

**A STUDY ON THE PURCHASING PATTERN OF VIRTUAL GOODS IN AN ONLINE
GAME**

Submitted in partial fulfillment of the requirement for the reward of

BACHELOR OF COMMERCE

BY

RUBITHACELUS.C

39740197



BACHELOR OF COMMERECE

SCHOOL OF MANAGEMENT STUDIES

SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

Accredited with Grade “A” by NAAC | 12B Status by UGC | Approved by AICTE

Jeppiaar Nagar, RAJIV GANDHI SALAI, CHENNAI – 600119

MAY 2022



SATHYABAMA
INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)

Accredited with “A” grade by NAAC Jeppiaar Nagar,
Rajiv Gandhi Salai, Chennai – 600119
www.sathyabama.ac.in



SCHOOL OF MANAGEMENT STUDIES

BONAFIDE CERTIFICATE

This is to certify that this Project Report is the bonafide work of **RUBITHACELUS.C (39740197)** who has done the Project work entitled **A STUDY ON THE PURCHASING PATTERN OF VIRTUAL GOODS IN AN ONLINE GAME** under our supervision from December 2021 to February 2022.

Dr. V.VANITHA MBA., M.Phil., Ph.D.

Internal Guide

External Guide

Dr. BHUVANESWARI. G

Dean, School of Management studies

Submitted for Viva voice Examination held on _____

Internal Examiner

External Examiner

DECLARATION

I **RUBITHACELUS.C (39740197)**. Hereby declare that the Project Report entitled “**A STUDY ON THE PURCHASING PATTERN OF VIRTUAL GOODS IN AN ONLINE GAME**” done by me under the guidance of **Dr. V.VANITHA MBA., M.Phil., Ph.D., Assistant Professor**, School of Management studies is submitted in partial fulfilment of the requirements for the award of Bachelor of commerce degree.

DATE:

PLACE: CHENNAI

RUBITHACELUS.C

ACKNOWLEDGEMENT

I am pleased to acknowledge my sincere thanks to Board of Management of **SATHYABAMA** for their kind encouragement in doing this project and for completing it successfully. I am grateful to them.

I convey my sincere thanks to **Dr. BHUVANESWARI. G., Dean, School of Management studies** and **Dr. PALANI A.,** Head of the Department of School of Management studies, for providing me necessary support and details at the right time during the progressive reviews.

I would like to express my sincere and deep sense of gratitude to my Project Guide **Dr. V.VANITHA MBA., MPhil., Ph.D. Assistant Professor of the Department, School of Management studies** for her valuable guidance, suggestions and constant encouragement paved way for the successful completion of my project work.

I wish to express my thanks to all Teaching and Non-teaching staff members of the School of Management studies who were helpful in many ways for the completion of the project.

RUBITHACELUS.C

TABLE OF CONTENTS

CHAPTER	TITLE	PAGE NO
	ABSTRACT	i
	LIST OF TABLES	ii
	LIST OF CHARTS	ii
	PROBLEM STATEMENT	iv
1	INTRODUCTION	
	1.1 Introduction	1
	1.2 Industry Profile	1
	1.3 Virtual goods	1
	1.4 Need for the Study	2
	1.5 Scope and Significance of Study	2
	1.6 Objectives of the Study	2
	1.7 Limitations of the Study	2
2	2.1 REVIEW OF LITERATURE	3
3	3.1 RESEARCH METHODOLOGY	6
	3.2 Research Design	6
	3.3 Sampling Technique	6
	3.4 Sources of Data	7
	3.5 Structure of Questionnaire	7
	3.6 Sample Size	8
	3.7 Period of Study	8
	3.8 Hypothesis/ Analytical Tools	8

4	DATA ANALYSIS AND INTERPRETATION	
	4.1 survey analysis of data	9
	4.2 Hypothesis	30
	4.3 Chi-square test	30
5	FINDINGS, SUGGESTIONS AND CONCLUSION	
	5.1 Findings of the Study	32
	5.2 Suggestions	33
	5.3 Conclusion	33
	REFERENCES	34
	WEBSITES	35
	APPENDIX – I (Questionnaire)	36

ABSTRACT

Researchers have found that “social” factors contribute to purchasing intentions of virtual goods in an online social game, but little is known about actual purchasing behavior. Study examined the relationship between social factors and virtual goods purchasing patterns using large scale data obtained by server logs of an online social game. Exchange of virtual goods and number of friends increased the likelihood of spending real money compared to no spending. Among those who did spend real money, giving virtual goods to others was the strongest factor associated with the amount of spending. And also it examined purchasing patterns of players who spent real money: high real-money spenders were buying items for visual customization while low spenders were buying consumable items necessary to sustain playing the game.

LIST OF TABLE

TABLE	PARTICULARS	PAGE NO
4.1	Age of the respondents	9
4.2	Gender of the respondents	10
4.3	Occupation of the respondent	12
4.4	How long have you been playing free fire	13
4.5	Money spend in a week to purchase virtual goods	14
4.6	Top-up mode used	15
4.7	Free fire earn more money through	16
4.8	Event makes you spend more money	18
4.9	Different pattern in purchasing virtual goods	20
4.10	Attracts the user to purchase virtual goods	21
4.11	Top-up routine of the players	23
4.12	Spending pattern between minors and adults	24
4.13	High spender or low spender	26
4.14	Affects economic factor	27
4.15	Virtual goods that can be purchased without real money	29
4.16	Chi-square test	30

LIST OF CHARTS

CHARTS NO.	PARTICULARS	PAGE NO.
4.1	Age of the respondents	9
4.2	Gender of the respondents	10
4.3	Occupation of the respondent	12
4.4	How long have you been playing free fire	13
4.5	Money spend in a week to purchase virtual goods	14
4.6	Top-up mode used	15
4.7	Free fire earn more money through	16
4.8	Event makes you spend more money	18
4.9	Different pattern in purchasing virtual goods	20
4.10	Attracts the user to purchase virtual goods	21
4.11	Top-up routine of the players	23
4.12	Spending pattern between minors and adults	24
4.13	High spender or low spender	26
4.14	Affects economic factor	27
4.15	Virtual goods that can be purchased without real money	29
4.16	Chi-square test	30

PROBLEM STATEMENT

- Now a day, most of the games comes into the arena and compete with each other.
- Especially in terms of virtual goods to attract players.
- The player's satisfaction can be considered the essence of success in today's highly competitive world of gaming.
- In most of the games players facing many problems in purchasing virtual goods.
- Social factors associated with spending.

CHAPTER - 1

1.1 INTRODUCTION

Purchasing virtual goods is increasingly becoming a common feature of virtual worlds and online games. The global virtual goods market size was valued at USD 59.49 billion in 2021. The growth of this market is largely attributed to the widespread appeal of social gaming among youngsters. The rising popularity of free-to-play games among gamers as well as game developers have encouraged the purchase of virtual goods, thereby, resulting in a rapid forward momentum of the market. Despite the prevalence of virtual good purchasing behavior in online games, there is little academic research that has examined actual virtual good purchasing behavior. Part of this is due to the fact that game companies do not share such information. Thus much of the research on virtual goods has been conducted from the player's (consumer's) perspective, and examining intention to purchase rather than actual behavior

1.2 INDUSTRY PROFILE

The video game industry is the industry involved in the development, marketing, and monetization of video games. It encompasses dozens of job disciplines and its component parts employ thousands of people worldwide. The video game industry has grown from focused markets to mainstream in the recent years. As of 2018, July, video games generated sales of US\$134.9 billion annually worldwide. In the US, it took in about US\$ 9.5 billion in 2007, 11.7 billion in 2008, and 25.1 billion in 2010, according to the ESA annual report

1.3 VIRTUAL GOODS

A virtual good is an intangible asset that is traded in a virtual economy, such as in online games. Virtual goods are by definition nonphysical; their value is determined solely by what users are willing to pay for them

1.4 NEED FOR THE STUDY

- To know the user mindset while purchasing virtual goods.
- To study on what event they spend more money.
- To study how an event influence its users to buy their goods.

1.5 SCOPE OF THE STUDY

- To study in game behavior of the user.
- To know how much money a player spend just to buy virtual goods in an online game.
- To know on what bases players buy virtual goods.

1.6 OBJECTIVE OF THE STUDY

- To study the behavior of the spending whether they are high spenders or low spenders.
- To know how it attracts its users to buy virtual goods.
- To know on what bases it make its users to buy virtual goods.
- To know how games creating a demands for virtual goods.

1.7 LIMITATION OF THE STUDY

- The study is confined to India only.
- The study is based on the purchasing pattern of virtual goods in an online game.
- The data collected for the research is fully on primary data given by the respondents, there is chance for personal bias. So the accuracy is not true
- Due to storage of time and other constraints, the study has been limited 65 respondents only.

CHAPTER - 2

2.1 REVIEW OF LITERATURE

- Previous research about factors affecting in-app purchases focused on two aspects: players' psychological aspects and game design (Hamari and Lehdonvirta 2010; Lehdonvirta 2009; Riekkki 2016; Wohn 2014). Players' psychological perspective focuses on individual players' motivation to purchase in-app contents.
- Relatedness refers to feeling meaningful connection to others (Deci and Ryan 1985).
- Players who have more friends are more likely to purchase virtual contents than players who have less friends (Wohn 2014). Furthermore, through social interaction, users have influence on each other.
- The first perspective mainly focuses on players' behavior that lead to in-app purchases. People play games by their choice for enjoyment, for learning new things or for building friendship inside games (Nojima 2007; Riekkki 2016; Wohn 2014).
- Self-presentation is also an important factor affecting in-app purchases (Kim et al. 2012; Lehdonvirta et al. 2009)
- Socialising with other spectators. Esports playing has a positive effect in making purchases in the video game, either as a means of progressing within the game, or for demonstrating individual achievements and game capital, such as via cosmetic items (Cai, Wohn, and Freeman 2019).
- Despite this possible limitation, we are confident that the framing of the questionnaire will have mitigated any such responses. Furthermore, the hypothesised relationship that gaming intention predicts in-game purchase intention (H3), and the results of this research, are supported by existing research in the field (Hamari 2015; Hamari and Keronen 2017; Hamari et al. 2017a; Cai, Wohn, and Freeman 2019; Törhönen et al. 2020).

- In addition to gameplay motivation of individual players, virtual item is an important factor of in-app purchase as a part of game-design perspective. The virtual items in games are a kind of digital goods that are suitable to sampling because the marginal costs of production, inventory and distribution cost are negligible (Lee and Shin 2017).
- It has been a staple for Dota 2 ever since, making it one of the valve's most giant cash cows. Virtual in-game items refer to intangible products, which are made available in games to enhance the appearance of a gamer's online persona or increase the power statistics of a gamer's online persona (Syahrizal et al., 2020).
- Important game purchases like buying online identity, avatar accessories and items occur because of numerous reasons like social norms in the community, social interaction, expression of identity, expectancy of performance and the need to escape from reality (Castronova, 2004;Guo and Barnes, 2009, 2011Al Halbusi et al., 2020).
- Per types of gamers, a proposition refers to integrate different elements of gamification associated with the four typified kind of gamers: killers, achievers, explorers, and socializers (Kocadere & Çağlar, 2018).
- Interaction comes into place through game mechanics which are the game constructs and rules (Nah, Daggubati, Tarigonda, Nuvvula, & Turel, 2015).
- In considering how consumers made their choices in purchases, the theory of consumption value considered aspects such as the social and emotional values in addition to functional value. In understanding the motivations for mobile game players in purchasing gaming items, Frank, Salo and Toivakka 2015.
- Vili Lehdonvirta, a researcher on virtual goods (2009), explains that "As in

the physical world, objects take on meaning based on perceived status, scarcity, and emotional value."

- Virtual worlds are three-dimensional, computer-generated universes in which participants immerse themselves in order to experience social interaction, entertainment, or other goals. To date, some of the world's largest companies, including Dell, Sony, McDonald's, Coca-Cola, IBM, and Toyota, have promoted their products in virtual reality (Greengard 2011).

CHAPTER - 3

3.1 RESEARCH METHODOLOGY

Research methods are the techniques and tools by which you research a subject or a topic. Research methodology involves the learning of various techniques to conduct research and acquiring knowledge to perform tests, experiments, surveys, and critical analysis.

Research methodology simply refers to the practical “how” of any given piece of research. It’s about how a researcher systematically designs a study to ensure valid and reliable results that address the research aims and objectives.

3.2 RESEARCH DESIGN

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. This Research design applied for the study is ‘Descriptive Research’.

3.2.1 DESCRIPTIVE RESEARCH DESIGN

Descriptive research aims to accurately and systematically describe a population, situation or phenomenon. It can answer what, where, when and how questions, but not why questions. A descriptive research design can use a wide variety of research methods to investigate one or more variables.

3.3 SAMPLING TECHNIQUE

Sample design is the theoretical basis and the practice mean by generalizing from characteristics of relatively few of the comprising population. It is the method by which the sample is chosen.

3.3.1 PROBABILITY SAMPLING

Probability sampling is defined as a sampling technique in which the researcher chooses samples from a larger population using a method based on the theory of probability. For a participant to be considered as a probability sample, he/she must be selected using a random selection.

3.4 SOURCES OF DATA

Sources of Data begins with figuring out what sort of data is needed, followed by the collection of a sample from a certain section of the population. Next, you have to utilize a certain tool to gather the data from the chosen sample. The two types of sources of data are

3.4.1 PRIMARY DATA

The Primary data for this study was collected through questionnaire.

3.4.2 SECONDARY DATA

Secondary data was collected from external sources like Websites, Journals etc.

3.5 STRUCTURE OF THE QUESTIONNAIRE

The questionnaire follows a simple and basic layout. It is made easy for the participants to respond to the questionnaire without any delay or confusion. The set of question and the answer options present in the questionnaire are predetermined and are constructed by myself based on general questions regarding the main topic. The structure of questionnaire used in this project is as follows.

3.5.1 BASIC INTRODUCTION

The questionnaire begins with small and simplifies description regarding the questionnaire – Title and description of the topic.

3.5.2 PERSONAL DETAILS

The actual questionnaire begins here where the participants are asked about their personal details such as their name, age, gender and occupation.

3.5.3 RESEARCH RELATED QUESTIONS

The next set of questions in the questionnaire consists of the questions related to public where the participants are asked on their general opinion on the purchasing pattern of virtual goods in an online game.

3.6 SAMPLE SIZE

The sample size for the project had a target of 100 participants. The fixed target of the sampling size has been achieved as the total number of respondents for the survey questionnaire was 65. Total of 65 responses helped the project to analyze more response and it helped to derive a conclusion recording people's perception towards a study on the purchasing pattern of virtual goods in an online game.

3.6.1 SAMPLE TARGETED PEOPLE

My survey targeted people is both Men and Women at the age group of [12- 23 and above]

3.7 PERIOD OF STUDY

This is one-time research where the research is conducted only for one-time and that the project is based on the responses derived from a definite period of time. The period of study for the project of about 30 days project is based on the responses collected from the 65 participants in the 10 days' time period.

3.8 HYPOTHESIS / ANALYTICAL TOOLS:

3.8.1 CHI-SQUARE:

Chi-square is a statistical test used to examine the differences between categorical variables from a random sample in order to judge goodness of fit between expected and observed results.

CHAPTER-4

DATA ANALYSIS AND INTERPRETATION

The following consist of the data analysis and interpretation of my questionnaire:

4.1 Survey analysis of data

4.1.1. AGE OF RESPONDENT

Table 4.1

S.NO	PARTICULARS	NO.OF RESPONDENTS	PERCENTAGE
1	12 – 14	6	9.2%
2	15 – 17	10	15.4%
3	18 – 22	36	55.4%
4	23 and above	13	20%
	TOTAL	65	100%

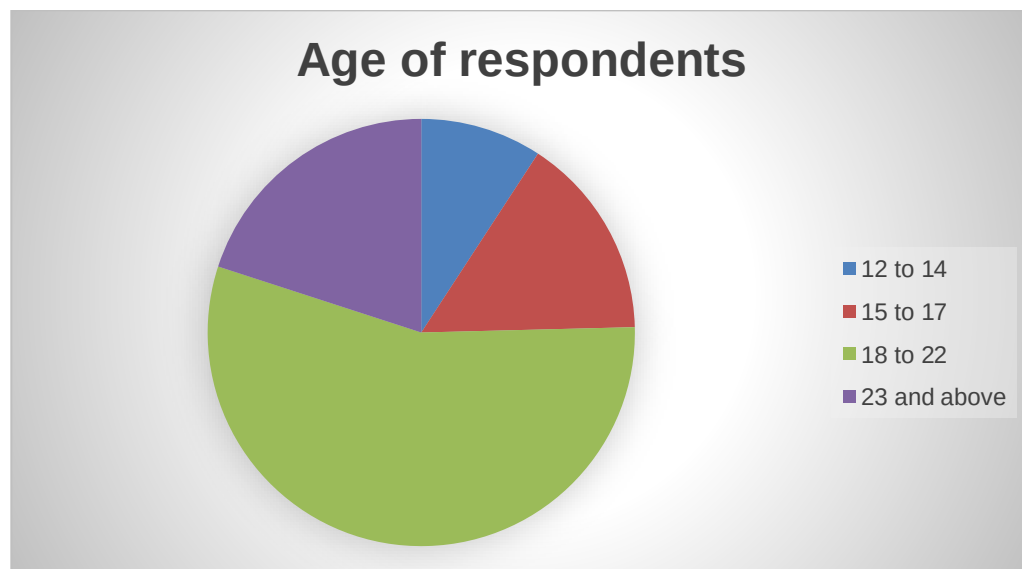


Figure 4.1: Age of respondents

Interpretation:

- In the chart we can observe 9.2% of respondent are between ages of 12 – 14.
- 15.4% of the respondent are between ages of 15 – 17.
- 2.9% of the respondent are between ages of 18 – 22.
- 55.4% of the respondent are between age of 46 and above.
- Mostly of the respondents are in the age group of 18 – 22

4.1.2. GENDER OF THE RESPONDENT

Table 4.2

S.NO	PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
1	Male	44	67.7%
2	Female	21	32.3%
	TOTAL	65	100%

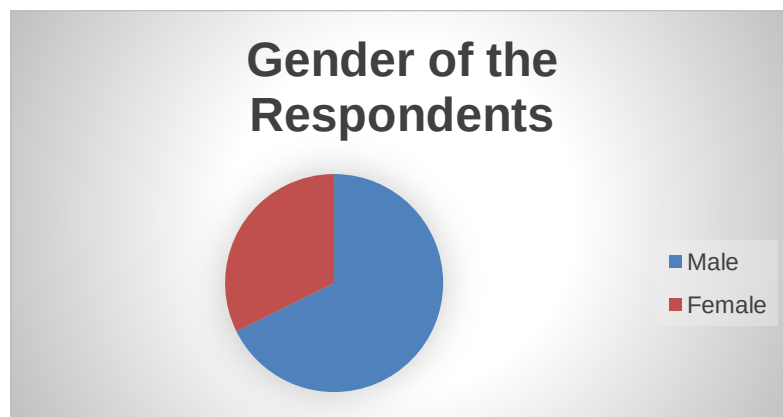


Figure 4.2: Gender of the respondent

Interpretation:

- From the chart 67.7% of the respondent is male.
- 32.3% of the respondent is female.
- The maximum 44 is male respondent.
- The minimum 21 is female respondent.

4.1.3. OCCUPATION OF THE RESPONDENTS

Table 4.3

S.NO	PARTICULARS	NO.OF RESPONDENTS	PERCENTAGE
1	School	14	21.5%
2	College	32	49.2%
3	Employee	11	17%
4	Other	8	12.3%
	TOTAL	65	100%



Figure 4.3 Occupation of the respondents

Interpretation:

- From the chart 21.5% of the respondents are school students.
- 49.2% of the respondent are college students.
- 17% respondent are employees.
- 12.3 % of the respondent are other categories
- The maximum 32 respondent are college students.
- The minimum is 8 respondents are other category.

4.1.4. HOW LONG HAVE YOU BEEN PLAYING FREE FIRE

Table 4.4

S.NO	PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
1	Less than year	17	26.2%
2	1 – 2 years	19	29.2%
3	More than 2 year	29	44.6%
	TOTAL	65	100%



Figure 4.4 How long have you been playing free fire

Interpretation:

From the chart 26.2% of the respondent have been playing free fire for less than a year.

29.2% of the respondent have been playing for 1 – 2 years.

44.6% of the respondent have been playing for more 2 years.

The maximum 28 respondent playing for more than 2 years.

The minimum 17 respondent have been playing for less than a year.

4.1.5. HOW MUCH MONEY YOU SPEND IN A WEEK TO PURCHASE VIRTUAL GOODS

Table 4.5

S.NO	PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
1	80 – 250	24	36.9%
2	250 – 500	7	10.8%
3	500 – 1000	11	16.9%
4	More than 1000	23	35.4%
	TOTAL	65	100%

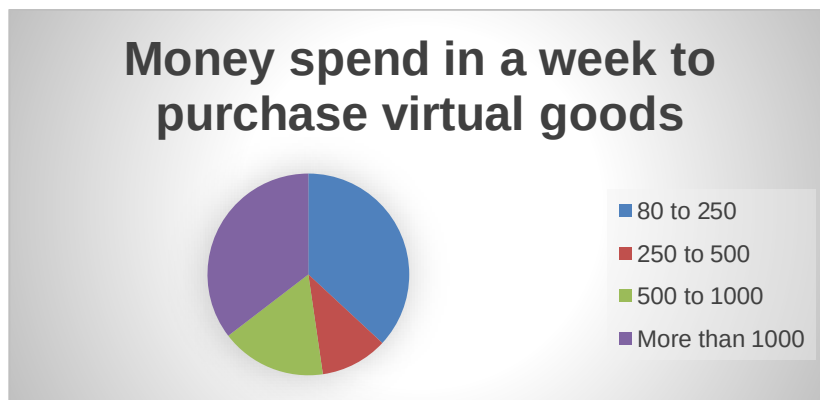


Figure 4.5 Money spend in a week to purchase virtual goods

Interpretation:

- From the chart 36.9% of the respondent spend 80 – 250 in a week to purchase virtual goods.
- 10.8% of the respondent spend 250 – 500 in a week to purchase virtual goods.
- 16.9% of the respondent spend 500 – 1000 in a week to purchase virtual goods.
- 35.4% of the respondent spend more than 1000 in a week to purchase virtual goods.
- The maximum 24 of the respondent spend 80 – 250 in a week.
- The minimum 7 of the respondent spend 250 – 500 in a week.

4.1.6. WHICH TOP UP MODE YOU USUALLY USE

Table 4.6

S.NO	PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
1	Credit card	4	6.2%
2	Net banking	25	38.5%
3	Redeem code	30	46.2%
4	Others	6	9.1%
	TOTAL	65	100%

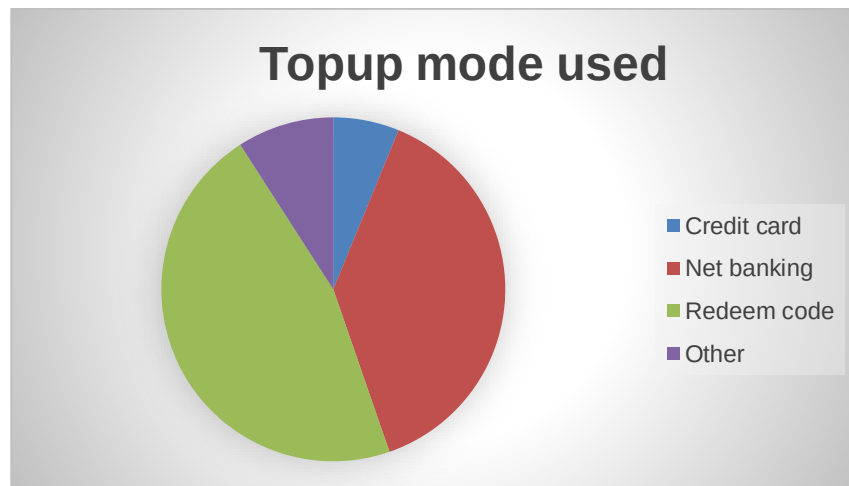


Figure 4.6 Top-up mode used

Interpretation:

- In the chart 6.2% of respondent chosen credit card.
- 38.5% of respondent is chosen net banking.
- 46.2% of respondent is chosen redeem code.
- 9.1% of respondent is chosen other options.
- The maximum of respondents 30 is chosen redeem code as mode to top-up.
- The minimum of respondents 4 is chosen credit card as mode to top-up.

4.1.7. THROUGH WHAT EVENT YOU THINK FREE FIRE CAN EARN MORE MONEY

Table 4.7

S.NO	PARTICULARS	NO.OF RESPONDENTS	PERCENTAGE
1	Diamond Royale	7	10.8%
2	Weapon Royale	4	6.2%
3	Incubator	20	30.8%
4	Faded wheel	8	12.3%
5	Web events	11	16.9%
6	Other events	15	23%
	TOTAL	65	100%



Figure 4.7 Free Fire earn more money through

Interpretation:

- In the above chart explains 10.8% of respondent chosen diamond royale where free fire can earn more money.
- 6.2% of the respondent chosen weapon royale where free fire can earn more money.
- 30.8% of the respondent chosen incubator where free fire can earn more money.
- 12.3% of the respondents chosen faded wheel where free fire can earn more money.
- 16.9% of the respondent chosen web events where free fire can earn more Money.
- 23% of the respondent chosen other events where free fire can earn more money.
- The maximum is 20 respondents have chosen incubator
- The minimum is 4 respondent has choose weapon royale

4.1.8. WHAT EVENT MAKES YOU SPEND MORE MONEY TO BUY VIRTUAL GOODS

Table 4.8

S.NO	PARTICULARS	NO.OF RESPONDENTS	PERCENTAGE
1	Diamond Royale	7	10.8%
2	Weapon Royale	8	12.3%
3	Incubator	6	9.3%
4	Faded wheel	14	21.6%
5	Web event	15	23.1%
6	Other events	15	23.1%
	TOTAL	65	100%



Figure 4.8 Event makes you spend more money

Interpretation:

- In the chart 10.8% of the respondent have chosen diamond royale as the event where they spent more money.
- 12.3% of respondent is chosen weapon royale where they spend more money.
- 9.3% of the respondent is chosen incubator.
- 21.6% of the respondents have chosen faded wheel.
- 23.1% of the respondent chosen both web event and other events.
- The maximum 15 respondent is chosen both web events and other events where they spend more money to purchase virtual goods.
- The minimum 6 respondent is chosen incubator where they spend more money to purchase virtual goods.

4.1.9. DO YOU THINK THERE IS DIFFERENT PATTERN IN PURCHASING VIRTUAL GOODS

Table 4.9

S.NO	PARTICULARS	NO.OF RESPONDENTS	PERCENTAGE
1	Yes	46	70.8%
2	No	19	29.2%
	TOTAL	65	100%

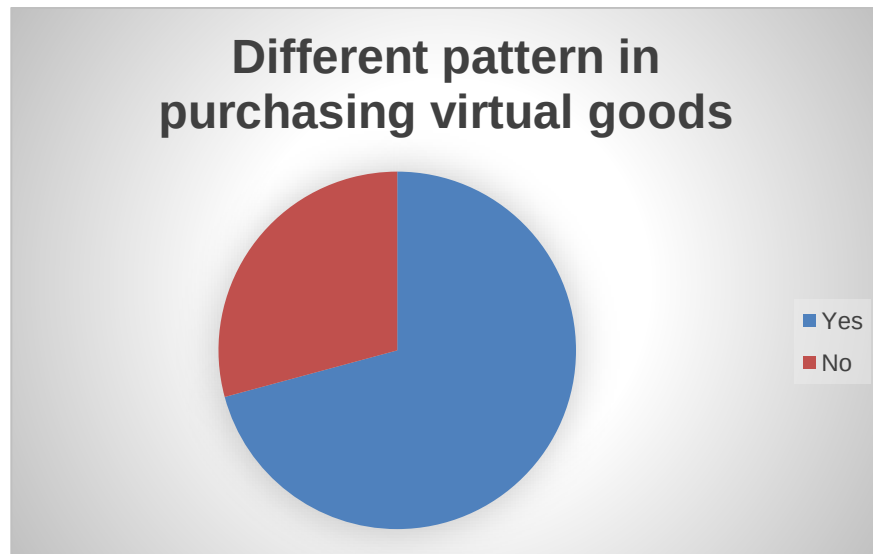


Figure 4.9 Different pattern in purchasing virtual goods

Interpretation:

- This question is about users thought whether there is a different pattern in purchasing virtual goods or not.
- 70.8% of the respondents said yes and the remaining 29.2% said no

4.1.10. HOW ONLINE GAMES ATTRACTS YOU TO BUY THEIR VIRTUAL GOODS

Table 4.10

S.NO	PARTICULARS	NO.OF RESPONDENTS	PERCENTAGE
1	Attracted costumes and weapons	35	53.8%
2	Attracted event banners	9	13.8%
3	Extra gifts	4	6.2%
4	Powerful weapon skins	17	26.2%
	TOTAL	65	100%



Figure 4.10 Attracts the users to buy virtual goods

Interpretation:

- From the chart 53.8% of the respondent is chosen attracted costumes and weapons.
- 13.8% of the respondent is chosen attracted event banners which attracts them to buy virtual goods.

- 6.2% of the respondent is chosen Extra gifts.
- 26.2% of the respondent is chosen powerful weapon skins.
- The maximum 35 respondent is chosen attracted costumes and weapons
- The minimum4 respondent is chosen Extra gifts.

4.1.11. IF YOU ARE A PLAYER WHO USED TO TOPUP THEN WHAT IS YOUR ROUTINE

Table 4.11

S.NO	PARTICULARS	NO.OF RESPONDENTS	PERCENTAGE
1	Top-up only for top-up events	16	24.6%
2	Top-up once a month	12	18.5%
3	Top-up when there is special event	28	43.1%
4	Top-up frequently	9	13.8%
	TOTAL	65	100%

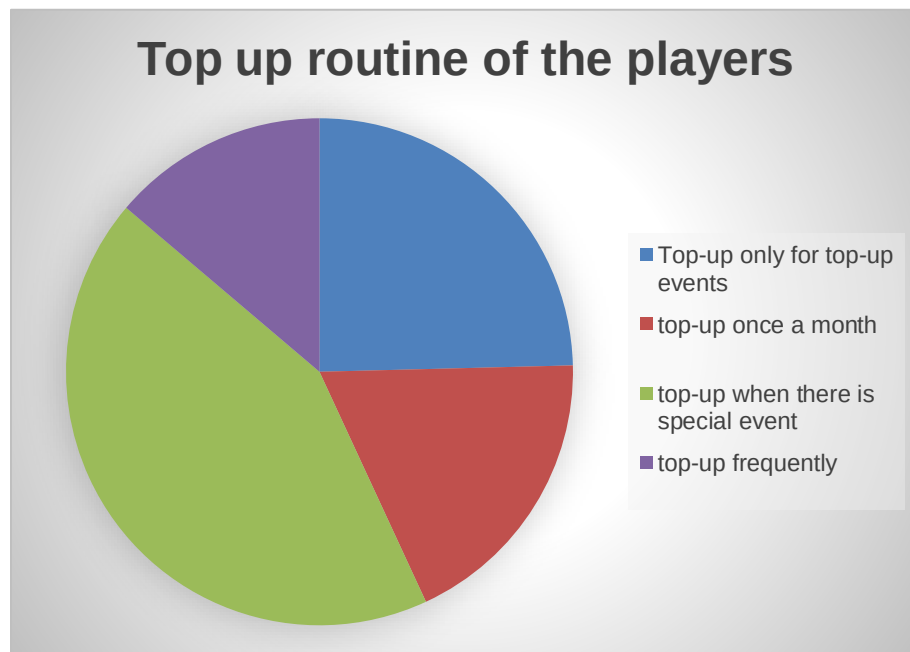


Figure 4.11 Top-up routine of the players

Interpretation:

- In The chart 24.6% of respondent top-up only for top-up events.
- 18.5% of respondent top-up once a month.
- 43.1% of respondent top-up when there is special events.
- 13.8% of respondent top-up frequently.
- The maximum 28 respondents is like to top-up when there is special events.
- The minimum 9 respondent is like to top-up frequently.

4.1.12. IS THERE ANY SPENDING PATTERN BETWEEN MINORS (14 – 17) AND ADULTS (18 AND ABOVE)

Table 4.12

S.NO	PARTICULARS	NO OF RESPONDENTS	PERCENTAGE
1	Yes	21	32.3%
2	No	8	12.3%
3	Maybe	36	55.4%
	TOTAL	65	100%

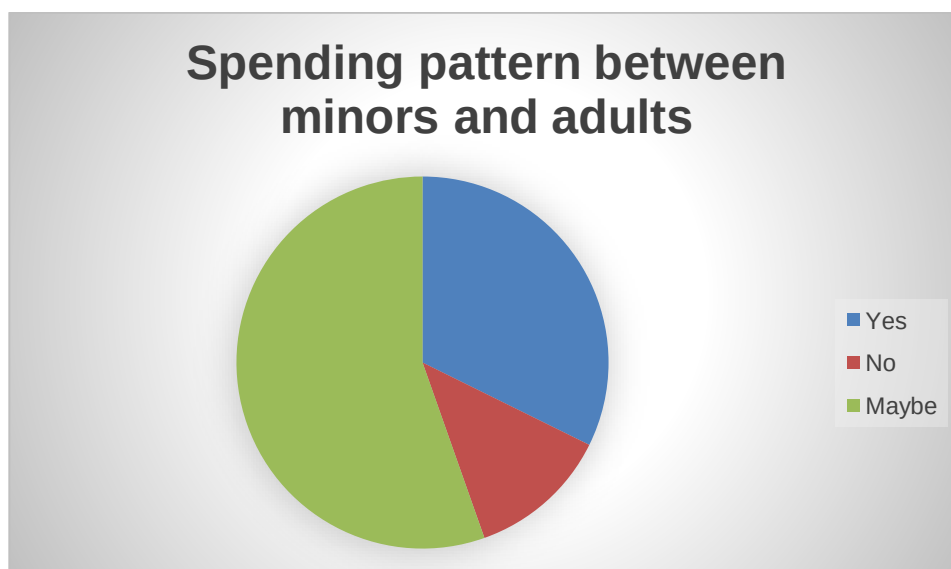


Figure 4.12 Spending pattern between minors and adults

Interpretation:

- The chart explains about the spending pattern between minor and adults.
- 32.3% of respondent said yes to agree there is spending pattern between minors and adults.
- 12.3% of respondents said no to disagree there is spending pattern between minors and adults.
- 55.4% of respondents feels maybe there is spending pattern between minors and adults.
- The maximum 36 of respondents said MAYBE
- The minimum 8 of respondents said NO

4.1.13. ARE YOU A HIGH SPENDER OR A LOW SPENDER

Table 4.13

S.NO	PARTICULARS	NO.OF RESPONDENTS	PERCENTAGE
1	High spender	30	46.2%
2	Low spender	35	53.8%
	TOTAL	65	100%

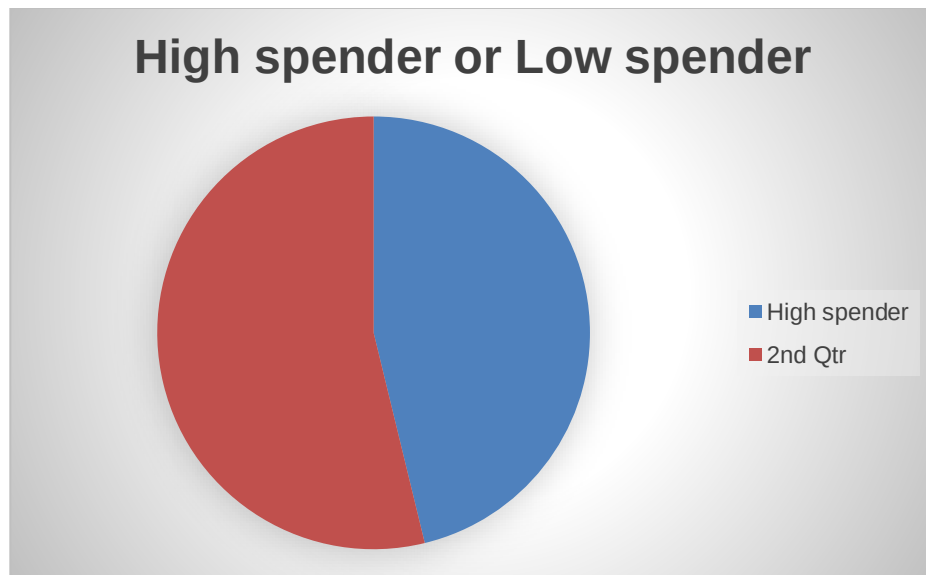


Figure 4.13 High spender or Low spender

Interpretation:

- In The chart explains the high spender and low spender of the virtual goods.
- 46.2% of respondents are high spenders of virtual goods in an online game.
- 53.8% of respondent are low spenders of virtual goods in an online game.
- The maximum 35 respondents are low spenders.
- The minimum 30 respondent are high spenders.

4.1.14. DO YOU THINK NY PURCHASING VIRTUAL GOODS IN AN ONLINE GAME AFFECTS THE ECONOMIC FACTOR

Table 4.14

S.NO	PARTICULARS	NO OF RESPONDENTS	PERCENTAGE
1	Yes	28	43%
2	No	17	26.2%
3	Maybe	20	30.8%
	TOTAL	65	100%

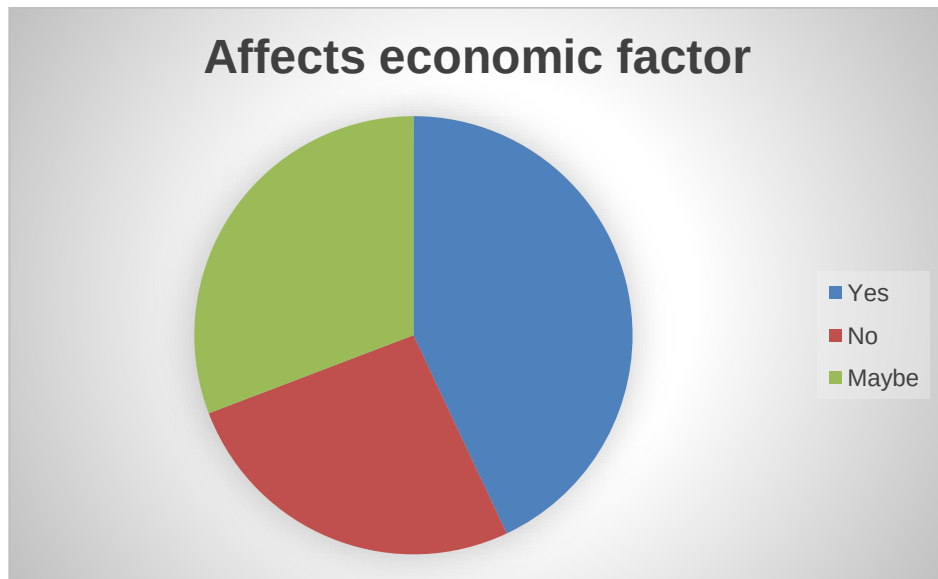


Figure 4.14 Affects economic factor

Interpretation:

- In The chart 43% of the respondent says YES because they think it affects the economic factor.
- 26.2% of respondents is says NO because they this it will not affect the economic factor.
- 30.8% of respondent say MAYBE it affect the economic factor

- The maximum 28 respondents says yes it affects economic factor
- The minimum 17 respondents says NO it won't affect economic factor.

4.1.15. IS THERE ANY VIRTUAL GOODS THAT YOU CAN BUY WITHOUT USING REAL MONEY

Table 4.15

S.NO	PARTICULARS	NO.OF.RESPONDENT	PERCENTAGE
1	Yes	32	49.2
2	No	33	50.8
	TOTAL	65	100%



Figure 4.15 Virtual goods that can be purchased without real money

Interpretation:

- In The chart 49.2% of respondent says YES there are virtual goods that can be purchased without using real money.
- 50.8% of respondents says NO there are no virtual goods that can be purchased without using real money.
- The maximum 33 respondents is chosen NO
- The minimum 32 respondents is chosen YES

4.2 HYPOTHESIS:

H (0): There is no significant difference between gender and spender.

H (1): There is significant difference between gender and spender.

4.2.1 CHI-SQUARE:

Chi-square is a statistical test used to examine the differences between categorical variables from a random sample in order to judge goodness of fit between expected and observed results.

$$\chi^2 = \sum \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

Figure 4.16

Results						
	HIGH SPENDER	LOW SPENDER				Row Totals
MALE	19 (20.98) [0.19]	25 (23.02) [0.17]				44
FEMALE	12 (10.02) [0.39]	9 (10.98) [0.36]				21
Column Totals	31	34				65 (Grand Total)

Table 4.16

INFERENCE

The chi-square statistic is 1.1107. The p-value is .291939. The result is not significant at $p < .05$. There is significant difference between gender and spender.

CHAPTER-5

FINDINGS, SUGGESTIONS AND CONCLUSION

Based on the analysis and discussion on primary data in the previous chapter.
Finding, Suggestions, and Conclusion of the study in logical manner.

5.1 FINDINGS

From the questionnaire, the following points are found and noted

- Majority (55.4%) respondents are age between 18 – 22.
- Majority (67.7%) of gender of respondents are Male.
- Majority (49.2%) of the respondents are College students.
- Majority (44.6 %) of the respondents are playing Free Fire more than 2 year.
- Majority (35.4%) of respondents spend more than 1000 in a week.
- Majority (46.2%) of the respondent's uses redeem codes.
- Majority (30.8%) of the respondent are selected incubator.
- Majority (23.1%) of the respondents spend more money in web events and other events.
- Majority (70.8%) of the respondents thought there is different pattern on purchasing virtual goods.
- Majority (53.8%) of the respondents select attracted costumes and weapons.
- Majority (43.1%) of the respondents top-up when there is special events.
- Majority (55.4%) of the respondents answer that maybe there is different pattern between minor and adult.
- Majority (53.8%) of the respondents are low spenders.
- Majority (43%) of the respondents gave yes because they that it affects the economic factor.

5.2 SUGGESTIONS

- The overall experience index from the study reveals that the online game (Free Fire) is earning so much money through many events and most of the virtual goods that the users are purchasing through real money.
- Some of the users have complained about the purchasing pattern used in it. Therefore, I recommend free fire to change their purchasing pattern a little bit. It needs to provide virtual goods with low money at least in some events
- Some of the users have also complained about bugs that arise during events where they spend real money.
- Most of the users have said that they buy those virtual goods because of the attracted costumes and powerful weapon skins.

5.3 CONCLUSION

As selling virtual items become a major revenue source for social network and social game service operators. The online game Free Fire is one of the most famous online game all over the world. Presently a days because of the user interface and attracted virtual goods in it. Free Fire reached more than 1 billion downloads in play store. And in India there are 75 million active users. Regarding the above examination and the discoveries in this way, the online game Free Fire is earning more money by making its users to buy their virtual goods through lots of event and also the user behavior. The above study will help the users to get more awareness about the purchasing pattern of virtual goods in an online game.

REFERENCE

- 1. Animesh, A., Pinsonneault, A., Yang, S.-B., and Oh, W. An odyssey into virtual worlds: exploring the impacts of technological and spatial environments on intention to purchase virtual products. *MIS Quarterly* 35, 3 (2011), 789–810.
- 2. Campbell, C. Free-to-play's the future but not as we know it, says former Zynga and EA COO. Polygon, 2013.
<http://www.polygon.com/2013/9/11/4717122/free-to-plays-the-future-but-not-as-we-know-it>.
- 3. Castronova, E., Williams, D., Shen, C., et al. As real as real? Macroeconomic behavior in a large-scale virtual world. *New Media & Society* 11, (2009), 685–707.
- 4. Castronova, E. *Synthetic worlds: The business and culture of online games*. University of Chicago Press, Chicago, IL, 2005.
- 5. Chung, D. Something for nothing: understanding purchasing behaviors in social virtual environments. *Cyberpsychology & behavior* 8, 6 (2005), 538–54.
- 6. Companies and Markets. Global virtual goods market 2012-2016. 2012.
- 7. Dibbell, J. The Life of the Chinese Gold Farmer. *The New York Times*, 2007.
- 8. Ducheneaut, N., Wen, M., Yee, N., and Wadley, G. Body and mind: A study of avatar personalization in three virtual worlds. In *Proc. CHI 2009*, (2009), 1151–60.
- 9. Greengard, S. Social games, virtual goods. *Communications of the ACM* 54 (April), (2011), 19–21.
- 10. Guo, Y. and Barnes, S. Why people buy virtual items in virtual worlds with real money. *The Database for Advances in Information Systems* 38, (2007), 69–74.

WEBSITES

- www.google scholar.com
- www.opec.org
- www.wikipedia

APPENDIX

**A STUDY ON THE PURCHASING PATTERN OF VIRTUAL GOODS IN
AN ONLINE GAME**

QUESTIONNAIRE:

1. E-mail of the respondent _____
2. Name of the respondent _____
3. Age of the respondent
 - a. 12 – 14
 - b. 15 – 17
 - c. 18 – 22
 - d. 23 and above
4. Gender of the respondent
 - a. Male
 - b. Female
5. What is your current occupation
 - a. School
 - b. College
 - c. Employee
 - d. Others
6. How long have you been playing free fire
 - a. Less than a year

- b. 1 – 2 years
 - c. More than 2 years
- 7. How much money you spend in a week to purchase virtual goods (Diamond, Costumes, Characters, Gun skins, Collections and etc.)
 - a. 80 – 250
 - b. 250 – 500
 - c. 500 – 1000
 - d. More than 1000
- 8. Which top-up mode you usually use
 - a. Credit card
 - b. Net banking
 - c. Redeem code
 - d. Others
- 9. Through what event you think free fire can earn more money
 - a. Diamond royale
 - b. Incubator
 - c. Faded wheel
 - d. Web event
 - e. Weapon royale
 - f. Other events
- 10. What event makes you spend more money to buy virtual goods
 - a. Diamond royale
 - b. Weapon royale
 - c. Faded wheel
 - d. Web event
 - e. Incubator
 - f. Other events

11. Do you think there is different pattern on purchasing virtual goods

- a. Yes
- b. No

12. How online games attracts you to buys their goods ?(diamond, costumes, weapon skins, characters, collections)

- a. Attracted costumes and weapon skins
- b. Attracted event banners
- c. Extra gifts
- d. Powerful weapon skins

13. If you are a player who used to top-up, then what is your routine

- a. Top-up only for top-up events
- b. Top-up once a month
- c. Top-up when there is any special events
- d. Top-up frequently

14. Do you think there is different spending pattern between minor (age 14 to 17) and adults (age 18 and above)

- a. Yes
- b. No
- c. Maybe

15. Are you a high spender or low spender

- a. High spender
- b. Low spender

16. Do you think by buying virtual goods in an online game affects the economic factor

- a. Yes
- b. No
- c. Maybe

17. Is there any virtual goods that you can buy without using real money and mention what is it

- a. Yes
- b. No