
- Technology has impacted on teacher's teaching in a major way. Example- With the help technology only now we are learning with the help of projectors and computers.
- To understand the impact of technology on education we have conducted a survey with the help of Google Form one for the teacher's perspective and one for the student's perspective.

**To know the impacts of technology in learning we had conducted an online survey where some of the most common questions were asked and the data formed were: -**

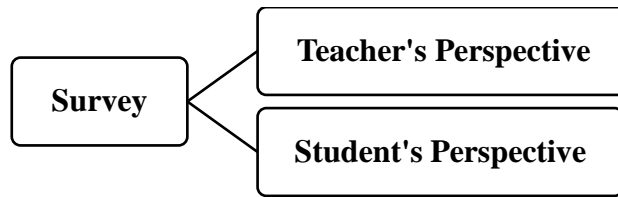
<b>Are the students satisfied with the contents provided by the online learning sites?</b>	
Yes	58.30%
No	25%
Not Tried	16.70%
<b>Is Online platform providing the proper guidance?</b>	
Yes	61.10%

No	16.70%
Not Tried	22.20%
<b>How was your experience while learning online?</b>	
Yes	58.3
Bad	2.9
Not Satisfying	19.4
Not Tried	19.4

- Most classrooms around the world are adding technology to their way of teaching, and technology has revolutionized education on positive and negative ways.
- Adding programs where students can achieve their goals no matter where they are living, internet having most of the part on this movement. Giving opportunities of jobs to students by learning to use the most popular programs the computers provide.
- Educational technology is the process of developing solutions and forms of teaching using technology to the advantage of the students and teachers
- At the end use of technology in learning as well as teaching increases the effectiveness

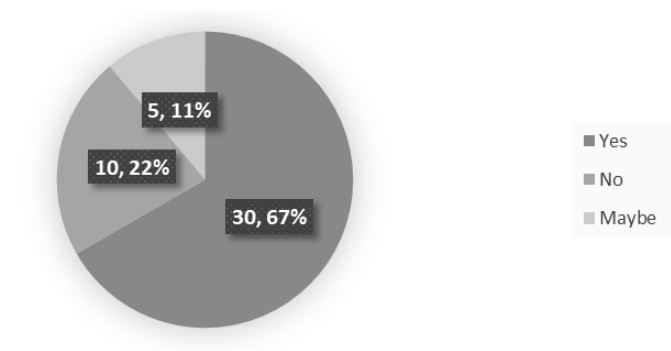
## **METHODOLOGY**

- **Research Design:** This paper is to find the Impact of technology on higher education. Through this paper we will tell us about the statistics of using technology is a good idea or not. We have been surveying people around the campus and asking them about the method of using technology in higher education and even our team approached the teachers of the institute.
- **Research Approach:** We have conducted an online survey using google form for the teachers as well as students where we have found out many students to show their interest to answer and to tell good and bad about the topic.
- **Sampling Model:** The results of the google forms were much more beneficial for our paper. The survey which was done through google forms made us understand the perspective of the student and a teacher. Some reviews of the survey are been provided below.



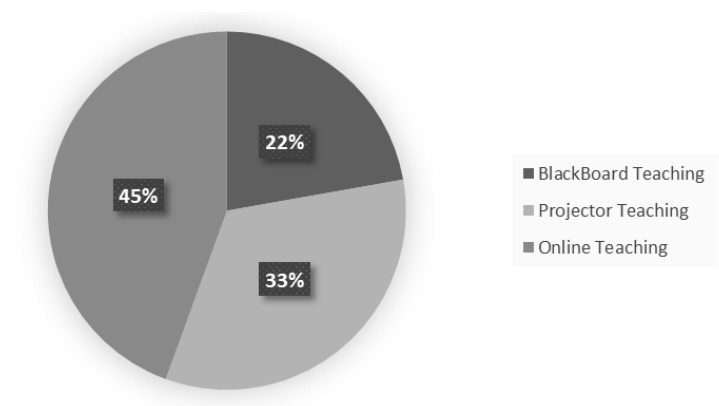
A. *Teacher's Perspective: (Responses: 45 teachers selected from all different streams (Arts, Science, Commerce, Management) of education)*

- **Question 1: Does Technology has Impact on Teacher's Teaching?**
- **Answer 1 (Graph 1-G.1) Most of the teachers has said technology has impacted teaching.**



**Explanation:** According to the graph 1 (G.1), After the survey from the teachers we found that most of the teachers had given successful yes to the technology in education and online study. According to us, the fact that online teaching and technology in education is much more convenient and easier than the offline.

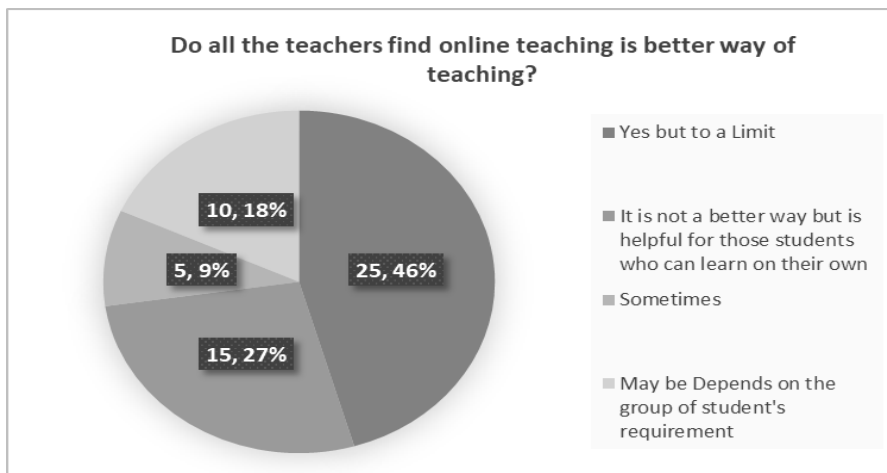
- **Question 2: What will be the mode of teaching that most of the teachers prefer?**
- **Answer 2 (Graph 2-G.2) Most of the teachers has preferred the technological perspective.**



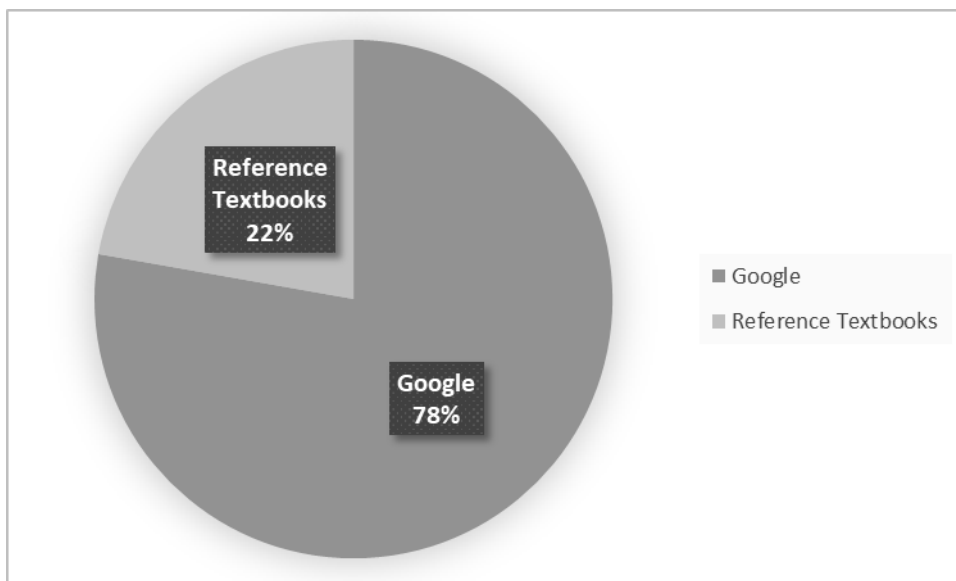


**Explanation:** According to the graph 2 we have found out most of the teachers also agrees to the fact that online classroom and the technological role in education is beneficial and productive than offline mode. The new generation demands for the virtualization of the classroom as it seems to be more attractive that the daily routine classes

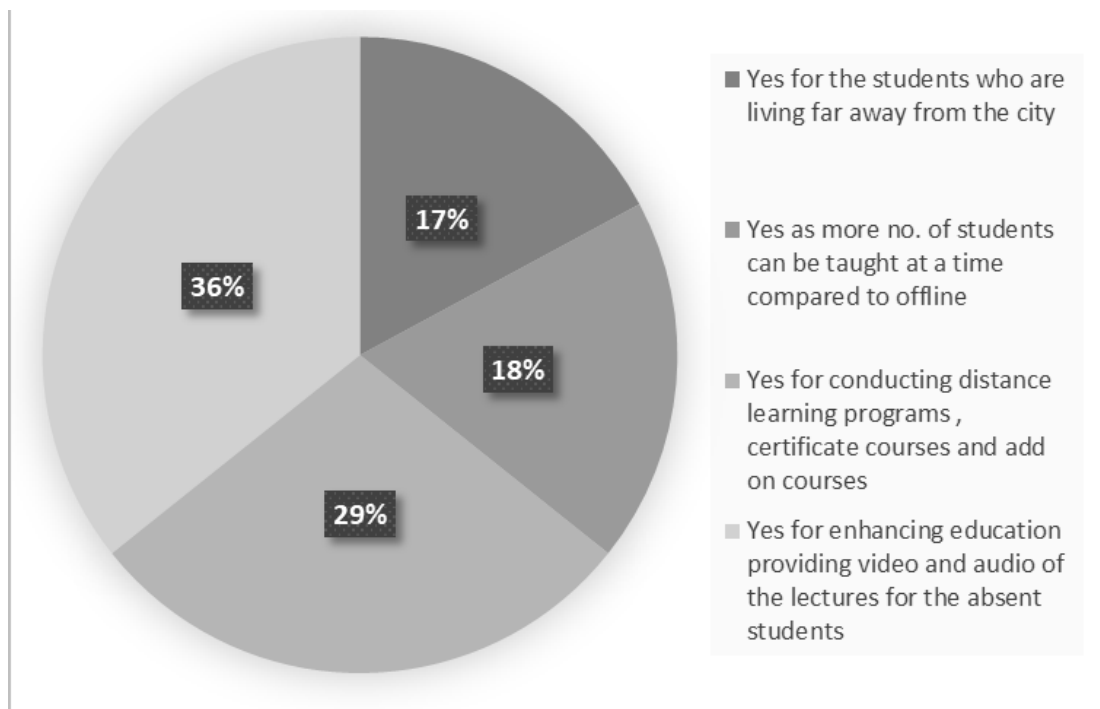
- *Question 3: Do all the teachers find online teaching is better way of teaching?*
- *Answer 3 (Graph 3-G.3) Most of the teachers has preferred the technological perspective but to a limit.*



- *Question 4: As a teacher what will be you mostly prefer to solve a doubt or query?*
- *Answer 4 (Graph 4-G.4) Most of the teachers has preferred the google.*

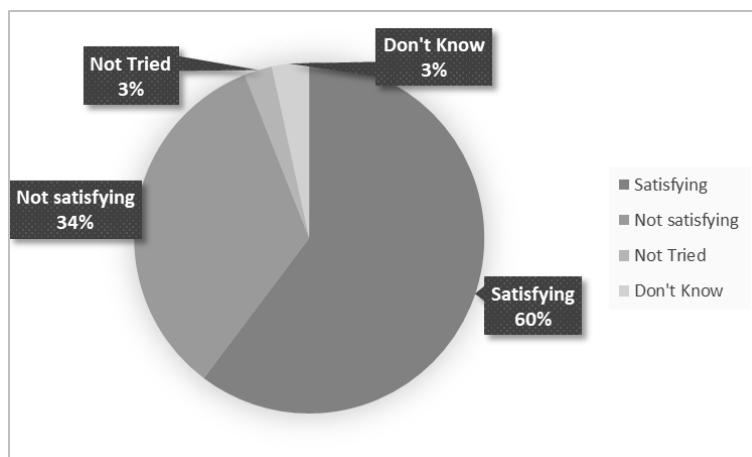


- **Question 5: Have you ever have a thought of teaching online. If yes then why?**
- **Answer 5 (Graph 5-G.5) Most of the teachers has preferred the google.**

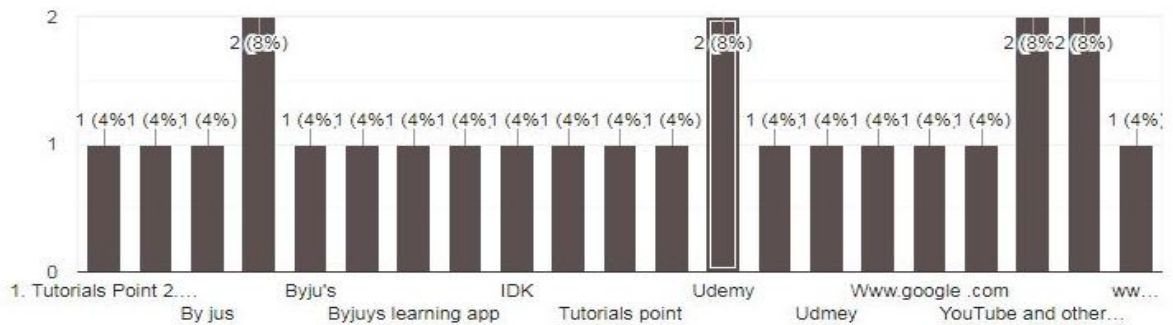


B. *Student's Perspective: (Responses: 350 students selected from all different streams (Arts, Science, Commerce, Management) of education)*

- **Question 6: What is your experience with online teaching methods?**
- **Answer 6 (Graph 6-G.6) Most of the students has said technology has impacted learning.**

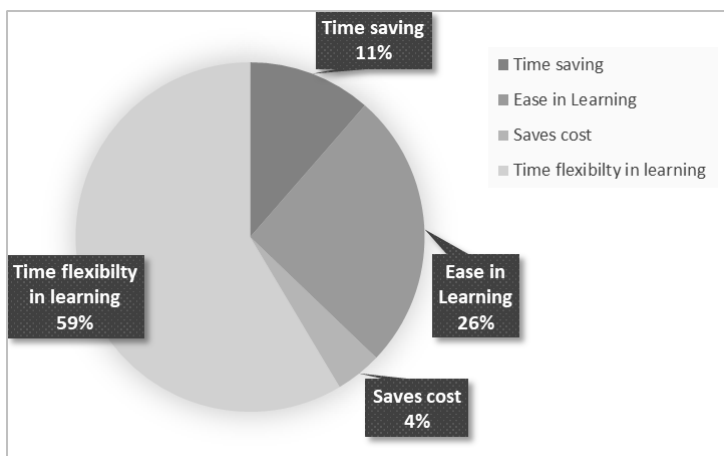


- **Question 7: From which online platform do students learn? (Mention Application Name)**



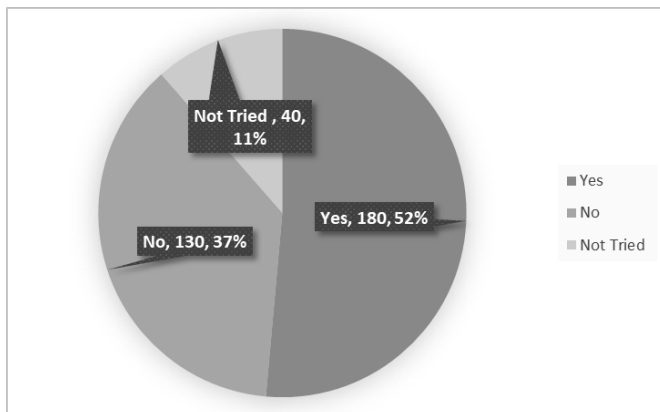
**Explanation:** Student’s perspective is considered the main sector in the technological education. For the virtualizations in education is dependent on learning of students and teaching of a trainer. Today in the world most of the students has a preference of attending the online classes instead of presenting physically. They could record the lectures and could play them whenever they required. most of the students preferred “BIJUS’S” and “UDEMY” for learning. As they provide relevant and convenient way to access the data.

- **Question 8: Why do students prefer online teaching and learning platform?**
- **Answer 8 (Graph 8-G.8) Most of the students has preferred the technological perspective for time flexibility in learning.**

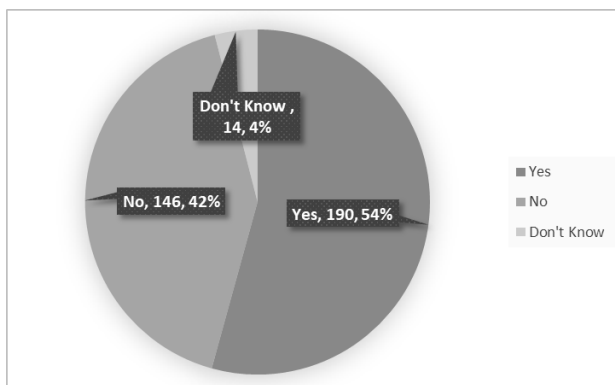


- The following graph shows the importance of the virtual classes and online classes. Some of the merits of online lectures are: - (View of students)

- Time saving – The time which is wasted by travelling from home to the particular class is been substituted and now the student has to travel from bed to his computer screen.
- Ease in learning – virtual class is considered easy and effortless for a student and the trainer too. They just have to record the class and send to the students which could be played multiple time.
- Saves cost – The money spend on fuel is no more an expenditure as everything is virtual now.
- **Question 9: Are the students satisfied with the contents provided by online learning sites?**
- **Answer 9 (Graph 9-G.9) Most of the students are satisfied with the authenticate academic sites where they get notes, books and for future study research papers and articles related to their topics.**



- **Question 10: Is online platform providing the proper guidance?**
- **Answer 10 (Graph 10-G.10) Most of the students are satisfied.**



Overall Results of the the survey:

- Most of the students are satisfied by the virtualization of the education sector and are benefiting the students.
- Students also agrees to the fact that online platform is providing them proper guidance and appropriate solution to the problems.

Data Collection method:

Data of the survey is collected through google forms and is been stored on cloud using Gmail account. The management of the data is in the form of pie chart and diagrams.

Data Analysis Method:

As mentioned earlier the survey will be conducted through the forms so after the responses are gathered there will be a comparative study on the responses and the conclusion will be all dependent on the study.

## **CONCLUSION & FUTURE RECOMMENDATION**

Technology is everywhere and fully integrated into the daily lives of the student, and gives student connection to an immense amount of information. One of the best things about technology is that it is constantly changing. As technology changes, so it effects the education also. The use of technology in the education in the proper manner has the benefit of helping to raise academic achievement from the students as well as from the teachers from all levels of skill. We use technology to enhance or extend social interaction. To provide access to learning environments that otherwise would not be applicable (advanced courses). To generate learning experience that are meaningfully aligned. To personalize, individualize, and differentiate learning to each student pace, path, abilities and interest. To ensure equitable access to technology and its supporting infrastructure itself, as well as the opportunity to develop skills associated with technology used. Technology is finding that they are in demand in every industry. Technology also makes the education a much more interactive process. Email course-based website, and computer-based chat rooms are some of the technologies enabled resources that facilitate communication and teamwork among students. Collaborative learning opportunism enhance recall, understanding, and problem solving.

Technology can greatly ease the work of collaborative design terms, peer writing groups, even among students who do not live in the same geographic area and which cannot meet face to face. It also helps to personalize and individualize education. By reducing the need to deliver vast amount of info. Technology has the capacity to deliver large quantities of info over networks also expands the potential for tailoring educational programs to the specific needs of each learner with the help of technology educational programs even full degrees can be structured around flexible course module that students can combine in a variety of forms to meet their personal and professionals' objectives. Professors' lives are also changed by the technology in different ways. To prepare for classes, conduct research, deliver instruction, and keep in touch with their students and colleagues in faraway places. Technology has a positive impact on education and at the same time may also pose negative effects. Teachers and students should take advantage of this in the good light and eliminate the drawbacks which are pulling back many of students as well as schools from achieving excellence. It is thus time for every country to introduce a more technologically equipped education sector in the future.

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B. Weblinks

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- <http://files.eric.ed.gov/fulltext/EJ1105224.pdf>
- <http://dergipark.org.tr/tr/download/article-file/358164>
- [http://education.stateuniversity.com/pages/2496/Technology-in-Education - HIGHER-EDUCATION.html](http://education.stateuniversity.com/pages/2496/Technology-in-Education-HIGHER-EDUCATION.html)

## Chapter 12

### Threat Modelling and Methodologies

#### ABSTRACT

Threat modelling is a process for optimizing network security by identifying vulnerabilities, and then defining measures to mitigate and prevent the threats to the system. Threat modelling can help make your product more assured and dependable. There are various techniques and methods for threat modelling. This project presents 12 threat-modelling methods. Threat modelling might not be very useful for an individual but it is a good method for companies with huge IT work as they require cyber security to protect their data. Choosing a good method for your project, you have to search for many specific areas you want to target like- risk, security, privacy, etc. for how much time you want to perform threat modelling, how much experience you have with threat modelling etc. Software security problems arise from the very first days of computer systems. Operating system level approaches, network level approaches and machine level approaches are not only sufficient for the security of software systems. Software security has gained a lot of scrutiny in recent years as an internal security issue for software systems as compared to external protective measures. Threat modelling is a technique that is used to model threats into software systems by applying various threat models at the early stages of the software development life cycle, all possible threats to software systems can be recognized and mitigated and hence, in this way, a more secure software application can be developed. Various threat modelling approaches such as CVSS, VAST, STRIDE, DREAD, ATTACK TREE, TRIKE and OCTAVE are being used by many organizations for threat modelling into software systems.

#### Objective

The objective of our project is to ensure prevention and data security from cybercrimes. Threat modelling is a procedure for optimising network security by identifying objectives and vulnerabilities and defines measures to mitigate the effects. The key of threat modelling is to determine where the most efforts should be applied to keep a system secure. The modelling process is to improve cyber security. The area of research is vast as cybercrime affects everyone. Nowadays, there is no set limit for



cybercrime. From teenagers to adults to older adults, everyone is being caught in the trap of cybercrime in one or the other way. A threat model ensures application security and prevention of cybercrimes. A predicted outcome of a threat model would be to reduce cyber assaults. As India is on 2nd number in respect to the number of cybercrimes recorded [1]. In today's world, internet and technology is growing rapidly, and along with that cybercrimes are also increasing at a rapid rate. The usefulness of the project in the subject area would be to make people aware of cybercrimes and reduce the rate of cybercrimes happening.

## INTRODUCTION

Security threat modelling is a process of analysing a system's security risks. Threat modelling helps you to understand a system's threat profile by examining it through the eyes of your potential foes. With techniques such as identifying threat, understanding the threat, categorising the threat, you can identify methods to mitigate risks from your system. The threat modelling efforts also enable your team to justify security measures within a system, or security practices for using the system, to guard your corporate assets.[1]

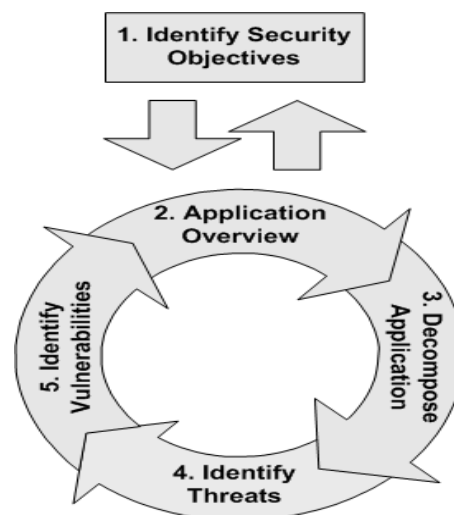


Fig.1 Sourced from

[https://www.guidanceshare.com/wiki/Cheat\\_Sheet:\\_Threat\\_Modeling\\_Web  
Applications](https://www.guidanceshare.com/wiki/Cheat_Sheet:_Threat_Modeling_Web_Applications)

There are five aspects to security threat modelling:

- 1) **Identify threats.** The first thing to try to do is to spot assets of interest, your initially model the system either with Data Flow Diagrams (DFDs) or UML deployment diagrams. From these diagrams, you can identify entry points to your system like data sources, Application Programming Interfaces (APIs), Web services and therefore the interface itself. Because an adversary gains access to your system via entry points, they're your starting points for understanding potential threats. To help identify security threats you ought to add "privilege boundaries" with dotted lines onto your diagrams. Figure 1 depicts an example of deployment diagram want to explain the boundaries applicable to testing a relational database. A privilege boundary separates processes, entities, nodes and other different elements that have different trust levels. Wherever aspects of your system cross a privilege boundary, security problems may arise. For example, your system orders a module that interacts with the payment processing module. Anybody can place an order with any system, but only manager-level employees can credit a customer's account when he or she returns a product. At the boundary between the 2 modules, someone could use functionality within the order module to get a bootleg credit [2].
- 2) **Understand the threat(s).** To understand the potential threats at an entry point, you have to spot any security-critical activities that occur and picturize what a foe might do to attack or exploit your system. Ask a question like "How the foe can use the asset to modify the control of the system, retrieve confidential information, manipulate shown data to the public within the system without the permission of the authority, cause the system to fail or be unusable, or gain additional rights. In this way, you'll determine the probabilities of the adversary accessing the asset without being audited, skipping any access control checks, or appearing to be another user. To understand the threat posed by the interface between the order and payment processing modules, you'd identify then run through potential security scenarios. For example, an adversary who makes a sale employing a stolen Mastercard then tries to urge either a cash refund or a refund to a different card when he returns the purchase. [3]
- 3) **Categorize the threats.** To group various security threats like the STRIDE (Spoofing, Tampering, Repudiation, Information disclosure, Denial of Service, and Elevation of privilege) approach. Classifying a threat is the initiative step toward effective mitigation. For example, if you recognize that there's a risk

that somebody could order products from your company but on the other hand repudiate receiving the shipment, you ought to make sure that you accurately identify the purchaser then logs all critical events during the delivery process.

- 4) **Identify mitigation strategies.** To determine how to mitigate a threat, you can create a diagram called a threat tree. At the root of the tree is the threat itself, and its children (or leaves) are the conditions that must be true for the adversary to realize that threat. Conditions may in turn have sub conditions. For example, under the condition that an adversary makes an illicit payment. The fact that the person uses a stolen credit card or a stolen debit/check card is a sub condition. For each of the leaf conditions, you want to identify potential mitigation strategies; during this case, to verify the Mastercard using the XYZ verification package and therefore the open-end credit with the issuing financial institution itself. Every path through the threat tree that does not end in a mitigation strategy may be a system vulnerability [4].
- 5) **Test.** The threat model becomes a plan. The threat model catches threats by directly attacking a system, in an informed or uninformed manner. Informed threat models are effective tests that show the system's internal design.

Threat modelling is a process of capturing, organizing and analysing the information that affects the security of an application. The key to Modelling can be determined by the effort to keep a system secure. It helps in identifying the security flaws, builds the gap between the developer and the security. It has some components like: - secure design, threat intelligence, asset identification, mitigation capabilities, and risk assessment, mapping and modelling [5].

Table given below shows some features of various threat models:

THREAT MODELLING METHOD	FEATURES
STRIDE	<ul style="list-style-type: none"> <li>● Helps identify relevant mitigating techniques</li> <li>● Is the most mature</li> <li>● Is easy to use but is time consuming</li> </ul>

CVSS	<ul style="list-style-type: none"> <li>● Contains built-in prioritization of threat mitigation</li> <li>● Has consistent results when repeated</li> <li>● Has score calculations that are not transparent</li> </ul>
ATTACK TREES	<ul style="list-style-type: none"> <li>● Helps identify relevant mitigating techniques</li> <li>● Has consistent results when repeated</li> <li>● Is easy to use if you already have a thorough understanding of the system</li> </ul>
TRIKE	<ul style="list-style-type: none"> <li>● Directly contributes to risk management</li> <li>● Contains built-in prioritization of threat mitigation</li> <li>● Encourages collaboration among stakeholders</li> </ul>
VAST	<ul style="list-style-type: none"> <li>● Helps identify relevant mitigating techniques</li> <li>● Contains built-in prioritization of threat mitigation</li> <li>● Has consistent results when repeated</li> </ul>
OCTAVE	<ul style="list-style-type: none"> <li>● Directly contributes to risk management</li> <li>● Encourages collaboration among stakeholders</li> <li>● Is explicitly designed to be scalable</li> </ul>

1) **STRIDE** has different type of categories according to its name:

- S spoofing identify
- T tampering with data
- R repudiation
- I information disclosure
- D denial of service
- E elevation of privilege

Therefore, they help in evaluating the system of detail design, helps in identifying entities, Events and the boundaries of the system.

- 2) **CVSS (Common Vulnerability Scoring System)** helps in allowing the organisation to fix first the vulnerabilities and the gauge impact of the vulnerabilities of their system. It has 3 types of open network: base, temporal and environmental. It shows a numerical score reflecting its severity.
- 3) **ATTACK TREE** is a methodical method that describes the security of a system, based on varying attacks, hence makes a new way of looking at cyber threats. It helps in understanding of different types of cybercrimes like motivation, goals, capabilities, weakness etc. attacking is done in the form of a tree.
- 4) **TRIKE** is used for security audit purposes which uses modelling techniques to ensure the risk built on stakeholders. It provides a consistent conceptual framework so as to enable communication between team members. It is differing from other method because it is based on distinct implementation.
- 5) **OCTAVE (Operationally Critical Threat, Assets and Vulnerability Evolution)** is a flexible and self-directed risk assessment based on strategic assessment and planning method for cybersecurity. Octave helps the core analysis team conduct a workshop to gather information of different tries of organisation for identifying critical assets.
- 6) **VAST (Visual Agile and Simple Threat Modelling)** is based on threat modeller. It is used for detecting different types of threat based on customizable, and helps in directly contributing to risk management.
- 7) **DREAD** a methodology used for risk rating. Categories: Damage potential, Reproducibility, Exploitability, Affected user, Discoverability. Proposed by Microsoft for computer security threat.[6]

## **REVIEW OF LITERATURE**

Nowadays everyone has gone online so cyber-attacks have also increased, and no one is spared from it. Threat Modelling is a solution for secure application development and system security. Its aim is to be more proactive and make it more difficult for attackers to accomplish their computing, continuing to be boasted as a major breakthrough in IT management. With the increasing number of people on the

internet, the major problem is privacy and data security, which is determined by the policies, controls and technologies needed to protect the data, applications, and the related infrastructure of Cloud computing [1-4]. These challenges impose several new research questions to the research community to ensure proper security of the IT infrastructures intent. Security concerns such as undetected network attacks, allocating and deallocating resources contents. This process is performed regardless of the type of functionality the software implements. The threats may be represented as a danger to the security of more than one asset or components, threats might be malicious, accidental that had happened due to a natural event, an insider, an outsider [2-4]. A single software choice may result in many threats. Threats exist even if there are no vulnerabilities

- Operational threats: failures of policy and procedure
- Technological threats: technical issues with the system
- Environmental threats: from natural or physical facility factors

By definition, Threat Modelling is a risk management strategy to proactively secure software assets by anticipating the nature of attacks that could exploit the software vulnerabilities from the attacker's perspective and putting up plans and measures to prevent such attacks from being successful. Software Security Testing Techniques - Software security testing is a process for validating the secure implementation of a software product thus reducing the likelihood of a product containing security defects being released and discovered by customers or malicious users [6]. A major goal of software security testing is to find vulnerabilities, keep them away from the final product, and confirm that the security of the software is at an acceptable level. Its function is to assess the security properties and behaviour of that software as it interacts with external entities across the trust boundaries.

During the testing process, the objectives are –

- 1) *To ensure predictable and secure software behaviour.*
- 2) *To ensure that software vulnerabilities remain hidden from third parties.*
- 3) *To guarantee the maintenance of a secure state via error and exception handling.*
- 4) *To confirm that all implicit and specified security requirements are satisfied while no security constraints are violated.*

Threat Modelling is undoubtedly a very crucial exercise in Secondary Standards Dosimetry Laboratories (SSDLs) which provides calibrations for dosimeter equipment; dosimeters are used to determine dose levels for patients, staff or the public [7-8]. There are 3 important observations needed to track down system vulnerabilities and foil attacks before the exploit is successful. These are:

- 1. Software attacks are realized through a chain of elementary activities which can be broken at any point to foil the exploit.*
- 2. These exploiting activities involve the interchange and operations of several software objects.*
- 3. Source code analysis to determine these vulnerabilities will allow software security teams to specify conditions that must be met to provide security.*

### **Hybrid Threat Modelling:**

Hybrid techniques involve the combination of two or more complementary threat modelling techniques to improve the security posture of the software asset being protected.

There are also challenges faced by the threat modelling field, they are:

1. Software security requirements suffer security analysis due to over-specification while using hybrid threat modelling techniques.
2. Lack of reusable threat models.
3. Incoherent (Confusing) set of acceptable modelling notations due to lack of coordination of researchers from both the academic world and industry.

### **METHODOLOGY**

1. **STRIDE** is a threat model which stands for (Spoofing Tampering Repudiation Information Message Disclosure Denial of Service and Elevation of Privilege). Microsoft's threat model methodology – commonly known as stride – which took place with their ethical Computer instruction in January 2002. The primary focus of that authoritative instruction is to help ensure that Microsoft's Windows software developers think about security during the design phase that has been developed by them. The stride that is a threat model whose goal is to get an application to meet the level of security, properties of clandestinely,

solidarity, and Connection (CIA), along with Authorization, Authentication, and Non-Repudiation. Once the security experts/developers construct the data flow diagram-based on the threat model, system engineers or other experts check the application against any of the stride threat model categorization schemes. This methodology is well known in both well documented and well-known owing to Microsoft's consequence in the software industry and their contribution to Microsoft TMT. Security is frequently known for its negative property also for example: a system is perfectly secure whenever there is no possible method to attack it. In order to compute the security of a system, we must therefore look for all the possible threats that are available in the outside world. The stride model is a useful tool to help us identify threats. Stride is a threat model and it is developed by Microsoft in order to scrutinize the security and to help the security experts to understand, develop and classify all possible threats on a server. The name of this model is a mixer of six types of threat: Spoofing, Tampering, Repudiation, Information disclosure, Denial of service, Escalation of privileges

- a. Spoofing Identity - It is a threat where one user takes the other person's identity. For example, an attacker can take the identity of an organisation.
- b. Tampering with Data - It is a threat which is used to change the information that is kept in the company system, government system, etc. For example, an attacker changes confidential information.
- c. Repudiation - It is a threat where an attacker may delete or may change a transaction or login attempt to disprove that they ever happen. For example, deleting a purchase transaction so the item isn't charged to you.
- d. Information Disclosure - It is a threat where sensitive data is purloined by attacker and sold for profit. For example, information on the latest widget is purloin and offered to another organisation for profit.
- e. Denial of Service - It is a threat where the resources of a system are overburdened and stop processing for everyone. For example, a dissatisfied attacker could have automated servers uninterruptedly log into



a system, tying up all connections so that the website could be down and so that authorized users can't get in.

- f. Elevation of Privilege - This is a threat that is mostly similar to spoofing, but instead of taking another person's identity, they boost their own security level to an administrator.[4]

2) **VAST is an abbreviation for Visual Agile and Simple Threat modelling-**

The methodology gives significant yields to the one-of-a-kind needs of different financial activity like application drafters and engineers, digital security workers. It gives a unique application and underpinning envision scheme such that the design and use of threat models do not require specific security subject matter proficiency.

- It covers threats against agile project management and it integrates RISK ANALYSIS/THREAT ANALYSIS.
- One foremost advantage of this threat modelling is it does not require subject matter expert.
- Recognizing contrasts in activities and worries among improvement and foundation groups, VAST requires making two sorts of models: application risk models and operational danger models.
- Application threat models use the flow of diagram to represent the network point of view.
- These methodologies take into account the incorporation of VAST into the association's advancement and DevOps lifecycle.
- Threat modeller is a product which uses VAST method for threat modelling due to its agile approach.

3) **CVSS stands for Common Vulnerability Scoring System.** This type of threat model gives the permission to which vulnerabilities to fix and gauge the impression of the vulnerabilities on their machines. It is an open framework that are divided into three parts:

- Base
- Temporal
- Environmental

It is an exemplary vulnerability and shows a numerical score reflecting in grimness. Working of CVSS:

- Prioritization is approximately on a daily basis for over 109,000 distinct vulnerabilities.
  - The model predicts if a vulnerability will be utilized within the coming future.
  - Each vulnerability gets a need rating on a scale from 0 to 10.
  - The result is a 97% decrease in the quantity of vulnerabilities requiring instant remediation.
- **ATTACK TREE-** Attack trees are functional tools for IT industry risk management. They can be utilized to assist network security masters to develop a more conceptual understanding of particular cyber-attacks, and how cyber criminals penetrate IT machines. According to information security professional Bruce Schneider, "Attack trees provide a formal, methodical way of describing the security of a system, based on varying attacks. Fundamentally you speak to assaults against a framework during a tree structure, with the target because of the root hub and various methods for accomplishing that objective as leaf hub". Attack trees are also actual for conducting risk audit investigation, helping information security managers to get to the main cause of cyber-attacks and prescribe methods to remove threats. Attack trees help to conceptualize the attack framework with clear representations that describe systems plus the possible ways that they can be compromised. Each attack goal forms its own tree, but the nodes on different trees may interact with one another. Benefits of Attack Tree Modelling: Attack tree modelling can also help to understand the different behaviours of a cyber-criminal, such as their: - Motivations, Goals, Capabilities, Weaknesses.[5]
- 5) **TRIKE-** is a united conceptual framework for security look over from a risk management outlook through the generation of threat models, with an associated tool which is currently under heavy development. Trike methodology is designed to support automation to the greatest degree possible. These same formalisms also allow us to give strong guarantees which other, more ad-hoc methodologies cannot; specifically, that when we enumerate all threats against an application, we have in fact enumerated all possible threats. A threat model is

a systemic and systematic evaluation of the security risks of a system. It must examine all potential risks throughout the system and not concentrate only on where holes are expected to be found, and it must evaluate the security of the system as a whole, as opposed to only looking at the integrity of individual pieces. This analysis must be performed in as systematic a manner as possible, to ensure correctness and completeness. Threat models are useful in finding holes at both the business logic and architectural levels, and can be used to organize and drive the entire security process, ensuring the completeness of analysis at the implementation level. Beyond its more systematic methodology, Trike differs in focus from other existing approaches to threat modelling in that it focuses on modelling threats from a defensive perspective, not that of an attacker. The automation inherent in Trike allows for quicker results from less initial information, and much more complete results with the same amount of effort, as compared to other methodologies. Trike's multiple models work together to allow the amount of information gathered about the different areas of a system to be tailored to business needs and different areas of a system to be examined in differing levels of detail.[7]

6) **OCTAVE (Operationally Critical Threat, Asset, and Vulnerability Evaluation)** is a security framework for measuring the risk level and planning defences against cyber assaults. The OCTAVE method was developed by the Software Engineering Institute (SEI) at Carnegie Mellon University on behalf of the Department of Defence. Octave may be a flexible and self-directed risk assessment methodology. Unlike most of the other risk estimated methods, the octave approach is driven by operational risk and security practices and not technology. It is designed to allow an organization to:

- Direct and manage information security risk rating for themselves
- Make the best decisions based on their unique risks
- Focus on protecting key information assets
- Effectively communicate key security information

OCTAVE helps organizations tap into operational experience and intelligence to define risks during a business context. The octave risk assessment method focuses on speed, since for many businesses, time is money. Targeted

workshops yield information on the elemental, business-critical information assets, to a high degree of con-currency.

### COMPARATIVE STUDY

As we can see, this is a comparative study of various threat models which we have studied. This shows what users want in their threat modelling process. On the left hand we have some parameters which are required to ensure the prevention of cybercrimes. And here we have various threat models which we have already discussed. As we can summarize that you can opt for any threat model totally depending upon your requirement and purpose.

<b>Various parameters supported by following threat models.</b>						
	Octave	Trike	Stride	Vast	CVSS	Attack tree
Effective control		✓	✓	✓	✓	✓
Framework support		✓	✓		✓	✓
Automatic threat detection			✓			
Security provided at design time	✓	✓	✓	✓	✓	✓
Contribution to risk management	✓	✓		✓	✓	✓
Identify relevant mitigation control	✓	✓	✓	✓	✓	✓

- **Framework Support:** The framework was developed to combine with software development and operational development. framework and mnemonic were built to help people developing software and operating systems to analyse the type of attacks that software tends to experience. The Four Step for framework is:
  - ✓ Model System
  - ✓ Find threats
  - ✓ Address Threats
  - ✓ Validates
  
- **Threat Detection:** It is a practice that helps us to analyse the entirety of the security ecosystem to identify if any malicious activity could compromise the network. If by any chance the threat is detected, then mitigation efforts must be enacted to properly wipe out the threat before it comes in contact with the servers and prevent any vulnerabilities.
  
- **Effective control:** It is a term that describes the power of threat model that helps us to verify which type of threat is there and which type of model we can use in that situation.
  
- **Security at design time:** Security at design time means that the software has been designed from the foundation to be secure. Cryptography is a very important tool for developing a secure system. Though proper use of cryptography ensures the confidentiality of data from unauthorised modification.
  
- **Contribute to risk management:** Risk management refers to practice of identification of potential risks in advance and analysing them. This allows the owner to set up the steps to take precautionary measures to mitigate these risks. There is a whole process of risk management which includes-
  - ✓ Identify Risk
  - ✓ Identify Source
  - ✓ Measure Risk
  - ✓ Evaluate Risk
  - ✓ Mitigate Risk
  - ✓ Monitor Risk.
  
- **Identify relevant mitigation control:** Mitigating controls are the key to reducing threats to assets, in regards to risk management. Identifying risk is an important

first step. Identifying mitigation control means if the threat model tells us a relevant way to prevent the cyber threats.

## **CONCLUSION**

The main focus of the project is the various methodologies of Threat Modelling. The major goals for our Threat Modelling process are to improve the security of our products, to document the analysis, (both to provide a level of assurance and to re-use the analysis), and to train people to perform implicit security analysis, even when not performing threat modelling tasks. There is a future need for this research on threats and vulnerability. Goals for threat modelling is to improve the security, documentation analysis, training the people. Each Method has its advantages and disadvantages but the selection of the models for further evaluation was done based on agile development frameworks, literature Analysis and existing models. Based on literature analysis few models were selected as applicants for practical testing in the workshops. The models were STRIDE, PASTA, Eventually STRIDE was selected since it looked easy to learn and should not consume too much precious development time. Threat modelling can help your product be more secure and trustworthy. Some of the threat models are used alone and some are used in conjunction with others, and some are examples of how different methods can be combined. Threat Models have different techniques to identify mitigating but some of the threat models have built in prioritization of threat modelling. Some are time consuming but easy to use and some have a thorough understanding of the system. There are some businesses that calculate the score of computer system security vulnerabilities that use the CVSS threat model. Some people run the businesses of the share market to protect the share of the people, and use threat models like VAST or OCTAVE.

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#### **B. Weblink**

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[https://www.schneier.com/academic/archives/1999/12/attack\\_trees.html](https://www.schneier.com/academic/archives/1999/12/attack_trees.html)
- Trike--- <http://www.octotrike.org/>
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## Research Dynamics

- *Research enables students to address larger educational goals.*
- *Research connections take you into your future.*
- *Undergraduate research boost retention and personal satisfaction.*
- *Helps in fostering critical thinking and analytical skills through hands-on learning.*
- *Defining academic, career and personal interests.*
- *Research helps you reach people and builds your credibility.*
- *Research teaches you better discernment.*
- *Research encourages curiosity.*
- *Furthering your creative achievements.*
- *Research helps in building confidence and the ability to work independently.*
- *Enhance your professional communication skills.*
- *Develops the ability to integrate theory and practice.*
- *Research helps students to clarify a career- path.*
- *Undergraduate research allows students to develop professionally and personally in ways not possible through traditional lecture.*
- *Research experiences give students an opportunity to gain a deeper knowledge of research techniques.*