Sample Projects

A PROJECT REPORT ON

MERGER AND ACQUISITION IN TELECOM SECTOR (VODAFONE INDIA- IDEA CELLULAR MERGER)

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M.COM ADVANCE ACCOUNTING

SEMESTER III

2020-21

UNDER THE GUIDANCE OF

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SUBMITTED TO

UNIVERSITY OF MUMBAI

VIDYALANKAR SCHOOL OF INFORMATIONTECHNOLOGY

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Certificate

This is to certify that

Miss. Shrushti Pramod Kadam of MCom.Advance Accounting Semester III has undertaken & completed the project work titled' MERGER AND ACQUISITION IN TELECOM SECTOR (VODAFONE INDIA- IDEA CELLULAR MERGER) During the academic year 2020-2021 under the guidance of Mr. Vijay Gawde submitted on to this college in fulfillment of the curriculum of MComAdvance Accounting University of Mumbai.

This is a bonafide project work &the information presented is True & original to the best of our knowledge and belief.

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I am Shrushti Pramod Kadamd student of M.Com Advance Accounting, Vidyalankar School of Information Technology, hereby declare that I have completed the project on 'MERGER AND ACQUISITION IN TELECOM SECTOR (VODAFONE INDIA- IDEA CELLULAR MERGER) 'in academic year 2020-21.

The information submitted is true and original to the best of my knowledge.

Signature of the Student

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ACKNOWLEDGMENT

I hereby acknowledge all those who directly or indirectly helped me in drafting of this project report. It would not have been possible for me to complete the task without their help and guidance.

First of all I would like to thank the principal Dr Rohini Kelkar and the coordinator Ms Prathma Nemane who gave me the opportunity to do this project work. They also conveyed the important instructions from the university time to time. Secondly, I am very much obliged of my guide Prof. Mr. Vijay Gawde Jawaharlal for giving guidance in completing the project.

They not only rendered time out of their busy schedule but also answered my queries without any hesitation. He/ She gave me information on their system of working in their organisation and told me how Promotional Strategies are done in their organisation.

Last but not the least; I am thankful to the University of Mumbai for offering the project in the syllabus. I must mention my hearty gratitude towards my family, other faculties and friends who supported me to go ahead with the project.

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Abstract

The purpose of this paper is to study the Merger and Acquisition in details by taking case studies of some companies. The objectives cover in the project are: The reason of merging and taking over of the companies, the methods of Merger and Acquisition, the impact of Merger and Acquisition, the various cases of Merger and Acquisition, the trends of merger and acquisition in India. To find out the major issues associated with pre- and post-merging. If the companies merge or plan for acquisition the only factor in their mind is growth or expansion or synergies etc. The process of merger and acquisition has gained substantial importance in today's corporate world. In recent, there are various reports or news about merger and acquisition. What type of merger and acquisition took place and what kind of assets and liabilities that acquirer company take from target company?

CHAPTER 1 :INTRODUCTION TO STUDY

In the fast changing business world, companies have to strive hard to achieve quality and excellence in their fields of operation. Every company has the prime objective to grow profitably. The profitable growth for the companies can be possible internally as well as externally. The internal growth can be achieved either through the process of introducing or developing new products or by expanding or by enlarging the capacity of existing products or sustained improvement in sales. External growth can be achieved by merger and acquisition of existing business firms. Mergers and Acquisitions (M&A) are quite important forms of external growth. In today's globalized economy, mergers and acquisitions are being increasingly used the world over as a strategy for achieving a larger asset base, for entering new markets, generating greater market shares/additional manufacturing capacities, and gaining complementary strengths and competencies, to become more competitive in the marketplace. Mergers and Acquisitions (M&A) are an extensive worldwide phenomenon and Mergers and Acquisitions (M&A) have emerged as the natural process of business restructuring throughout the world.

Merger and Acquisition are also denoted as M&A. Acquisition generally means a larger company absorbing a smaller company, with the smaller company either becoming a subsidiary of the larger company, or with the smaller company combined into the larger company, hence losing its identity, and larger company will take control of smaller company's assets and liabilities. Merger is generally used to reflect consolidation of two companies on an equal status basis.

Mergers and acquisitions are generally being used interchangeably and abbreviated as M&A in business world. This is because mergers and acquisitions basically lead to the same outcome whereby two entities become one entity.

OBJECTIVE:

1. To Critically analyze the impact of mergers and acquisition on the operating performance of the firm in India.

2. To study the risk factor involved in merger and acquisition and strategies to be built.
3. To study the company history in brief.
4. To study the relationship between both the managements post-merger and acquisition.
5. To Strategically evaluate the impact on shareholders wealth post-merger and acquisition.

HYPOTHESES:

- Merger and acquisition has no significant effects on financial performance of companies.
- Merger and acquisition has significant effects on financial performance of companies.

LIMITATIONS OF THE RESEARCH :

There is no activity that can be completed without any limitation. The main limitation faced during the preparation of the project report on "Merger and Acquisition in India (Vodafone India – Idea Cellular merger) is as Follow:

- The information collected through secondary date. Some of the information might be inaccurate.
- It is difficult to collect data because the selected topic is broad concept.
- The analysis made is as per my limited understanding for concerned

RESEARCH DESIGN:

Secondary Data collections:Journal, Articals,Website, Research papers.

CHAPTER 2 :REVIEW OF LITERCATURE

1. According to, Kumar (2009), "Post-Merger Corporate Performance: an Indian Perspective", he examined that the post-merger operating performance of a sample size of 30 acquiring companies. The Companies involved in merger activities during the ancient period from 1999-2002 in India. He studies for identifying synergies, if any, resulting from mergers. The study uses accounting data to examine merger related gains to the acquiring firms. It was found that the post-merger profitability, assets turnover and solvency of the acquiring companies, on average, show no improvement when compared with pre- merger values.

2. According to N. M. Leepsa& Chandra Sekhar Mishra (2009), "Post Merger Financial Performance: and he Studied the Reference to Select Manufacturing Companies in India", the intends for study is the trend in merger and acquisition (M&A) particularly with reference to manufacturing companies. The present study is an attempt to find out the difference in post-merger performance compared with pre-merger in terms of profitability, liquidity and solvency. The statistical tools used are descriptive statistics, paired sample t-test.

3. According to Gallet (1996) he study and write about the relationship between mergers in the U.S. Merger of companies between steel industry and the market power. The study employed New Empirical Industrial Organization approach which estimates the degree of market power from a system of demand and supply equations. The study analyzed yearly observations over the period between 1950 and 1988 and results have revealed that in the period of 1968 to 1971 merges did not have a significant effect on market power in the steel industry, whereas mergers in 1978 and 1983 did slightly boost market power in the steel industry.

4. Gugler et al. (2003) examined and analyzed the effects of mergers

around the world over the past 15 years. The study was carried out to determine the effects of mergers on corporate performance across national, international, and sector levels. The study tested a sample of 45,000 completed merger transactions across the world over the period from 1981 to 1998, where 50% of the sample is located in the United States. On country level, the results suggest that the U.S., the United Kingdom, Continental Europe, Australia, New Zealand and Canada have the same pattern regarding the increase in profits and decrease in sales. In Japan, the results were somewhat different as three of the five profit comparisons were negative, while sales were greater than projected in two of the five post- merger years.

5. Ramaswamy and Waegelein (2003) tested the long-term post-merger financial performance of merged companies in Hong Kong to determine relationships between post-merger performance and firm size, the compensation plan, method of payment, and industry type. The study sample consists of 162 merging firms from 1975 to 1990 and the analysis covers the five years pre and post-mergers Firms acquiring relatively larger firms have a more difficult time digesting those firms and in effectively assimilating them into the company's operation. Firms with long-term compensation plans have more positive post-merger financial performance. Firms in dissimilar industries "conglomerate mergers" experienced better post-merger financial performance than firms in similar industries.

6. King et al. (2004) investigated the findings of published research on post- acquisition performance and employ a meta-analysis technique to assess the impact of the addressed variables in the literature on the performance of the merged firms. The study concluded that M&A do not lead to superior financial performance. It can be argued that M&A has a modest negative effect on long-term financial performance of acquiring firms. The results reveal no evidence to support and explain changes in post-mergers and acquisitions performance using the factors that were supported by the literature to have an effect on post-

merger performance such as: method of payment, relatedness of industry, prior acquisition experience, and conglomerate acquisition. It should be noted that King et al. (2004) do not consider the impact of other factors as firm size and compensation plan on corporate performance which have been discussed in the literature.

7. Feroz et al. (2005) assessed the effect of mergers activity on the performance of U.S. companies. A sample of 45 pairs of merged firms over a period of five years pre and post-mergers were tested. Data Envelopment Analysis (DEA) was used to determine the managerial efficiency impact of mergers by comparing the combined efficiency of the acquired and the acquiring firm prior to merger with the efficiency of the merged firm during post-merger period. Results indicated that the managerial efficiency of majority of sample firms (82%) have improved in post-merger period.

8. Lau et al. (2008) examined the operating performance of merged firms, compared to the performance of the pre-merger targets and acquirers, for a sample of 72 Australian mergers between 1999 and 2004. Performance measures used in the study were profitability, cash flow, efficiency, leverage and growth. Such measures were used to proxy for the success of the merger, which is defined in terms of an improvement in each merged firm's industry-adjusted operating performance between the pre and post-merger period. The results provide some evidence that mergers improve the post merger operating performance.

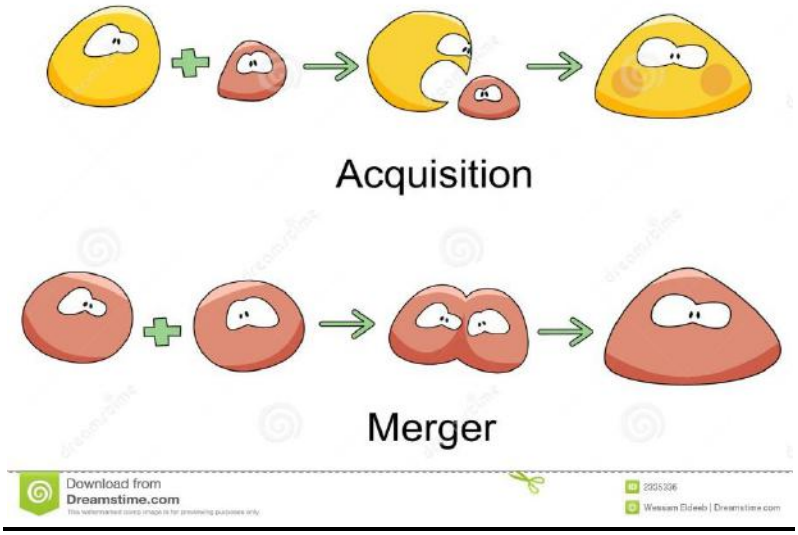
9. Kumar (2009) examined the post-merger operating performance of a sample of 30 acquiring companies involved in merger activities during the period 1999-2002 in India. The study attempts to identify synergies, if any, resulting from mergers. The study uses accounting data to examine merger related gains to the acquiring firms. It was found that the post-merger profitability, assets turnover and solvency

of the acquiring companies, on average, show no improvement when compared with premerger values.

10. Yook (2004) tested the impact of acquisition on the acquiring firm's financial performance by comparing pre and post-acquisition Economic Value Added (EVA) relative to the industry average. The study based on a cross-sectional variation in EVA performance according to the following transaction characteristics: (i) types of acquisition, (ii) methods of payment, and (iii) business similarity. The sample comprises 75 of the largest acquisitions occurring during 1989 to 1994 in the United States. The results have concluded that acquiring firms experience significantly deteriorating financial performance after the acquisitions. When calculating industry-adjusted EVA, the difference is indiscernible, hence, the decline in raw EVA is grounded by industry effects. Tender offers consistently earn larger EVA than do mergers.

CHAPTER 3 : INTRODUCTION

Role of Mergers and Amalgamations



A merger or an acquisition in a company sense can be defined as the combination of two or more companies into one new company or corporation.

The main difference between a merger and an acquisition lies in the way in which the combination of the two companies is brought about. In a merger there is usually a process of negotiation involved between the two companies prior to the combination taking place. For example, assume that Companies X and Y are existing financial institutions. Company X is a high street bank with a large commercial customer base. Company Y is a building society or similar organisation specialising in providing home loans for the domestic market. Both companies may consider that a merger would produce benefits as it would make the commercial and domestic customer bases available to the combined company. There will obviously be some complications and difficulties involved but there are also some obvious potential synergies available. For example, company Y might be able to use its home loans experience to offer better deals to potential and existing mortgage customers of company X. The two companies may decide to initiate merger negotiations. If these are favourable, the outcome would be a merger of the two companies to form a new larger whole. In an acquisition the negotiation process does not necessarily take place. In an acquisition company X buys company Y. Company Y becomes wholly owned by

company X. Company Y might be totally absorbed and cease to exist as a separate entity, or company X might retain company Y in its pre-acquired form. This limited absorption is often practised where it is the intention of company X to sell off company Y at a profit at some later date. In acquisitions the dominant company is usually referred to as the acquirer and the lesser company is known as the acquired. The lesser company is often referred to as the target up to the point where it becomes acquired. In most cases the acquirer acquires the target by buying its shares. The acquirer buys shares from the target's shareholders up to a point where it becomes the owner. Achieving ownership may require purchase of all of the target shares or a majority of them. Different countries have different laws and regulations on what defines target ownership. Acquisitions can be friendly or hostile. In the case of a friendly acquisition the target is willing to be acquired. The target may view the acquisition as an opportunity to develop into new areas and use the resources offered by the acquirer. This happens particularly in the case of small successful companies that wish to develop and expand but are held back by a lack of capital. The smaller company may actively seek out a larger partner willing to provide the necessary investment. In this scenario the acquisition is sometimes referred to as a friendly or agreed acquisition. Alternatively, the acquisition may be hostile. In this case the target is opposed to the acquisition. Hostile acquisitions are sometimes referred to as hostile takeovers. One tactic for avoiding a hostile takeover is for the target to seek another company with which it would rather merge or be acquired by. This third company, if it agrees, is sometimes referred to as a white knight, as it 'comes to the rescue' of the threatened target. In hostile takeovers the acquirer may attempt to buy large amounts of the target's shares on the open market. The problem with this action is that the target's share price will tend to increase in value as soon as any large-scale purchases are detected.

In order to minimise share price rises, the acquirer may attempt to buy as much stock as possible in the shortest possible time, preferably as soon as the markets open. This practice is sometimes referred to as a dawn raid, as it attempts to take the market (insofar as is possible) 'by surprise'. In both friendly and hostile takeovers the decision on whether or not to sell shares in the target lies with the shareholders. If all or a large proportion of target

shareholders agree to sell their shares, ownership will be transferred to the acquirer. Shareholders generally will agree to a merger if they are recommended to do so by the board of directors and if they stand to make a profit on the deal. The acquirer may offer either cash or its own shares in exchange for target shares. Cash transactions offer shareholders an immediate potential profit, whereas shares offer a longer-term investment. Share transactions tend to be more attractive to shareholders in a buoyant market as the value of the shares is likely to increase more rapidly than in a stagnant market.

3.1 History

Mergers and Amalgamations

The term 'merger' is not defined under the Companies Act, 1956 ("CA 1956"), and under Income Tax Act, 1961 ("ITA"). However, the Companies Act, 2013 ("CA 2013") without strictly defining the term explains the concept. A 'merger' is a combination of two or more entities into one; the desired effect being not just the accumulation of assets and liabilities of the distinct entities, but organization of such entity into one business. The possible objectives of mergers are manifold - economies of scale, acquisition of technologies, access to sectors / markets etc. Generally, in a merger, the merging entities would cease to be in existence and would merge into a single surviving entity.

The ITA does however defines the analogous term 'amalgamation': the merger of one or more companies with another company, or the merger of two or more companies to form one company. The ITA goes on to specify certain other conditions that must be satisfied for an 'amalgamation' to benefit from beneficial tax treatment

Our laws envisage mergers can occur in more than one way, for example in a situation in which the assets and liabilities of a company (merging company) are vested in another company (the merged company). The merging company loses its identity and its shareholders become shareholders of the merged company. Another method could be, when the assets and liabilities of two or more companies (merging companies) become vested in another new company (merged company). The merging

companies lose their identity. The shareholders of the merging companies become shareholders of the merged company.

The CA 1956 (Sections 390 to 394) and CA 2013 (Sections 230 to 234), deal with the schemes of arrangement or compromise between a company, its shareholders and/or its creditors. These provisions are discussed in greater detail in Part II of this Paper.

Commercially, mergers and amalgamations may be of several types, depending on the requirements of the merging entities:

Although, corporate laws may be indifferent to the different commercial forms of merger / amalgamation, the Competition Act, 2002 does pay special attention to the forms.

The development of mergers & acquisitions (M&A) is not an invention of recent times. The first appearance of M&A in a high frequency evolved at the end of the 19th century. Since then, cyclic waves are observed with different waves emerging due to radical different strategic motivations. The following table draws out the timeline of M&A development and clarifies strategic motivations underlying each wave. The activity in mergers and acquisitions in the past century shows a clustering pattern. The clustering pattern is characterized as a wave and they occur in burst interspersed with relative inactivity. When we discuss these merger waves, economics usually refer to 6 specific waves starting from 1890. The length and start of each wave is not specific, but the end of each wave usually falls with a major war or the beginning of a recession/crisis. Furthermore, the first and second wave was only relevant for the US market, while the other waves had more geographical dispersion. Especially in wave five, where besides US, UK and continental Europe, Asia also had a significantly increased M&A market.

A general conclusive theory about the M&A waves is not available yet, although there seems to be industry-specific factors that trigger the waves because different industries experience increased M&A activity at different times. The following table shows the summary of the Mergers and Acquisitions waves.

Mergers and Acquisition Waves

WAVES	PERIOD	FACET
First Wave	1897-1904	Horizontal Mergers
Second Wave	1916-1929	Vertical Mergers
Third Wave	1965-1969	Diversified Conglomerate Mergers
Fourth Wave	1984-1989	Co-generic mergers, hostile takeovers, corporate raiders
Fifth Wave	1992-2000	Cross border, mega mergers
Sixth Wave	2003-2008	Globalization, private equity, shareholder activism

(Source: York University)

WAVE - 1: 1897-1904

The first wave followed after a period of economic expansion, and an important characteristic was the simultaneous consolidation of manufacturers within one industry. This within industry consolidation led to horizontal consolidation of major industries and created the first "giants" in the oil, mining and steel industries, among others. Furthermore, the horizontal mergers led to the creation of monopolies. According to Stigler (1950), mergers "permit a capitalization of prospective monopoly profits and a distribution of portions of the capitalized profit". In 1890 the Sherman Antitrust Act 1, which limits cartels and monopolies, was passed but it was not yet clear in the beginning so the direct impact was limited. The creation of monopolies was therefore not being restricted.

Financial Performance Before and After Mergers and Acquisitions of the Selected Indian Companies

The first wave was also characterized by "friendly" deals and by cash financing. Having said this, we still do not know why the merger wave started in the first place.

In the first place, laws on incorporations were evolving and were implemented more rigorously at the end of the nineteenth century. Before proper legislation, entrepreneurs had an unlimited liability on their assets which means that growth of your company also means greater exposure and greater risk. Improvement of laws on incorporations led to limited liability for entrepreneurs. Furthermore, economic expansion and the development of the modern capital market, i.e. the improvement of the New York Stock exchange, also boosted the number of mergers because capital needed to acquire, or merge, became more accessible.
The end of the first wave came due to a more rigorous enactment of the new antitrust laws, e.g. the Sherman Antitrust Act. Besides this, the stock market crashed around 1905 which resulted in a period of economic stagnation. Furthermore, the beginning or threat of the First World War is also pointed as a cause of the end of the first identified wave, also known as the "Great Merger Wave".

WAVE - 2: 1916-1929

The second merger wave started in the 1910s, where the primary focus of merger activity was in the food, paper, printing and iron industry but the wave was significantly smaller in magnitude than the first wave. Where the first wave exceeded more than 15% of the total assets in the US market, the second wave had in impact of less than 10%. The second wave followed after the First World War in times of economic recovery and increasing concerns about monopoly power. As opposed to the first wave, this wave characterizes itself as a creator of oligopolies. At the end of the wave, industries were no longer dominated by one large corporation, but rather by two or more. Especially small companies, which "survived" the previous wave, were active on the M&A market. The objective of these companies was to gain economies of scale so that they were better equipped against the power of the previous monopolist. Logic behind the emergence of the oligopolies is that the merged companies of the previous wave were faced with restricted resources due to the previous crisis and greater enforcement of antitrust laws; especially the Sherman's act.
Similar to the first wave was the "friendly" character of the deals, but the prevalent source of financing switched from cash to equity.

The end of the second merger wave was caused by the market crash of 1929 which started the “Great Depression” which led to a world-wide depression in the following years.

WAVE - 3: 1965-1969

Due to the “Great Depression” and the following Second World War, the activity on the M&A market slowed down significantly. The new wave started only in the 1950’s and coincided with further restrictions which needed to prevent anticompetitive mergers and acquisitions. This resulted in the development of a new business organization. Mergers in the first and second wave usually involved horizontal (wave 1) or vertical (wave 2) integration, but the third wave gave rise to the concept of diversification. Similar to the second wave was that equity was the dominant source of financing.

The method of diversification led to the rise of conglomerates, which are large corporations that consists of numerous businesses not necessarily related. Example of a conglomerate is General Electric, which has interest in a vast number of businesses including healthcare, transportation and energy. Diversification can be a method to reduce the cash flow volatility through reduction in the exposure to industry specific risk. The conglomerate will be less vulnerable to shocks in one industry because it generates income in different, maybe unrelated, industries so that loss of income in one industry can be offset by other industries. Due to conglomerate creation, growth opportunities in unrelated businesses can be exploited. Finally, a conglomerate will create its own internal capital market which is especially useful when outside capital is expensive.

The diversification process also led to changes in the market structure. Chandler (1991) with his concept of the Multidivisional Enterprise stated that:“structure follows strategy and the most complex type of structure is the result of concatenation of several basis strategies”. Interpretation can be that the strategy of corporations leads to changes in the market structure. The diversification led to an increased distance between the managers at the headquarters and the divisional managers. Besides possible inefficiencies associated with increased communication lines, the addition of the numerous businesses also led to a decision overload at the company

headquarters.
Whether the third wave began due to the stricter enactment of antitrust laws which led to increased diversification and "empire" building is still up for debate. Clear is that in the third wave the percentage of corporations active in unrelated business increased from 9% to 21% among the Fortune 500 companies, which suggest that diversification plays a key role in the third wave. The third merger wave slowed down and the end of the 1970s and collapsed completely in 1981 when there was an economic recession due to a significant oil crisis.

WAVE - 4: 1984-1989

The fourth merger wave started in the 80s, and was quite different then its previous one. Foremost, the bids were usually hostile which meant that the bids did not have the target's management approval. Second, the size of the target was also significantly larger than in the previous wave. Furthermore, the dominant source of financing shifted from equity to debt and cash financing.

According to Ravens craft (1987) the beginning of the wave could have been a bargain hunt taken place in a depressed stock market, where the conglomerates of the previous wave divested their divisions. SudiSudarsanam (2003) states that in the fourth wave divestitures constituted about 20-40% of the M&A activity. Apparently there was a simultaneously expansion and downsizing of businesses, where the expanding corporations made use of the divestitures to increase their competitive position.

Schleifer and Vishny (1991) view the new merger wave as one that is characterized by "bust-up" takeovers, where large parts of the target were divested after acquiring. Besides these bust-ups, the concept of leveraged buy-out (LBO) emerged. In a LBO, the firms' own management uses large amounts of outside debt to acquire the company. After acquisition, large fractions of the assets are sold as was the case with the bust-up takeovers.

The fourth wave started to eliminate the inefficiencies that were created by the conglomerate mergers in the third merger wave. Morck, Schleifer and Vishny (1990) show that in the 1980s a bid on a target firm, which is

competing in the same industry, has a positive relationship with stock market return for the shareholders of the bidding firm. For bids on unrelated targets the opposite holds. This indicated that the market had a negative attitude towards unrelated diversification, a strategy appreciated in the third merger wave.
After 1989 M&A activity gradually slowed down and yet another stock market crash led to the end of the wave.

WAVE - 5: 1992-2000

The 1990s was a decade of great economic prospect. The financial markets were booming and a globalization process was developing. The merger activity also boomed in continental Europe where it almost equalled the US market. Due to globalization the number of cross border acquisitions increased significantly. In order to keep up with the economic growth and the global opportunities, organizations searched outside their domestic borders to find a target company. Growth was an important driver for merger activity. Corporations wanted to participate in the globalization of the economy. This created some "mega" deals that were unthinkable before this wave. Some major mergers were: Citibank and Travelers, Chrysler and Daimler Benz and Exxon and Mobil.

The fifth wave started due to technological innovations, i.e. information technology, and a refocus of corporations on their core competences to gain competitive advantage. This resource-based view leads to a better focus to gain a sustainable competitive advantage through the best use of their resources and capabilities.
The nature of the merger was prevalent friendly, and the dominant source of financing was equity. The end of the wave was once again caused by an economic recession. The beginning of the new millennium started with the burst of the internet bubble, causing global stock markets to crash.

WAVE - 6: 2003 - 2007

The Sixth Wave saw the introduction of globalization, as established corporate companies emphasized the need to create a multi-national reach.

Private Equity boomed as shareholders looked to spread ownership of their companies between themselves, day-to-day management and institutional investors.

At the time when the sixth merger wave started, interest rates were low after the recession in the economy. The interest rates were kept low even though the economy was starting to recover, and as a result it gave a major boost to the private equity business. Like the fifth wave, companies financed mergers through the use of equity and a new wave was triggered. On the other hand, Martynova and Renneboog (2005) claim that the reason why the merger wave occurred was mainly due to the delay of transactions after the 9/11 terrorists attack in the US. At that time there was a highly unsecure market and investments were withhold. As the market began to return to normal and the uncertainty vanished, investments exploded and triggered a new wave. Sudarsanam (2010) explained the merger wave as a result of emerging markets. UK and the EU have the same characteristics of their merger waves during this period. Thus it was a relatively short, but nonetheless intense merger wave. It came to a rapid end when the subprime crisis started in 2007.

Future Outlook: Seventh Wave

In the context of finance, there is little interest in the history of M&A, and it is likely that many errors that occurred in earlier periods will reoccur. Understanding history can help us identify the proximity to a new wave of M&A.

In 2014, optimism seems to be returning to the market, and the value of mergers and acquisitions globally reached 1.75 trillion U.S. dollars in the first six months of the year, an increase of 75% over the same period last year and the largest volume of transactions since 2007. What is observed is that the business environment after the 2008 crisis, characterized by risk aversion and a focus on organic growth by firms, is dissipating.

It is true that we are living in a more volatile era in terms of market growth, but companies are beginning to understand that this volatile world is the new standard; after all, there will always be wars and countries with difficulty to honor their sovereign debt payments. In such an environment, it may not be possible to rely only on organic growth and cost cutting to

deliver consistent financial results. Managers seem to once again believe that it is easier to buy growth than build it.

B. Acquisitions

An 'acquisition' or 'takeover' is the purchase by one person, of controlling interest in the share capital, or all or substantially all of the assets and/or liabilities, of the target. A takeover may be friendly or hostile, and may be effected through agreements between the offeror and the majority shareholders, purchase of shares from the open market, or by making an offer for acquisition of the target's shares to the entire body of shareholders.

Acquisitions may be by way of acquisition of shares of the target, or acquisition of assets and liabilities of the target. In the latter case the business of the target is usually acquired on a going concern basis. Such a transfer is referred to as a 'slump sale' under the ITA and benefits from favourable taxing provisions vis-à-vis other transfers of assets/liabilities (discussed in greater detail in Part VI of this Paper). Section 2(42C) of the ITA defines slump sale as a "transfer of one or more undertakings as a result of the sale for a lump sum consideration without values being assigned to the individual assets and liabilities in such sales".

An acquirer may also acquire a greater degree of control in the target than what would be associated with the acquirer's stake in the target, e.g., the acquirer may hold 26% of the shares of the target but may enjoy disproportionate voting rights, management rights or veto rights in the target.

Another form of acquisitions may be by way of demerger. A demerger is the opposite of a merger, involving the splitting up of one entity into two or more entities. An entity which has more than one business, may decide to 'hive off' or 'spin off' one of its businesses into a new entity. The shareholders of the original entity would generally receive shares of the new entity.

If one of the businesses of a company is financially sick and the other business is financially sound, the sick business may be demerged from the company.

This facilitates the restructuring or sale of the sick business, without

affecting the assets of the healthy business. Conversely, a demerger may also be undertaken for moving a lucrative business into a separate entity. A demerger may be completed through a court process under the Merger Provisions or contractually by way of a business transfer agreement.

3.2 The Concept of Mergers and Acquisitions

1. Mergers and acquisitions vary widely between countries.

2. In most European countries and the US there are government controls on mergers and acquisitions where the combination of two or more companies can have an impact on the overall level of competition within a particular market. This applies especially where the merger or acquisition would give the new company the ability to alter or fix the price in a particular sector.

3. Employment law can be a major consideration in some EU countries. There are significant differences in the level of employee rights that are recognised between the various member states.

4. For some reason, mergers and acquisitions appear to be mainly an Anglo-Saxon phenomenon. They are far more frequent in Anglo-Saxon countries than they are in non Anglo-Saxon countries.

5. A merger or an acquisition in a company sense can be defined as the combination of two or more companies into one new company or corporation.

6. The main difference between a merger and an acquisition lies in the way in which the combination of the two companies is brought about.

7. In a merger there is usually a process of negotiation involved between the two companies prior to the combination taking place.

8. In an acquisition, the negotiation process does not necessarily take place.

9. In most cases the acquirer acquires the target by buying its shares. The acquirer buys shares from the target's shareholders up to a point where it becomes the owner. Achieving ownership may require purchase of all of the target shares or a majority of them. Different countries have different laws and regulations on what defines target ownership.

10. Acquisitions can be friendly or hostile. In the case of a friendly acquisition the target is willing to be acquired. The target may view the acquisition as an opportunity to develop into new areas and use the resources offered by the acquirer.

11. In the case of a hostile acquisition, the target is opposed to the acquisition. Hostile acquisitions are sometimes referred to as hostile takeovers.

12. In hostile takeovers the acquirer may attempt to buy large amounts of the target's shares on the open market. The problem with this action is that target share prices will tend to increase in value as soon as any large-scale purchases are detected.

13. In both friendly and hostile takeovers the decision on whether or not to sell target shares lies with the shareholders. If all or a large proportion of target shareholders agree to sell, ownership will be transferred to the acquirer.

Differences Between Mergers And Acquisitions

Although merger and acquisition are often used as synonymous terms, there is a lot of difference between these two concepts i.e. mergers and acquisitions.

In the case of a merger, there are two companies come together and form a new company. After the merger, the separately owned companies become jointly owned and obtain a new single identity/company. When both the firms merge, stocks of both are given and a new stock in the name of new company is issued. Generally, mergers take place between two companies of more or less same size. This process is called Merger of Equals. However, with acquisition, one company takes over another and establishes its power as the single owner. Generally, the firm which takes over is the bigger and stronger one. The relatively less powerful, smaller firm loses its existence, and the firm taking over, runs the whole business with its own identity. Unlike the merger, stocks of the acquired firm are not surrendered, but bought by the public prior to the acquisition, and continue to be traded in the stock market.

Another difference is, when a deal is made between two companies in friendly terms, it is typically proclaimed as a merger, regardless of whether it is a buyout. In an unfriendly deal, where the stronger firm swallows the target firm, even when the target company is not willing to be purchased, then the process is labelled as acquisition. Often mergers and acquisitions become synonymous, because, in many cases, a bigger firm may buy out a relatively less powerful one and compel it to announce the process as a merger. Although, in reality an acquisition takes place, the firms declare it as a merger to avoid any negative impression.

CHAPTER 4 : REASONS OF MERGER AND ACQUISITION

4.1 Reasons for Merger

In merger there are various reasons for merging the businesses and there are ten important reasons for mergers. The reasons are to be classified below:

1. Economies of Scale
2. Operating Economies
3. Synergy
4. Growth
5. Diversification
6. Utilisation of Tax Shields
7. Increase in Value
8. Eliminations of Competition
9. Better Financial Planning
10. Economic Necessity.

1.Economies of Scale:

An individual company will have less resource at its command than the amalgamated companies. This will help in increasing the scale of operations and the economies of large scale will be availed. These economies will occur because of more intensive utilisation of production facilities, distribution network, research and development facilities, etc.

These economies will be available in horizontal mergers (companies dealing in same line of products) where scope of more intensive use of resources is greater.

The economies will occur only upto a certain point of operations known as optimal point. It is a point where average costs are minimum. When production increases from this point, the cost per unit will go up.

2.Operating Economies:

A number of operating economies will be available with the merger of two or more companies. Duplicating facilities in accounting, purchasing, marketing, etc. will be eliminated. Operating inefficiencies of small concerns will be controlled by the superior management emerging from the amalgamation. The amalgamated companies will be in a better position to operate than the amalgamating companies individually.

3.Synergy:
Synergy refers to the greater combined value of merged firms than the sum of the values of individual units. It is something like one plus one more than two. It results from benefits other than those related to economies of scale. Operating economies are one of the various synergy benefits of merger or consolidation.

4.Growth:
A company may not grow rapidly through internal expansion. Merger or amalgamation enables satisfactory and balanced growth of a company. It can cross many stages of growth at one time through amalgamation. Growth through merger or amalgamation is also cheaper and less risky.
A number of costs and risks of expansion and taking on new product lines are avoided by the acquisition of a going concern. By acquiring other companies a desired level of growth can be maintained by an enterprise.

5.Diversification:
Two or more companies operating in different lines can diversify their activities through amalgamation. Since different companies are already dealing in their respective lines there will be less risk in diversification. When a company tries to enter new lines of activities then it may face a number of problems in production, marketing etc.

6.Utilisation of Tax Shields:
When a company with accumulated losses merges with a profit making company it is able to utilise tax shields. A company having losses will not be able to set off losses against future profits, because it is not a profit earning unit.
On the other hand if it merges with a concern earning profits then the accumulated losses of one unit will be set off against the future profits of the other unit. In this way the merger or amalgamation will enable the concern to avail tax benefits.

7.Increase in Value:

One of the main reasons of merger or amalgamation is the increase in value of the merged company. The value of the merged company is greater than the sum of the independent values of the merged companies. For example, if X Ld. and Y Ltd. merge and form Z Ltd., the value of Z Ltd. is expected to be greater than the sum of the independent values of X Ltd. and Y Ltd.

8.Eliminations of Competition:

The merger or amalgamation of two or more companies will eliminate competition among them. The companies will be able to save their advertising expenses thus enabling them to reduce their prices. The consumers will also benefit in the form of cheap or goods being made available to them.

9.Better Financial Planning:

The merged companies will be able to plan their resources in a better way. The collective finances of merged companies will be more and their utilisation may be better than in the separate concerns. It may happen that one of the merging companies has short gestation period while the other has longer gestation period.

The profits of the company with short gestation period will be utilised to finance the other company. When the company with longer gestation period starts earning profits then it will improve financial position as a whole.

10.Economic Necessity:

Economic necessity may force the merger of some units. If there are two sick units, government may force their merger to improve their financial position and overall working. A sick unit may be required to merge with a healthy unit to ensure better utilisation of resources, improve returns and better management. Rehabilitation of si.ck units is a social necessity because their closure may result in unemployment etc.

4.2 Reasons of acquiring business or acquisition

Reason for buying a business

The prime reason for acquiring others' business or companies include

1. Pursuing a growth strategy
2. Defensive reasons
3. Financial opportunities

Many companies use acquisitions to pursue a strategy for growth in turnover, market share and profits. In case, the acquired more businesses than it wants to keep. In such circumstances it will try to sell off unwanted businesses, retaining only those that fit its strategic objectives. Defensive reasons for acquisitions include the need for reorganisations within an industry as a merger or acquisition can help to eliminate over-capacity. Financial opportunities occasionally can encourages mergers or acquisitions. One of the reasons for the agreed merger in 1993 between chemicals group Akzo of the Netherlands and Nobel of Sweden was the opportunity it gave Nobel to refinance its heavy debts at a much lower interest cost. In addition, a buyer may wish to make use of tax losses available in a target company. While deciding acquisition of others' business, a distinction need to be made between (a) companies that seek acquisitions to add value of their business by achieving a better rate of growth, and (b) companies that identify takeover targets where they can capture and exploit the value that already exists in the business, without necessarily creating more growth. Companies can make a distinction between acquisitions for commercial or strategic reasons, and acquisitions for investment management reasons. Corporate raiders primarily are concerned with the potential financial benefits of takeovers. They look for undervalued companiesto buy cheaply, and unlock the value quickly, perhaps by breaking up the acquired company into smaller divisions that can be resold at a profit.

Reasons for selling a business

The reason for which a company might be willing to sell some of its businesses can be the following:

1. To raise money, perhaps to pay off debts or to raise cash for acquisition.
2. An attractive offer price.
3. The desire to sell off on unprofitable part of the business.
4. A wish to sell off non-core activities that do not fit commercially or strategically with the rest of the seller's businesses.
5. Opportunity for realising a greater value to stockholders if the company is sold rather than retained.
6. Lack of funds to invest in developing the businesses, and a consequent willingness to sell to a buyer who wishes to invest funds for the business needs.

A company that runs into financial difficulties and seeks refinancing from its banks could be forced to agree, as a condition of the refinancing, to sell-off businesses to raise cash for repaying some of the loans. National and state governments of many countries have sold off (or disinvested or privatised) businesses to private buyers to raise cash for the development of the social sectors.

Motives behind Merger and Acquisition

<u>These motives are considered to add shareholder value:</u>

1. Economies of Scale: This generally refers to a method in which the average cost per unit is decreased through increased production, since fixed costs are shared over an increased number of goods. In a layman's language, more the products, more is the bargaining power. This is possible only when the companies merge/ combine/ acquired, as the same can often obliterate duplicate departments or operation, thereby lowering the cost of the company relative to theoretically the same revenue stream, thus increasing profit. It also provides varied pool of resources of both the combining companies along with a larger share in the market, wherein the resources can be exercised.

2. Increased revenue /Increased Market Share: This motive assumes that the company will be absorbing the major competitor and thus increase its power (by capturing increased market share) to set prices.

3. Cross selling: For example, a bank buying a stock broker could then sell its banking products to the stock brokers customers, while the broker can sign up the bank' customers for brokerage account. Or, a manufacturer can acquire and sell complimentary products.

4. Corporate Synergy: Better use of complimentary resources. It may take the form of revenue enhancement (to generate more revenue than its two predecessor standalone companies would be able to generate) and cost savings (to reduce or eliminate expenses associated with running a business).

5. Taxes: A profitable can buy a loss maker to use the target's tax right off i.e. wherein a sick company is bought by giants.

6. Geographical or other diversification: this is designed to smooth the earning results of a company, which over the long term smoothens the stock price of the company giving conservative investors more confidence in investing in the company. However, this does not always deliver value to shareholders.

7. Resource transfer: Resources are unevenly distributed across firms and interaction of target and acquiring firm resources can create value through either overcoming information asymmetry or by combining scarce resources. E.g.: Laying of employees, reducing taxes etc.

8. Improved market reach and industry visibility - Companies buy companies to reach new markets and grow revenues and earnings. A merge may expand two companies' marketing and distribution, giving them new sales opportunities. A merger can also improve a company's standing in the investment community: bigger firms often have an easier time raising capital than smaller ones.

Needs for corporate restructuring and mergers and acquisitions

The corporate restructuring process aims at enhancing economics of scale and attainment of efficiency. The survival and growth of companies in the competitive environment depends on their ability to pool all their resources for optimum use to maximize the value. For example, new big company is created out of merger of small companies that can achieve economic of scale. Further, the enhanced corporate status allows it to leverages the same to its own advantage in the form of tapping national or international capital markets for funds at low cost. This availability of funds at lower rate certainly makes the company more comfortable and competitive. Therefore, the needs for corporate restricting exercise are as follows.

1. To focus on core strengths
2. To achieve economics of scale by expanding to national and international markets
3. Attainment for operational synergy and efficient allocation of managerial capabilities and infrastructure
4. Ensuring constant supply of raw materials and access to R&D
5. Helps in reducing cost of capital
6. Helps in revival and rehabilitation of a sick company by adjusting losses of the sick unit with profits of a healthy unit
7. Improve corporate performance to bring it at par with competitors by adopting the fast changes brought by information technology.

CHAPTER 5 :METHODS OF MERGER AND ACQUISITIONS

Mergers and Acquisitions are parts of the natural cycle of business. A merger or acquisition can help a business expand, gather knowledge, move into a new market segment, or improve output. However, these opportunities come with expenses for both sides. Standard merger deals typically involve administrators, lawyers, and investment bankers even before the total acquisition cost is considered. Without a virtual data room and a sizable amount of cash on hand, a company will have to find alternate methods of Financing M&A. Below is a detailed look at the best financing options available today as well as information on the ones to avoid.

5.1 Exchanging Stocks

This is the most common way to finance a merger or acquisition. If a company wishes to acquire or merge with another, it is to be assumed the company has plentiful stock and a solid balance sheet. In the average exchange, the buying company exchanges its stock for shares of the seller's company. This financing option is relatively safe as the parties share risks equally. This payment method works to the buyer's advantage if the stock is overvalued. Here, the buyer will receive more stock from the seller than if they'd paid in cash. However, there's always the risk of a stock decline, especially if traders learn about the merger or acquisition before the deal is finalized.

5.2Paying in Cash

A cash payment is an obvious alternative to paying in stock. Cash transactions are clean, instantaneous, and do not require the same high level of management as stock transactions. Cash value is less dependent on a company's performance except in cases involving multiple currencies. Exchange rates may vary substantially, as seen in the market's response to the British pound after the UK voted to leave the European Union. While cash is the preferred payment method, the price of a merger or acquisition can run into the billions, making the cost too high for many companies.

5.3Initial Public Offerings

An initial public offering, or IPO, is an excellent way for a company to raise funds at any time, but an impending merger or acquisition is an ideal time to carry out the process. The prospect of an M&A can make investors excited about the future of a company, as it points to a solid long-term strategy and the desire to expand. An IPO always creates excitementin the market and, by pairing it with an M&A, a company can spur investors' interests and increase the early price of shares. Additionally, increasing an IPO's value with a merger or acquisition can increase existing share prices. However, market volatility makes this a risky way to finance a venture. The market can drop as quickly as it rises, and a new company is more susceptible to volatility. For these reasons, the popularity of the IPO is declining with each passing fiscal year.

Issuance of Bonds

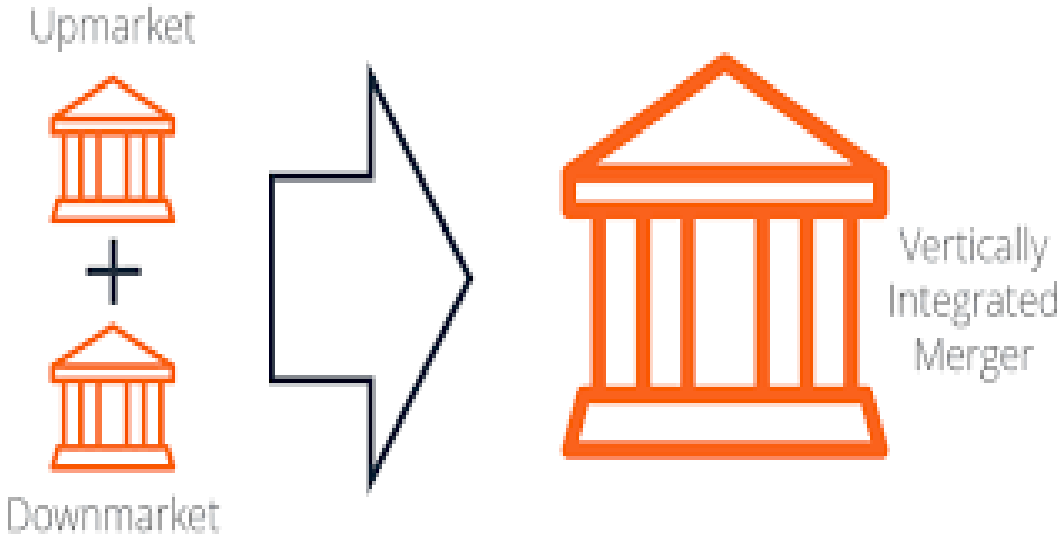
Corporate bonds are a simple, quick way to raise cash from current shareholders or the general public. A company may release time-definite bonds with a predetermined interest rate. In buying a bond, investor loans money to the company in hopes of a return, but bonds have one big disadvantage: once they're bought, the money can't be used until the bond's maturation date. The security makes bonds popular with long-term, risk-averse investors. Today, companies are taking advantage of low U.S. interest rates to fund M&A. However, the trend is tied closely to the cost of borrowing, and bond issuance is only a good value if the buyer can cheaply access credit and has a clear goal.

5.4 Horizontal Merger

A horizontal merger involves merger of two firms operating and competing in the same kind of business activity. Forming a larger firm may have the benefit of economies of scale. But the argument that horizontal mergers occur to realize economies of scale are not true horizontal mergers is regulated for their potential negative effect on expectation. Many as potentially creating monopoly power on the part of the combined firm enabling it to engage in anticompetitive practices also believe horizontal mergers. These mergers lead to elimination of a competitor, leading to an increase in the market share of the acquirer and degree of concentration of the industry. However there are strict laws and rules being enforced to ensure that there is fair competition in the market and to limit concentration and misuse of power by monopolies and oligopolies.

In addition to increasing the market power, horizontal mergers often tend to be used to protect the dominance of an existing firm. Horizontal mergers also improve the efficiency and economies of scale of the acquiring firm. Horizontal mergers have been the most important and prevalent form of merger in India. Recently there have been many big mergers of this type in India like Birla – L&T merger in the cement sector. The aviation sector has also witnessed quite a few such mergers like the Kingfisher airline – Air Deccan merger and the Jet Airways – Air Sahara merger. The Tata Cellular – Birla AT&T Communications merger was one big horizontal merger in the telecommunication space.

5.5Vertical mergers

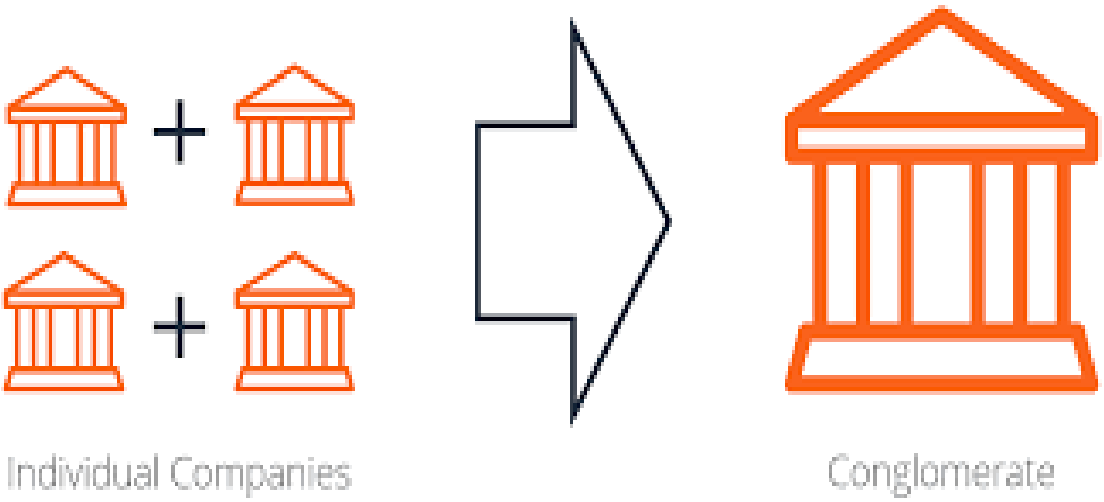


A Vertical mergers occur between firms in different stages of production operation. In oil industry, for example, distinctions are made between exploration, and production, refining and marketing to ultimate customer. The efficiency and affirmative rationale of vertical integration rests primarily in the costliness of market exchange and contracting.

In vertical mergers, the manufacturer and distributor form a partnership. This makes it difficult for competing companies to survive due to the advantages of the merger. The distributor need not pay additional costs to the supplier as they both are now part of the same entity. Such increased synergies make the business extremely profitable and drive out competition.

In a merger, two companies agree to integrate their operations together on a co-equal basis. A vertical merger integration creates value in that the businesses merging together should be worth more than they would be under independent ownership. Therefore, the rationale behind this type of merger is to increase synergies and be more efficient operating as one entity. The following are the common reasons for a vertical merger:

5.6Conglomerate mergers



Conglomerate mergers involve firms engaged in unrelated business activates. Among conglomerate mergers, three types have been distinguished:

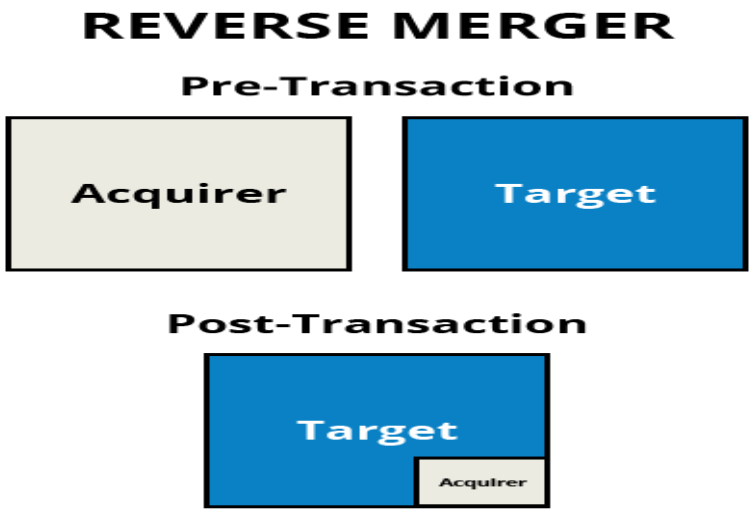
- Product-extension merger broaden the product lines of the firms. These are the mergers between the firms in related businesses and may also be called as concentric mergers.
- A geographic market extension merger involves two firms whose operations have been conducted in non-overlapping geographic areas.
- Finally, the other conglomerate mergers, which are often referred to as pure conglomerate mergers involve, unrelated business activities. These would not qualify as either as product-extension or market-extension.

Two important characteristics that define a conglomerate firm are

- First, a conglomerate firm controls a range of activities in various industries that require different skills in specific managerial functions of research, applied engineering, production, marketing and so on.
- Second, mainly external acquisitions and mergers achieve the diversification, not by internal development.

The main motive behind the formation of a conglomerate is risk diversification as the successful performers balance the badly performing subsidiaries of the group. Conglomerate mergers can also be explained as a merger between companies which are not competitors and also do not have a buyer seller relationship. The general observation has been that such conglomerate mergers are not very successful, most others have failed.

5.7 Reverse Mergers



A reverse merger is a merger in which a private company becomes a public company by acquiring it. It saves a private company from the complicated process and expansive compliance of becoming a public company. Instead, it acquires a public company as an investment and converts itself into a public company.

However, there is another angle to the concept of a reverse merger. When a weaker or smaller company acquires a bigger company, it is a reverse merger. In addition, when a parent company merges into its subsidiary or a loss- making company acquires a profit – making company, it is also termed as a reverse merger.

In case of an ordinary merger, a profit making company takes over another company which may be making a profit. The objective is to expand or diversify the business. However, in case of a reverse merger, a healthy company mergers into a financially weak company and the healthy company

is dissolved. The basic reason for reverse merger is to take advantage of the provisions of Income Tax which allows a company to carry forward its losses to set off against its future profits.

Reverse mergers involve mergers of profits making companies with companies having accumulated losses in order to:

a) Claim tax savings on account of accumulated losses that increases profits
b) Set up merged asset base to accelerate depreciation.

Hence, the reverse merger acts as an easy mode for a private company to convert into a public company

5.8 Product – Extension Mergers

A product – extension merger is a merger between companies that sell related products or services and operate in the same market. It is also known as Concentric mergers. Product – extension mergers are closely related to horizonal mergers because they both aim to complete the same goal i.e. a larger market cap.

However, product – extension mergers happen when a company merges with another company that sells products to the same customers, though they sell different products, making them indirect competitors.

By employing a product – extension merger, the merged company is able to group their products together and gain access to more consumers. It is important to note that the products and services of both companies are not the same, but they are related. The key is that they utilize similar distribution channels common or related production processions or supply chains. Therefore, the two companies are able to sell products that complement each other.

5.9Asset Acquisitions

In an asset sale, individually identified assets and liabilities of the seller are sold to the acquirer. The acquirer can choose which specific assets and liabilities it wants to purchase, avoiding unwanted assets and liabilities for which it does not want to assume responsibility. The asset purchase agreement between the buyer and seller will list or describe and assign values to each asset (or liability) to be acquired, including every asset from office supplies to goodwill. Determining the fair value of each asset (or liability) acquired can be mechanically complex and expensive; tedious valuations are costly and title transfer taxes must be paid on each asset transferred. Also, some assets, such as government contracts, may be difficult to transfer without the consent of business partners or regulators.

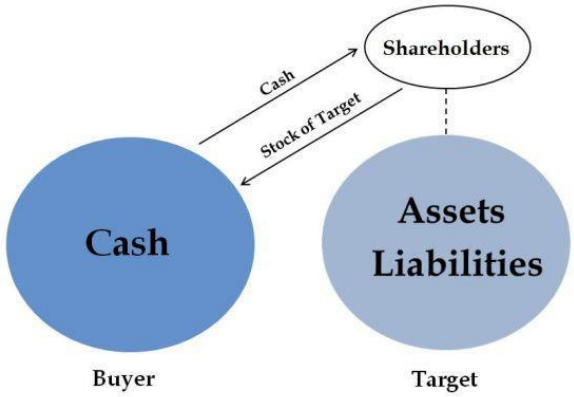
If the assets to be acquired are not held in a separate legal entity, they must be purchased in an asset sale, rather than a stock sale, unless they can be organised into a separate legal entity prior to sale. Subsidiaries of consolidated companies are often organised as separate legal entities, whereas operating division are usually not.

A major tax advantage to the acquirer of structuring a transaction as taxable asset purchase is that the acquirer receives stepped-up tax basis in the target's net assets (assets minus liabilities). This means that the acquired net assets are written up (or down) from their carrying values on the seller's tax balance sheet to fair value (FV) on the acquirer's tax balance sheet. The higher resulting tax basis in the acquired net assets will minimize taxes on any gain on the future sale of those assets.

In a taxable asset sale, the seller pays tax on any gain on the sale of its assets. Of course, the seller won't agree to bear the tax burden of an asset

sale while the acquirer enjoys the benefit of a tax stepped-up (Buyer assumes a FV tax basis in the acquired net assets equal to the purchase price) without some incentives. To induce the seller to agree to an asset purchase, the buyer will often pay a higher purchase price (relative to a stock acquisition) to the seller as compensation for the seller's tax liability.

5.10Stock Acquisitions



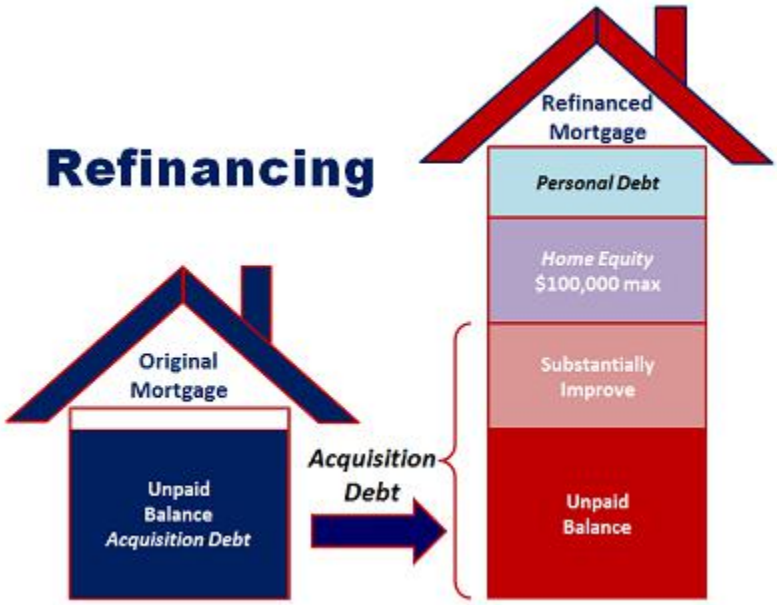
In a stock purchase, all of the assets and liabilities of the seller are sold upon transfer of the seller's stock to the acquirer. As such, no tedious valuation of the seller's individual assets and liabilities is required and the transaction is mechanically simple. The acquirer does not receive a stepped-up tax basis in the acquired net assets but, rather, a carryover basis (Buyer assumes the seller's existing tax basis in the acquired net assets). Any goodwill created in a stock acquisition is not tax-deductible.

However, if an Internal Revenue Code (IRC) Section 338 election is made by the acquirer (or jointly by the acquirer and seller), the stock sale is treated as an asset sale for tax purposes. A Section 338 election entitles the buyer to the coveted stepped-up tax basis and tax-deductible goodwill, but also triggers a taxable gain on the hypothetical asset sale. We will discuss Section 338 elections more in another lesson. Although the buyer acquires all assets and liabilities in a stock purchase, it may contractually allocate unwanted liabilities to the seller by selling them back to the seller.

In the stock acquisition of a corporate subsidiary without a Section 338 election, the selling parent company may use the tax attributed (e.g. NOLs)

of its other subsidiaries to offset its gain on the sale of target stock. However, the parent cannot use the tax attributes of the target subsidiary because they are lost to the buyer in the transaction and subject to limitation under Section 382.

5.11 **Debt Acquisition**



Agreeing to **take on a seller's debt** is a viable alternative to paying in cash or stock. For many firms, debt is a driving force behind a sale, as subpar market conditions and high interest costs make it impossible to **catch up on payments.** In such circumstances, the debtor's priority is to reduce the risk of additional losses by entering into a merger or acquisition with a company that can pay the debt. From a creditor's standpoint, this is a **cheap way to acquire assets.** From the seller's point of view, sale value is reduced or eliminated. When a company acquires a large quantity of another company's debt, it has greater **management capabilities during liquidation.** This can be a significant incentive for a creditor who wants to restructure the company or take possession of assets such as **business contacts or property.**

Legal Aspects of merger and Acquisition are:

The aspects are:

1. Analysis of Proposal by the Companies
2. Determining Exchange Ratios
3. Approval of Board of Directors
4. Approval of Shareholders
5. Consideration of Interests of the Creditors
6. Approval of the Court
7. Approval of Reserve Bank of India.

1. Analysis of Proposal by the Companies:

Whenever a proposal for amalgamation or merger comes up then managements of concerned companies look into the pros and cons of the scheme. The likely benefits such as economies of scale, operational economies, improvements in efficiency, reduction in costs, benefits of diversification, etc. are clearly evaluated.

The likely reactions of shareholders, creditors and others are also assessed. The taxation implications are also studied. After going through the whole analysis work, it is seen whether the scheme will be beneficial or not. It is pursued further only if it will benefit the interested parties otherwise the scheme is shelved.

2. Determining Exchange Ratios:

The amalgamation or merger schemes involve exchange of shares. The shareholders of amalgamated companies are given shares of the amalgamated company. It is very important that a rational ratio of exchange of shares should be decided. Normally a number of factors like book value per share, market value per share, potential earnings, and value of assets to be taken over are considered for determining exchange ratios.

3. Approval of Board of Directors:

After discussing the amalgamation scheme thoroughly and negotiating the exchange ratios, it is put before the respective Board of Directors for approval

4. **Approval of Shareholders:**

After the approval of this scheme by the respective Boards of Directors, it must be put before the shareholders. According to section 391 of Indian Companies Act, the amalgamation scheme should be approved at a meeting of the members or class the of members, as the case may be, of the respective companies representing three-fourth in value and majority in number, whether present in person or by proxies.

In case the scheme involves exchange of shares, it is necessary that is approved by not less than 90 per cent of the shareholders (in value) of the transferor company to deal effectively with he dissenting shareholders

.

5. **Consideration of Interests of the Creditors:**

The views of creditors should also be taken into consideration. According to section 391, amalgamation scheme should be approved by majority of creditors in numbers and three-fourth in value.

6. **Approval of the Court:**

After getting the scheme approved, an application is filed in the court for its sanction. The court will consider the viewpoint of all parties appearing, if any, before it, before giving its consent. It will see that the interest of all concerned parties is protected in the amalgamation scheme.

The court may accept, modify or reject an amalgamation scheme and pass orders accordingly. However, it is upto the shareholders whether to accept the modified scheme or not.

It may be noted that no scheme of amalgamation can go through unless the Registrar of Companies sends a report to Court to the effect that the affairs of the company have not been conducted as to be prejudicial to the interests of its members or to the public interest.

7. **Approval of Reserve Bank of India:**

In terms of Section 19 (1) (d) of the Foreign Exchange Regulation Act, 1973, permission of the RBI is required for the issue of any security to a person resident outside India Accordingly, in a merger, the transferee company has to obtain permission before issuing shares in exchange of

shares held in the transferor company.

The basis law related to mergers is codified in the Indian Companies Act, 1956 which works in tandem with various regulatory policies. The general law relating to mergers, amalgamations and reconstruction is embodied in sections 391 to 396 of the Companies Act, 1956 which jointly deal with the compromise and arrangement with creditors and members of a company needed for a merger. Section 391 gives the Tribunal the power to sanction a compromise or arrangement between a company and its creditors/ members subject to certain conditions. Section 392 gives the power to the Tribunal to enforce and/ or supervise such compromises or arrangements with creditors and members. Section 393 provides for the availability of the information required by the creditors and members of the concerned company when acceding to such an arrangement. Section 394 makes provisions for facilitating reconstruction and amalgamation of companies, by making an appropriate application to the Tribunal. Section 395 gives power and duty to acquire the shares of shareholders dissenting from the scheme or contract approved by the majority.

And Section 396 deals with the power of the central government to provide for an amalgamation of companies in the national interest. In any scheme of amalgamation, both the amalgamating company or companies and the amalgamated company should comply with the requirements specified in sections 391 to 394 and submit details of all the formalities for consideration of the Tribunal. It is not enough if one of the companies alone fulfils the necessary formalities. Sections 394, 394A of the Companies Act deal with the procedures and the requirements to be followed in order to effect amalgamations of companies coupled with the provisions relating to the powers of the Tribunal and the central government in the matter of bringing about amalgamations of companies.

After the application is filed, the Tribunal would pass orders with regard to the fixation of the dates of the hearing, and the provision of a copy of the application to the Registrar of Companies and the Regional Director of the Company Law Board in accordance with section 394A and to the Official Liquidator for the report confirming that the affairs of the company have not been conducted in a manner prejudicial to the interest of the shareholders or

the public. Before sanctioning the scheme of amalgamation, the Tribunal has also to give notice of every application made to it under section 391 to 394 to the central government and the Tribunal should take into consideration the representations, if any, made to it by the government before passing any order granting or rejecting the scheme of amalgamation. Thus the central government is provided with an opportunity to have a say in the matter of amalgamations of companies before the scheme of amalgamation is approved or rejected by the Tribunal.

The powers and functions of the central government in this regard are exercised by the Company Law Board through its Regional Directors. While hearing the petitions of the companies in connection with the scheme of amalgamation, the Tribunal would give the petitioner company an opportunity to meet all the objections which may be raised by shareholders, creditors, the government and others. It is, therefore, necessary for the company to keep itself ready to face the various arguments and challenges. Thus by the order of the Tribunal, the properties or liabilities of the amalgamating company get transferred to the amalgamated company. Under section 394, the Tribunal has been specifically empowered to make specific provisions in its order sanctioning an amalgamation for the transfer to the amalgamated company of the whole or any parts of the properties, liabilities, etc. of the amalgamated company. The rights and liabilities of the employees of the amalgamating company would stand transferred to the amalgamated company only in those cases where the Tribunal specifically directs so in its order.

The assets and liabilities of the amalgamating company automatically gets vested in the amalgamated company by virtue of the order of the Tribunal granting a scheme of amalgamation. The Tribunal also make provisions for the means of payment to the shareholders of the transferor companies, continuation by or against the transferee company of any legal proceedings pending by or against any transferor company, the dissolution (without winding up) of any transferor company, the provision to be made for any person who dissents from the compromise or arrangement, and any other incidental consequential and supplementary matters to secure the amalgamation process if it is necessary. The order of the Tribunal granting sanction to the scheme of amalgamation must be submitted by every

company to which the order applies (i.e., the amalgamating company and the amalgamated company) to the Registrar of Companies for registration within thirty days.

Process of Merger and Acquisition

Merger and acquisition process is the most challenging and most critical one when it comes to corporate restructuring. One wrong decision or one wrong move can actually reverse the effects in an unimaginable manner. It should certainly be followed in a way that a company can gain maximum benefits with the deal.

Following are some of the important steps in the M&A process:

Business Valuation

Business valuation or assessment is the first process of merger and acquisition. This step includes examination and evaluation of both the present and future market value of the target company. A thorough research is done on the history of the company with regards to capital gains, organizational structure, market share, distribution channel, corporate culture, specific business strengths, and credibility in the market. There are many other aspects that should be considered to ensure if a proposed company is right or not for a successful merger.

Proposal Phase

Proposal phase is a phase in which the company sends a proposal for a merger or an acquisition with complete details of the deal including the strategies, amount, and the commitments. Most of the time, this proposal is send through a non-binding offer document.

Planning Exit

When any company decides to sell its operations, it has to undergo the stage of exit planning. The company has to take firm decision as to when and how to make the exit in an organized and profitable manner. In the process the management has to evaluate all financial and other business issues like taking a decision of full sale or partial sale along with evaluating on various options of reinvestments.

Structuring Business Deal

After finalizing the merger and the exit plans, the new entity or the take over

company has to take initiatives for marketing and create innovative strategies to enhance business and its credibility. The entire phase emphasize on structuring of the business deal.

Stage of Integration

This stage includes both the company coming together with their own parameters. It includes the entire process of preparing the document, signing the agreement, and negotiating the deal. It also defines the parameters of the future relationship between the two.

Operating the Venture

After signing the agreement and entering into the venture, it is equally important to operate the venture. This operation is attributed to meet the said and pre-defined expectations of all the companies involved in the process. The M&A transaction after the deal include all the essential measures and activities that work to fulfill the requirements and desires of the companies involved.

CHAPTER 6: IMPACT OF MERGER AND ACQUISITIONS

Advantages of Mergers and Acquisitions

The most common reason for firms to enter into merger and acquisition is to merge their power and control over the markets.

Another advantage is Synergy that is the magic power that allow for increased value efficiencies of the new entity and it takes the shape of returns enrichment and cost savings.

Economies of scale is formed by sharing the resources and services (Richard et al, 2007). Union of 2 firm's leads in overall cost reduction giving a competitive advantage, that is feasible as a result of raised buying power and longer production runs.

Decrease of risk using innovative techniques of managing financial risk.

To become competitive, firms have to be compelled to be peak of technological developments and their dealing applications. By M&A of a small business with unique technologies, a large company will retain or grow a competitive edge.

The biggest advantage is tax benefits. Financial advantages might instigate mergers and corporations will fully build use of tax- shields, increase monetary leverage and utilize alternative tax benefits (Hayn, 1989).

Some are the pointers that we have to know about the advantage of merger and acquisition they are:

The major benefits or advantages of mergers are as follows:

1. Economies of scale.
2. Tax benefits.
3. Financial resources.
4. Entry in global markets.
5. Growth and expansion.
6. Helps to face competition.
7. Increase in market share.
8. Increases goodwill.
9. Research and development (R&D).
10. Miscellaneous advantages.

Lets know understand above advantages of mergers in brief.

1.Economies of scale

Mergers result in economies of scale for the company. An economy of scale is the cost benefit that a company obtains due to merger. Due to merger, company became large, and therefore, it can buy materials on a large-scale and also get huge discounts on purchases. Similarly, a merged company can produce and distribute its goods and services on a large-scale. The types of economies of scale seen in a merger are depicted below:

The different types of economies of scale are as follows:

Technical economies refer to the fixed technical-costs of the company before merger, this cost reduces after merger.

Bulk-buying economies help a merged company to obtain a discount on buying raw-materials in bulk quantity.

Financial economies help a merged company to bargain (negotiate) on a better rate of interest from financial institutions.

Organizational economies help a merged company to have a proper or good unity of command as it is lead by one management with efficiency.

2.Tax benefits

Mergers result in a large tax benefit to the companies.

A merged company gets tax benefits:

1. When a profit-making company takes over a loss-making company.
2. When a company enjoys a subsidized rate of taxation.

3.Financial resources

After merger, the companies will have adequate financial resources.

The combined assets of the merged company will help to:

Increase the credit worthiness of the companies in the financial markets.

Increase the bargaining power to obtain loans at a subsidized rate of interest.

4.Entry in global markets

Global market means a huge world-level market in which any company can sell their goods and services.

This market does not have any restrictions for entrances.

Merger helps merged companies to get an entry in the global market which encompasses various regions.
Examples of mergers showing an entry in the global market are as follows:

1. **TATA** Steel's acquisition of CORUS Steel increased Tata's presence in the global market.
2. **MITTAL** Steel's acquisition of ARCELOR Steel increased Mittal's presence in the global market.

5.Growth and expansion

Mergers help companies to grow and expand their business activities.
This growth and expansion are achieved by:

1. Making a strong presence in the domestic markets.
2. Entering into various foreign markets.

6.Helps to face competition

Merger helps the merged company to face competition at both levels, national as well as international markets.
Generally, merged company face the market competition by:

1. Merging the competitors in their company.
2. Providing the goods and services at competitive prices.

7.Increase in market share

Merger aids in increasing the market share of the merged company.
This rise in the market share is achieved by:

1. Providing an adequate supply of goods & services as needed by clients.
2. Entering into an agreement with clients for continuous supply of goods and services.

8.Increases goodwill

Merger helps the merged company to boost its goodwill in the market.
It creates goodwill by:

1. Increasing the confidence of the shareholders of the merged company.
2. Creating a good image of the merged company among the customers.

9.Research and development

Merger enhances the research and development (R&D) programmes of the merged company.
This enhancement in R&D is achieved by:

1. Allowing uninterrupted investment in research and development programmes.
2. Appointing skilled professionals to carry out the research and development programmes.

10.Miscellaneous advantages

Miscellaneous advantages of mergers are listed as follows:

1. Merger generates value of the merged company by accessing funds and assets to support its business growth and development.
2. It helps a merged company to deal with the threats of multinationals companies (MNCs).
3. It may prove beneficial to a struggling company by helping it to survive.
4. It also assists to reduce redundancies observed in the business activities and/or operations.

DISADVANTAGES OR LIMITATIONS OF MERGERS AND ACQUISITION

The advantage and disadvantages of merger and acquisition are depending of the new companies short term and long term strategies and efforts. That is because of the factors likes' market environment, Variations in business culture, acquirement costs and changes to financial power surrounding the business captured. So following are the some disadvantages or limitations of merger and acquisition (M&A).

Disadvantages: Following are the some difficulties

1. Loss of experienced workers aside from workers in leadership positions. This kind of loss inevitably involves loss of business understand and on the other hand that will be worrying to exchange or

will exclusively get replaced at nice value.

2. As a result of M&A, employees of the small merging firm may require exhaustive re-skilling.
3. Company will face major difficulties thanks to frictions and internal competition that may occur among the staff of the united companies. There is conjointly risk of getting surplus employees in some departments.
4. Merging two firms that are doing similar activities may mean duplication and over capability within the company that may need retrenchments.
5. Increase in costs might result if the right management of modification and also the implementation of the merger and acquisition dealing are delayed.
6. The uncertainty with respect to the approval of the merger by proper assurances.
7. In many events, the return of the share of the company that caused buyouts of other company was less than the return of the sector as a whole.
8. The merger and acquisition (M&A) reduces flexibility. If a rival makes revolution and may currently market vital resources those are of superior quality, shift is tough. The change expense is majorly the distinction between the particular merger worth and also the merchandising value of the firm that can be of larger distinction.

Measuring the Success of Mergers and Acquisitions

Introduction

There are numerous ways in which the relative success or failure of a merger can be defined. Success may be defined in terms of short-term measures of performance, such as an improvement in turnover during the year immediately after the merger. Alternatively, success can be considered in terms of long-term measures of performance such as a sustained increase in average share value during the 10 years after the merger. In many cases success is measured in terms of a combination of short- and long-term performance.

Short-term Measures of Success:

There are several well-documented short-term effects of a merger announcement. In most cases, when the announcement is made the value of the target company shares will increase while the value of the acquiring company shares will remain static or fall. In many cases the prices of the target company shares will increase prior to the announcement because of pre-announcement rumours. The tendency for the target share price to rise has important implications for the short-term financial success of the acquisition. In many cases the typical share price behaviour discussed can result in the acquirer paying an inflated price for the target. The difference between the pre-rumour value and the merger bid value represents the inflationary premium. As a result, acquired companies are often overvalued at the time of acquisition, particularly where more than one bidder exists. Shareholders may therefore have two different views of success in the context of an acquisition. Target shareholders who sell shares to the acquirer at the premium rate make more money than they otherwise would have done in selling the shares. For target shareholders who sell, the short-term view of the acquisition may be one of success. Shareholders who remain with the target and continue to hold shares of the merged company may have a different long-term view.

Long-term Measures of Success:

The longer-term view tends to be more complex and less clearly defined. The literature suggests that long-term performance can depend on a wide range of variables. In straightforward financial terms the long-term success

of the merger appears to depend on two main areas:
(a)Payment method; (b) implementation.
The merger deal itself is generally financed either by a cash deal, or by a share deal, or by a combination of the two. In a cash deal, existing shareholders sell their shares for a cash sum. In a share deal, existing shareholders receive new shares for their existing ones. In some cases the deal may use a combination of both in what is sometimes referred to as a combined deal. Generally, in a buoyant economy more deals will be done through shares as the value of these shares is likely to increase over time. However, companies paying in shares are more likely to have overvalued shares, particularly in the period immediately before the deal. After the deal, the true value of the stock becomes apparent and the value generally falls. As an alternative, companies paying in cash tend to have higher debt levels and undervalued stock. There is evidence to suggest that, in the long term, mergers paid for in shares will perform less well from a shareholder's point of view than those paid for in cash so long as the economy remains depressed. In a buoyant economy better long-term performance can be expected from companies that have paid for the deal in shares. The other major long-term problem indicated by the literature is ineffective implementation. Numerous mergers continue the implementation process for much longer than was originally intended. In addition it is common to find that the original implementation plans are changed during the integration process as it becomes apparent that the implementation plans were not sufficiently well thought through, or that the problems associated with full integration were not fully appreciated during the planning stages. Merger implementation and integration are considered in more detail in the final four modules of this course.

Some Scenarios for Failure: It should be clear that it can be very difficult to say clearly whether a merger or acquisition has been successful, either in the short term or in the long term. The degree of success involved depends on the point of view of the observer, the timescale being considered and determinants of success being used for evaluation. The literature contains many examples of studies carried out on merger success and failure. Some of the literature is contradictory, while other areas of the literature lack clear outcomes and conclusions. There are, however, key issues frequently quoted

in the literature upon which there is more or less common agreement. The primary reasons for a relatively unsuccessful outcome appear to be those listed below.

1. An inability to agree terms. In same cases the proposed merger may never even be implemented because the senior managers in the two companies are unable to agree terms for the merger. In such cases the merger has to be classified as a failure because of the cost involved and time wasted. There have been several examples in the UK between 1995 and 2002 of potentially very large mergers that failed to materialise because the senior managers could not agree on the management and organisational structures of the proposed new organisation. An example of such a failure was the proposed UK merger between Abbey National and Bank of Scotland.
2. Overestimation of the true value of the target. Acquirers often pay more for the target than it is actually worth. In the short term this could result from premerger target share price rises as discussed earlier. In the longer term the problem could result from an inaccurate assessment of the value of the target, either through poor valuation and due diligence or because the sector within which the company operates is subject to potential large-scale changes. Over-optimistic assessments, particularly where there is more than one bidder, are also common.
3. The target being too large relative to the acquirer. The literature suggests that the difficulties associated with a merger or acquisition increase as a function of the relative size of the target. This tends to happen because the target becomes more and more difficult to absorb as it becomes relatively larger. A target equal in size to the acquirer can only be effectively absorbed in a merger of equals.
4. A failure to realise all identified potential synergies. The underlying rationale behind mergers and acquisitions is often influenced by the potential to generate and exploit synergies. These potential synergies may seem achievable during the planning stage, but actually realising and exploiting them can be significantly more difficult than anticipated.
5. External change. Mergers and acquisition logic is sometimes

superseded by events. Even the best strategic planners can occasionally fail to see sudden and large scale changes in the external market. Where such changes do occur, the whole rationale behind the merger or acquisition can quickly dissipate, sometimes with disastrous results. Examples include companies that acquired dot.com targets just before the relative global collapse in this sector in the late 1990s.

6. An inability to implement change. A large-scale merger or acquisition generates a considerable amount of change. In a merger of equals all sections of each organisation may be subjected to change of varying degrees. Some companies are better than others at designing and implementing change. In some cases there may be a basic inability to plan and manage change effectively. In other cases there may be a deep-rooted cultural opposition to change.
7. Shortcomings in the implementation and integration processes. Poor implementation frequently shows up in the literature as a primary scenario for failure. The most common reason for poor implementation is inadequate planning and control. In mergers and acquisitions generally, the most common specific cause of poor implementation is the lack of an implementation driver. Most implementation processes appear to be carried out without an overriding driving force behind them. The result is that they take longer than originally expected, and the opportunity for generating and exploiting synergies may be lost as a result.
8. A failure to achieve technological fit. Technological fit and the failure to achieve it are very common problem areas in mergers and acquisitions. Companies tend to develop their own technologies and technological approaches to production over a number of years, and each system tends to be highly individualistic. It can be extremely difficult to merge two entirely different technological systems. In some cases the costs of doing so fully would be prohibitively expensive.
9. Conflicting cultures. The incompatibility of corporate cultures is another classical scenario for failure. Cultures, like technologies, tend to evolve over a long period of time and are highly individualistic. It is very common to observe the formation of conflict when two corporate cultures are thrown together with inadequate preparation.

10. A weak central core in the target. Targets may be unfocused or there may be problems with the central or core elements in the company. In such cases the acquisition may turn out to be less valuable than was originally thought. Typical examples were the acquisitions of the apparent high-growth dot.com companies of the late 1990s.

CHAPTER 7: INDIA TREND OF MERGER ACQUISITION

The strategic issues and evolution relating to mergers and acquisition in India. First, evolution and a trends of merger and acquisition has been given. Secondly, the studies dealing with types of merger and acquisition have been described. Thirdly, it investigates into the possible causes, motives and factors responsible for companies opting for merger and acquisitions as a strategic choice in India. Fourth, it takes into account the impact of merger and acquisition on Indian Companies. Fifth, an attempt has been made to highlight some of the important issues on the integration aspects related to Indian merger and acquisition.

7.1Pre-Independence Period

Merger and Acquisition played an important role in the transformation of the industrial sector in India since the /second /world War period. The economic and political conditions during the Second World War and post-war periods including several years after independence gave rise to a spate of merger and acquisition (Kothari 1967). The inflationary situation during the wartime enabled many Indian businessmen to amass income by way of high profits and dividends and black money.

This led to "wholesale infiltration of businessmen in industry during war period giving rise to hectic activity in stock exchanges. There was a craze to acquire control over industrial units in spite of swollen prices of shares. '"The practice of cornering shares in the open marketand trafficking of managing agency rights with a view to acquire control over the management of established and reputed companies had come prominently to light. The net effect of these two practices, viz of acquiring control over ownership of companies and of acquiring control over managing agencies, was that, large number of concern passed into the hands of prominent industrial houses of the country. As it become clear that India would be gaining independence, British managing agency houses gradually liquidated their holdings at fabulous prices offered by Indian business community. Besides the transfer of managing agencies, there were a large number of cases of transfer of interests in individual industrial units from British to Indian hands,. Further, at that time, it used to be the fashion to obtain control of insurance

companies, for the purpose of utilizing their funs to acquire substantial holdings in other companies. The big industrialists also floated banks and investment companies for furtherance of the objective of acquiring control over established concerns.

7.2 Post-Independence Period

Large number of merger and acquisition occurred in industries like jute, cotton textiles, sugar, insurance, banking, electricity and tea plantation. It has been found that, although there were a large number of mergers and acquisition in the early post independence period, the anti-big government policiesand regulation of the 1960s and 1970s seriously deterred merger and acquisitions. This does not, of course, mean that merger and acquisition were uncommon during the controlled regime. The deterrent was mostly to horizontal combinations which resulted in concentration of economic power to the commondetriment. There was a many conglomerate combinations. In some cases even the government encouraged merger and acquisition; especially for sick units. Further, the formation of the Life Insurance Corporation and nationalization of the life insurance business in 1956 resulted in the takeover of 243 insurance companies. There was a similar development in the general insurance business. The National Textiles Corporation (NTC)took over a large number of sick textiles unit.

Further, between 1951 and 1974, a series of Governmental regulations were introduced for controlling the operations of large industrial organisations in the private sector. Such regulations influenced considerably the growth strategies adopted by the companies. Some pf the important regulations were, Industrial Development and Regulation Act, 1951, Import Control Order, 1957-1958, Monopolies & Restrictive Trade Practices Act, 1969, and Foreign Exchange Regulation Act, 1973. These Regulations along with others influenced the pattern as well as pace of diversification undertaken by different categories of companies in India.

Due to the existence of strict government regulations, Indian companies were forced to look for new areas where capabilities and difficult to develop in the short run. In pursuit of this growth strategy, they often change their organisation and basic operating characteristics tp meet tje diversified businesses and management. In 1977, it has been found that, Indian

enterprises in both, the private and public sectors are much diversified. This diverfication led to merger and acquisition. They also found that India has a large percentage of unrelated diversifies as compared to the USA, UK, France, Germany and Italy (Kaul 1991, 2003).

Post-1990

Merger and Acquisition scenario started changing in India after the introduction of liberalization process in 1991. Government regulation on growth of merger an acquisition was reduced. Several measures taken by Government which include delicensing, dereservation, MRTP Act relaxations, liberalization of policy towards foreign capital and technology led to a structural transformation in the Indian industries. This industrial transformation has provided a launch pad for the corporate enterprises to grow and expand through merger and acquisitions strategy.

Analyzing the size, growth and presence of some leading corporate groups in India, it has been observed that these groups employed merger and acquisition strategically to grow and expand. Corporate group like R.P. Goenka (RPG), Vijay Mallya (UB) and Manu Chabria Group has employed up by merger and acquisition strategy aggressively to grow. The Ajay Piramal group has almost entirely been built up by merger and acquisition. Further, merger and acquisition have significantly contributed to the growth of south based Murugappa group. Other groups/companies, whose growth has been significantly contributed by merger and acquisition in the recent past, include Hindustan Lever, Ranbaxy, Tata group, Stertile group, HCL Technologies, Glaxo India and Sun Pharmaceuticals Limited.

Recent trends and Development

In the post 2000 period, there has been tremendous increase in Indian merger and acquisition. However, 323 merger and acquisition were reported in 2000 only. Indian companies have been active players in the merger and acquisition front beyond the headline grabing mega deals like Tata-Corus, there has been a broader trend of Indian companies of all sizes using merger and acquisition as a vehicle for growth. According to a report of Accentuate and C11,the numbers of deals by Indian companies in the 5 years upto 2008 has increased at 20% CAGR excluding mega deals of US $1 billion and above where as value of these deals has increased by over 15% CAGR.

Indian merger and acquisition have seen tremendous momentum in 2005

when merger and acquisition having value of US$22 billion is reported. Further, 543 merger and acquisition are reported having deal value of US$30.4 billions in 2007. However, merger and acquisition have reduced significantly in 2008 and 2009due to the world economic crisis and industrial slowdown.

There has been significant improvement in the Indian merger and acquisition activity in 2010 where deals worth US$44 billion reported till 30th September. It is worth mentioning here that Indian deal sizes are relatively small by global standards and mega-deals make a significant impact on India's merger and acquisition tends.. In fact, the average size of all merger and acquisition transaction by Indian companies in 2007 (including five mega deals) was about US$56 million compared to a global figure of over US$100 million.

One important characteristic of the new wave of Indian merger and acquisition is the tendency to build a series of smaller stakes in different businesses and often industries; a string of pearls approach that allows companies to rapidly expand their growth opportunities and extend their geographical footprint. For many Indian companies the process of building a portfolio of complimentary businesses is intuitive as it fits the traditional conglomerate approach which has been so successful in India and many other emerging markets. In many cases, Indian companies have gained experience and confidence by venturing into similar markets in emerging economics before tackling more so phisticaticated mature markets. The merger and acquisition profile of Mahindra and Mahindra's Automotive business best describes this strategy which targeted Malaysia, Indonesia, and Thailand before moving into South Africa

Some of the example of Acquisitio

Operator	**Started Operations**	**Ceased Operations**	**Fate**
Modi Telstra	1990	2000	Merged into Axiata Spice Communications
Hutch Essar	1999 Acquired BPL Mobile	2007	Bought by Vodafone Group

AxiataSpice Communications	1992	2008	Merged into Idea Cellular
S Tel	2008	2012	Licence cancelled by the Supreme Court of India
Etisalat	2010	2012	Licence cancelled by the Supreme Court of India
Loop Mobile	1995	2014	Ceased operations after expiration of licence
Virgin Mobile India, T24 Mobile	2009	2015	Merged into Tata Docomo
Videocon Telecom	2010	2016	Shut down following sale of spectrum to Bharti Airtel
MTS India	2009	2017	Acquired by Reliance Communications
Idea Cellular	2002	2018	Merged with Vodafone India to form Vi
Vodafone India	2011	2018	Merged with Idea Cellular to form Vi
Aircel	1999	2018	Bankrupt
Telenor India	2009	2018	Acquired by Bharti Airtel
Tata Docomo	2009	2019	Acquired by Bharti Airtel
Reliance Communications	2002	2019	Bankrupt
Mahanagar Telephone Nigam Limited	1986	2020	Subsidiary of BSNL until merger is complete [

7.3 **Mergers and acquisition-a recent in Indian context**

In India, the mergers and acquisitions scenario changed in mid-2000. As reported by Price Water House Coopers, the value of M&A deals announced in the first six months of 2005 was $6.9 billion, compared to $2.9 billion in the first half of 2004 and more than the $5.2 billion in the whole of 2004. But, corporate India is still counting costs of restructuring, a study done by S. Vaidya Nathan suggests that not even a single company has restructured itself in a way that could rekindle investor interest and improve valuations substantively. Ghosh (2001) concluded in his study that financial success of a merger would be considered based upon the benchmark chosen. Gordon, Roger (2003) provides the theoretical underpinnings for re-examining the interests of shareholders. Rajkumar (2008) in a study of post-merger corporate performance of Indian companies has stated that post-merger operating and financial performance of the acquiring companies show no improvement when compared to pre-merger values. Indian companies, sensing attractive opportunities outside the country are also venturing abroad. Tata Steel acquiring Dutch steel giant Chorus for US $12.1 billion, Tata Motors going for Jaguar-Land Rover for US $2.3 billion and Hindalco acquiring Atlanta based Novelis for 6 billion US dollar are some of the recent examples. Mergers and acquisitions (M&A) in the country slumped to their worst in the first half of 2009 as a liquidity crunch and mismatched valuations marred buying plans of Indian companies. This may be seen from the global slowdown perspective hit in 2008. United States of America (USA) proved to be the most preferred destination for Indian acquirers, with seven of the 31 outbound targets located in that country, followed by the United Kingdom (UK) with three deals. Eight of the 34 inbound deals were acquired by US-based companies, followed by five deals by French firms and four by German firms. Indian outbound deals, which were valued at US $0.7 billion in 2000-2001, increased to US $4.3 billion in 2005, and further crossed US $15 billion-mark in 2006. In fact, 2006 will be remembered in India's corporate history as a year when Indian companies covered a lot of new grounds. They went shopping across the globe and acquired a number of strategically significant companies. This comprised 60% of the total mergers and acquisitions (M&A) activity in India in 2006. And almost 99% of acquisitions were made with cash payments.

CHAPTER 8 :CASE STUDY

Introduction

Vodafone India

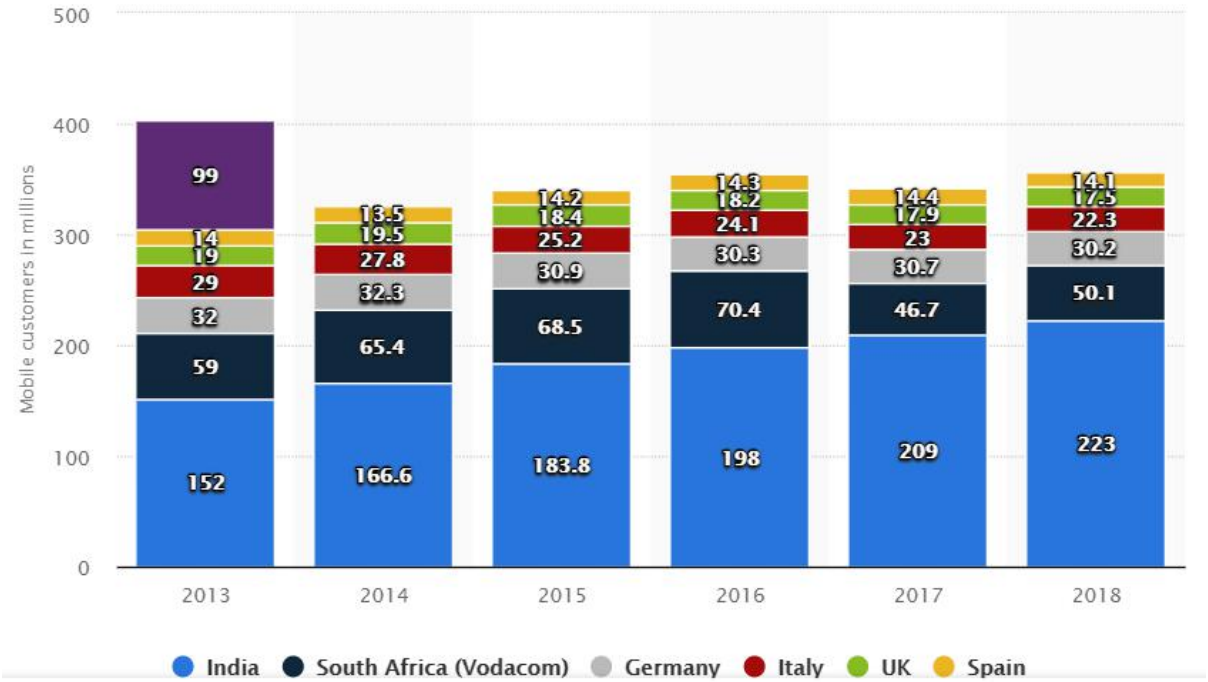
Type	Public Limited Company
Industry	Telecommunication
Predecessor	Racal Telecom (1982 to 1991)
Founded	1991; 27 years ago
CEO	Sunil Sood
Parent	Vodafone
Area Served	India
Services	Telecommunication Internet Service Provider
Fate	Merged with Idea Cellular
Successor	Vodafone Idea Limited
Website	www.vodafone.in

Vodafone was formed under the Racal telecommunications brand and as was launched in January 1985 under the name Racal Vodafone Holdings Ltd. Vodafone stands for Voice, Data and Phone services chosen by the company to "reflect the provision of voice and data services over mobile phones". Vodafone India is the second largest mobile network operator in India by subscriber base, after Airtel with a market share of 21%. Vodafone owns and operates networks in 25 countries, and has partner networks in 47 further countries. It is headquartered in Mumbai, Maharashtra. In the 2018 financial year the company had around 223 million mobile customers in India alone.

As can be seen in the statistic above, British Multinational company Vodafone has millions of customers spread out all around the world. Among mobile operator groups globally, Vodafone ranked 4th (behind China Mobile, Bharti Airtel and Vodafone Idea) in the number of mobile customers as of 2018. Its Vodafone Global Enterprise division provides telecommunications and IT services to corporate clients in 150 countries. Vodafone has a primary listing on the London Stock Exchange which is the eighth-largest of any company. Vodafone India had started rolling its 4G

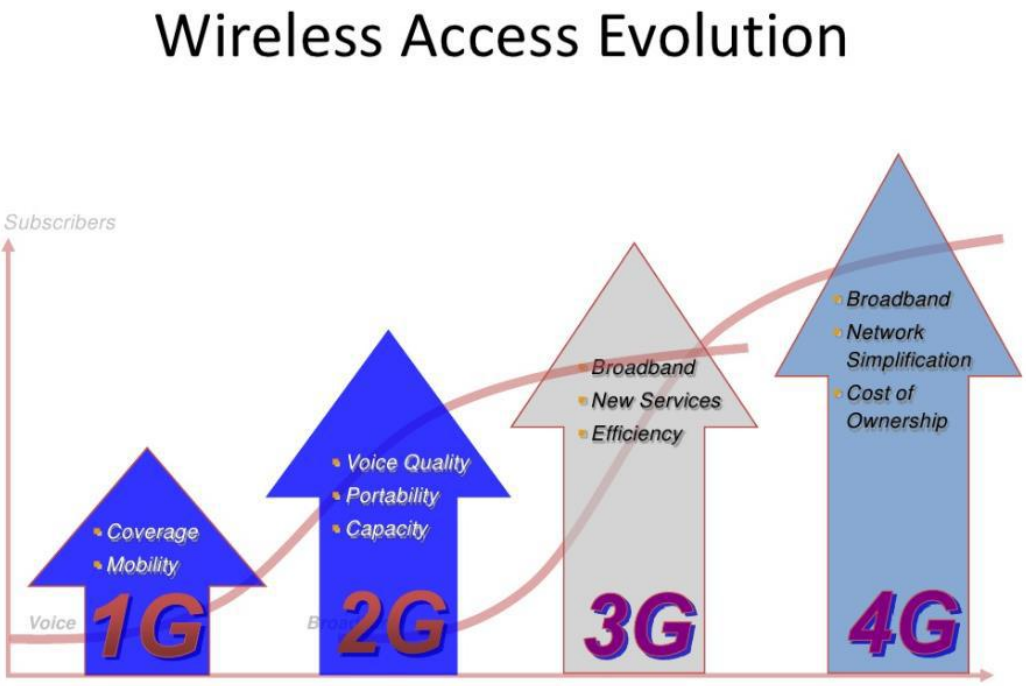
VoLTE services in the country under the tag Vodafone Super Volte. Gujarat was the first circle to receive that services. Before the merger with Vodafone Idea Limited the circles where the company was providing VoLTE were: West Bengal, Assam, Gujarat, Delhi & NCR, Haryana, Karnataka, Maharashtra & Goa, Mumbai, Rajasthan, Uttar Pradesh, Punjab, Kerala, Kolkata, Chennai.

Number of Vodafone mobile customers from 2013 to 2018, by country/market (in millions)



Idea Cellular

Type Public Limited Company
Industry Telecommunication
Legal form Joint Stock Company
Company Idea Cellular Ltd
Founded 1995
Parent Aditya Birla Group, Axiata, Providence Equity Partners
Founder Aditya Birla
CEO Himanshu Kapadia
Area Served India
Website www.ideacellular.com



Idea Cellular is an Indian mobile operator operating in all 22 telephone areas of India. It is the third largest mobile company in India. The company was incorporated as Birla Communications Limited on march 14, 1995 and commenced business on August 11, 1995. It was registered in Mumbai, Maharashtra. The company name changed to Birla AT&T Communications

Limited on May 30, 1996 following the December 5, 1995 between AT&T Corporation and Grasim Industries Limited. It Changed name to Idea Cellular Limited and launched “Idea” brand name in 2002. It provides wireless and long distance voice and internet services to consumer and enterprise markets. Later on Idea became a pan-India operator in 2009.

The market positioning of idea reflects the strength of its brand considering the fact that idea added 11 out of its total 22 service areas in the past four years. Today, it is a pan-India player with commercial 2G operations in 22 service areas, and 3G in nine of these circles.

The company started in 1995 as a joint venture if Tatas, Aditya Birla Group and AT & T through the merger of Wings Cellular which is active in Madhya Pradesh, Uttar Pradesh, Rajasthan and Tata Cellular, as well as Birla AT & T Communications.

Originally Idea had only a very limited GSM (Global System Mobile) network in India, but was able to expand its mobile network into a pan-India network through the 2004 acquisition of Ecotel and is now also active in West Bengal, Maharashtra, Goa, Gujarat, Andhra Pradesh, Madhya Pradesh, Chhattisgarh, Uttar Pradesh, Haryana, Kerala, Rajasthan and Delhi.

On April 10, 2006, the Aditya Birla Group announced the takeover of the stock package of 48.14% of the Tata Group. Currently, Aditya Birla holds 49.1% of the share capital. Headquartered is in Mumbai, India. It is the first multinational company under the Aditya Birla Groups.

Vodafone Idea Limited

Type	Public
Industry	Telecommunications
Predecessor	Vodafone India Idea Cellular Limited
Founded	2018
Headquarters	Mumbai Gandhinagar
Key People	Nakka (Chairman) Balesh Sharma (CEO)
Parent	Vodafone Group Aditya Birla Group
Website	www.vodafoneidea.com

Vodafone Idea Limited is India's largest telecom operator with its headquarter based in Mumbai, Maharashtra. Vodafone Idea is a pan-India integrated GSM (Global System Mobile) operator offering 2G, 3G, and 4G mobile services under two brands named Vodafone and Idea. Vodafone Idea also provides services including Mobile payments, advanced enterprise offerings and entertainment, accessible via both digital channels as well as on-ground touch points, centres across the country. The company's vision is to create world class digital experiences to connect and inspire every Indian to build a better tomorrow. As of December 2018, Vodafone Idea has 35.61% market share in India with 418.745 million subscribers, making it the largest mobile telecommunications network in India and second largest mobile telecommunications network in the world. Vodafone Idea has a broadband network of 340,000 sites, distribution reach of 1.7 million retail outlets.

On 31 August 2018, Vodafone India merged with Idea Cellular, and was renamed as Vodafone Idea Limited. However, the merged entity continues using both the idea and Vodafone brand. Currently, the Vodafone Group holds a 45.1% stake in the combined entity, the Aditya Birla Group holds 26% and the remaining shares will be held by the public. Kumar Mangalam Birla heads the merged company as the Chairman, with Balesh Sharma as

the CEO.

Vodafone India and Idea Cellular Merger

On 28 October 2005, the company announced the acquisition of a 10 percent (%) stake in India's Bharti Enterprises, which operates the largest mobile phone network in India under the brand name Airtel. Then on 11 February 2007, the Company agreed to acquire a controlling interest of 67% in Hutch Essar for US $ 11.1 billion. At the same time, it agreed to sell back 5.6% of its Airtel stake back to the Mittal. Vodafone would retain a 4.4% stake in Airtel. On 21 September 2007, Hutch was rebranded to Vodafone in India. In May 2011, Vodafone Group Plc bought the remaining shares of Vodafone Essar from Essar Group Limited for $ 5 billion to buy out minority shareholders in Vodafone India. By late January 2017, Vodafone Group's unit in India and Idea Cellular Limited were in preliminary talks to merge.

On 20 March 2017, Vodafone announced that it was merging its Indian business with Idea, India's third – largest network, to create the country's

largest operator with almost 400 million customers, accounting for 35% of the Indian cell phone service market. Vodafone Group, would own 26 percent (%). The deal valued Vodafone India at the equivalent of $ 12.6 billion and Idea Cellular at the equivalent of $ 11.02 billion. The deal would enable Vodafone to move its Indian subsidiary off its balance sheet, cutting the British group's net debt by the equivalent of almost $ 8.25 billion. The merger got approval from Department Of Telecommunications (DOT) for Vodafone – Idea merger on 9 July 2018.

On 30 August 2018, National Company Law Tribunal gave the final nod to the Vodafone – Idea merger. The merger was completed on 31 August, 2018, the newly merged entity was named Vodafone Idea Limited and the largest telecom service provider in India. However, the merger did not include Vodafone's 42% stake in Indus Towers Limited.

The merger created the largest telecom company in India by subscribers and by revenue. Under the terms of the deal, the Vodafone Group holds a 45.2% stake in the combined entity, the Aditya Birla Group holds 26% and the remaining shares will be held by the public.

Reason behind Idea Cellular – Vodafone India Merger

The merger of Idea Cellular and Vodafone India holds the potential for significant cost savings and 3G / 4G spectrum gain crucial in market share battle against Reliance Jio and Airtel.

The success of the mega merger between Idea Cellular Limited and Vodafone India Limited depends largely on synergy benefits that can accrue by combining operations. Not surprisingly, the two companies are factoring in huge gains on this count.

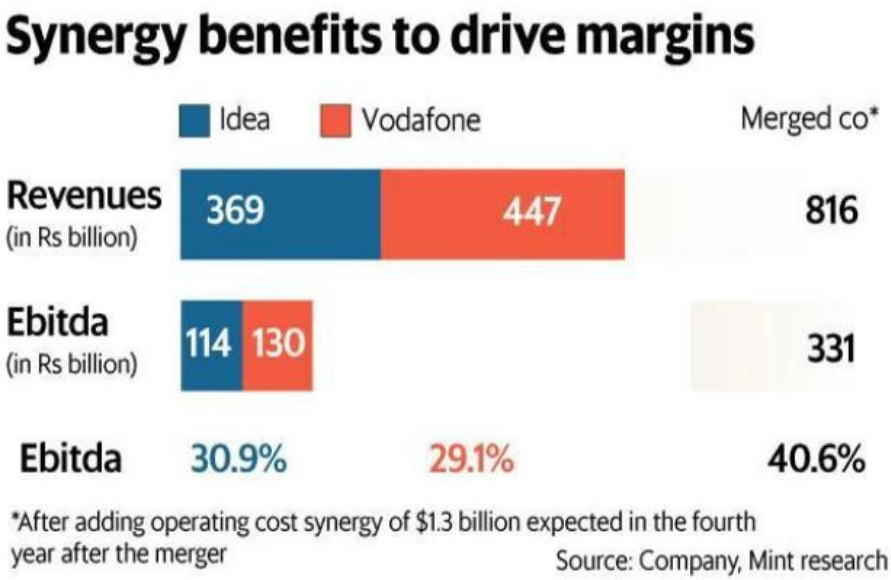
Vodafone and Idea said in a statement that annual savings, both in terms of operating costs as well as capital expenditure, will be around Rs. 14,000 crore annually by the fourth full year of operations as a combined entity. About two – thirds of this will be on account of savings in operating costs. The net present value of total savings (opex and capex) is estimated at Rs. 70,000 crore ($10.5 billion).

Opex and Capex are short for operating expenditure and capital expenditure, respectively. Reliance Jio is not main reason for merger of Idea Cellular, Vodafone.

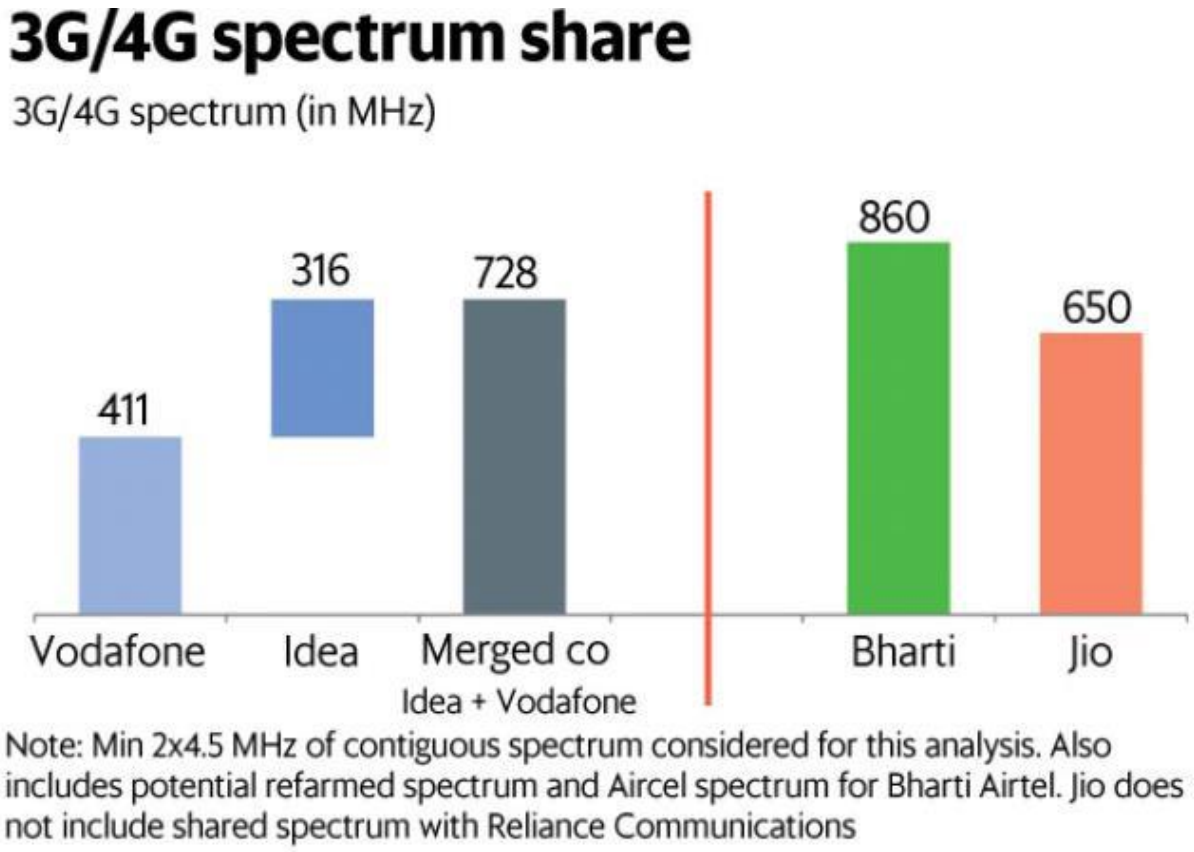
While merging companies are typically quite positive about synergy benefits, most analysts agree that the Vodafone – Idea merger holds the potential for significant cost savings. With a larger scale and elimination of duplicate costs, margins can rise substantially. However, with the two companies announcing that Vodafone and Idea will exist as separate brands, some analysts are questioning the expected gains from synergies.

Idea and Vodafone individually operate at an EBITDA margin of around 30 percent (%), far lower than Bharti Airtel Limited's margin of around 40 percent (%) and Reliance Jio Info COMM Limited's targeted margins of 50 percent (%).

EBITDA stands for Earnings Before Interest, Tax, Depreciation and Amortization.

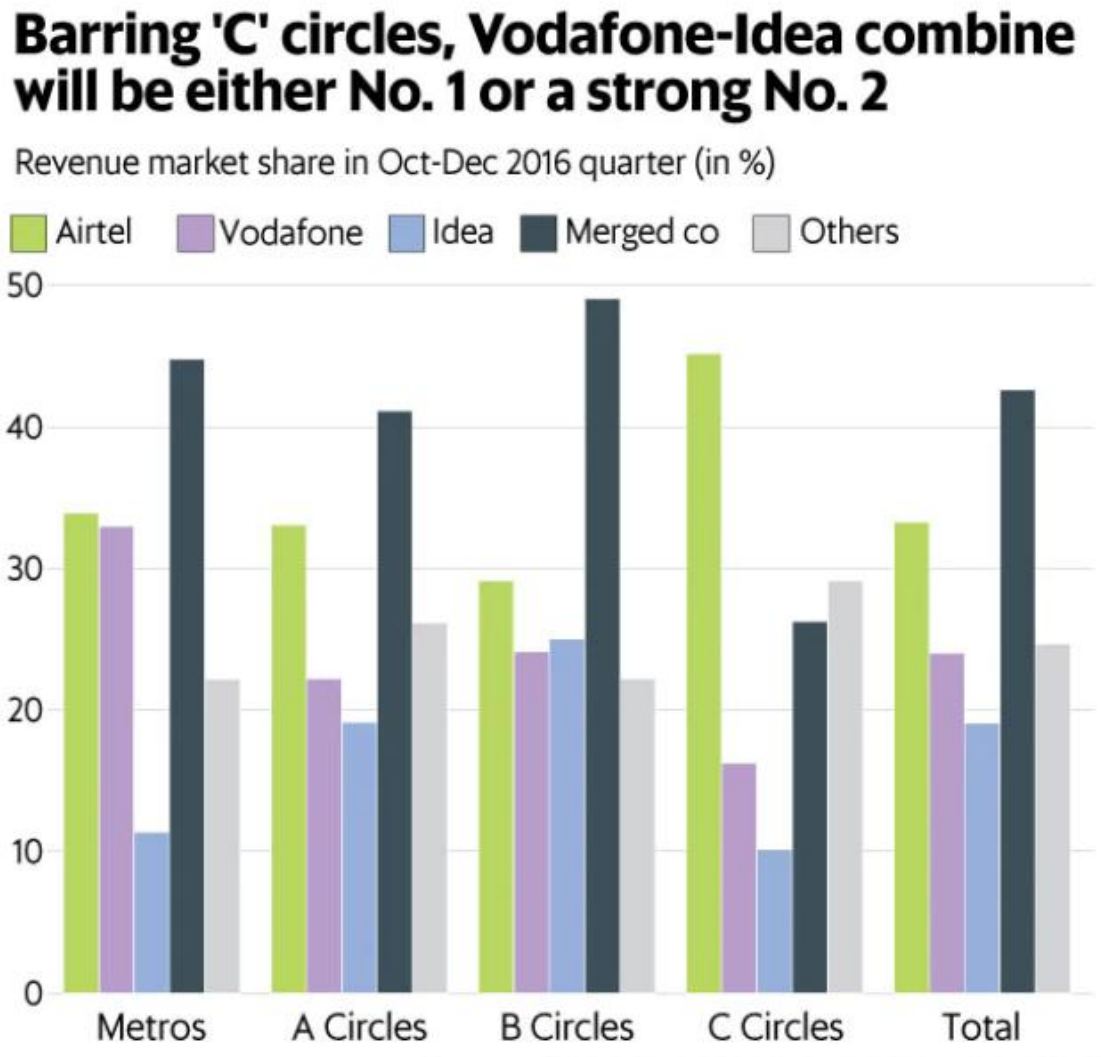


On their own, Vodafone and Idea's holdings of 3G and 4G spectrum was far lower than that acquired by Airtel and Reliance Jio. This also inhibited their ability to compete effectively, given the shift towards increased data usage by customers. Coming together will enable Idea and Vodafone to operate in the same league, as far as spectrum footprint goes.



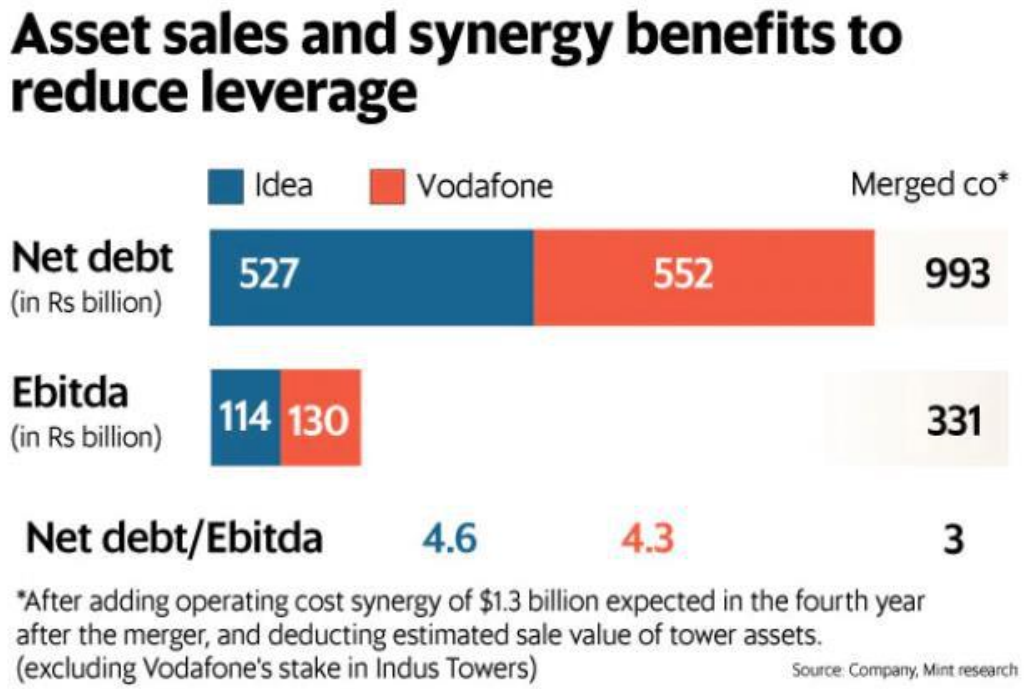
The combined entity will also be either the largest cellular services operator in prominent circles, or a very strong No.2. In a couple of circles, it will upstage Bharti Airtel as the number one operator, while in some other "A" and "B" circles, it will graduate to a strong No. 2. It remains to be seen if the combined entity will retain a half – hearted presence in the relatively smaller "C" circles, or whether it will up the ante and aim for a strong pan – India focus.

Nevertheless, a stronger market share in the majority of circles will also result in better efficiency. One of the reasons margins are relatively lower at both Idea and Vodafone is that these companies run EBITDA losses in some circles where market share is sub – optimal.



The merger will also result in a sharp fall in leverage, Idea and Vodafone expect the net debt/EBITDA for the combined entity to fall from around 4.4 times to around 3 times. This will be aided by asset sales – both companies intend to sell their tower assets and reduce debt. Besides, capex synergies will contain debt to some extent in the future. In addition, opex synergies will result in higher profits.

On a Stand alone basis, analysts at JM Financial Institutional Securities Limited had forecast Idea's net Debt / EBITDA ratio to reach around 5.5 times by end March 2017. In contrast, the forecast 3 times net Debt / EBITDA ratio for the combined entity is far lower.



With the synergy benefits expected to result in higher profits and leverage expected to reduce, the combined entity's equity valuation is estimated to soar, as the chart below shows.

Reduced leverage and higher margins can result in appreciation of equity

	Idea#	Vodafone	Merged co*
Net debt (Rs bn)	527	552	993
Equity value (Rs bn)	195	276	1,109
EV (Rs bn)	722	828	2102
Ebitda (Rs bn)	114	130	331
EV/Ebitda	6.33	6.38	6.35
Per share valuation (Rs)	72.5	76.7	153.9

Equity excludes value of Indus Tower stake * After adding operating cost synergy of $1.3 billion expected in the fourth year after the merger, and deducting estimated sale value of tower assets (excluding Vodafone's stake in Indus Towers)

For the deal, the two companies have been valued at around 6.35 times enterprise value / EBITDA. Even if we were to assume similar valuations for the combined entity, the estimated increase in EBITDA itself will result in a huge jump in enterprise value. And with debt expected to reduce, equity shareholders are likely to gain. Merger with Idea Cellular signals Vodafone's shrinking interest in India

Of course, the big caveat in all of these calculations is the usual disclaimer: "all other things remaining the same, they are practically changing each passing day, with Reliance jio making rapid strides in the market. Profitability may well come down substantially for both Airtel and the Vodafone – Idea combine, as tariffs continue to decline and freebies continue to increase. Besides, it's anybody's guess where market shares settle a few years from now.

Even so, the fact remains that Vodafone and Idea will be in a far better position together than trying to navigate the extremely big challenges in the telecommunication market on their own.

Effects From Merger

- Accordingly, experts believe Vodafone India and Idea's attempts to unlock synergies across 22 circles in the middle of a competitive situation price war with 4G networks not yet up to market expectations could have limited success.

- The Vodafone – Idea merged entity expects to extract synergy benefits worth $10 billion in net present value (NPV) terms after integration of costs and spectrum liberalization payments and an estimated $2.1 billion of savings by the fourth year of completion.

- Aggressive entry of reliance jio has launched big price war. With its free services, jio has upset the bigger players. The Vodafone Idea merged entity will only add fuel to the fir. Which ultimately effects the tariff plans price.

- Overall consolidation in the debt – ridden telecom industry will lead to better financial healthy and sustainability of companies in industry, there will be less competition and bigger revenue.

- Vodafone – Idea merger will result in duplication of resources across the country which require job cuts too.

- The Vodafone – Idea merger in telecom sector will lead to pooling of vital resources and infrastructure, which will inevitably lead to better service quality and customer experience.

Benefits For Customers

- The chances of better services is more.
- Customer as a king in market due to impact on tariff prices.
- Chances of better and faster network is more.
- Also both of the companies starts working on better coverage of 4G and 5G, Which ultimately grew the future expectation of customers.

Overview Of Vodafone Idea Limited

Vodafone Idea Limited is an Aditya Birla Group and Vodafone Group partnership. It is India's leading telecom service provider. The Company provides pan India Voice and Data services across 2G, 3G and 4G platform. With the large spectrum portfolio to support the growing demand for data and voice, the company is committed to deliver delightful customer experiences and contribute towards creating a truly 'Digital India' by enabling millions of citizens to connect and build a better tomorrow. The Company is developing infrastructure to introduce newer and smarter technologies, making both retail and enterprise customers future ready with innovative offerings, conveniently accessible through an ecosystem of digital channels as well as extensive on-ground presence. The Company is listed on National Stock Exchange (NSE) and Bombay Stock Exchange (BSE) in India.

CHAPTER 9: CONCLUSION

Mergers have been the prime reason by which companies around the world have been growing. The inorganic route has been adopted by companies forced by immense competition, need to enter new markets, saturation in domestic markets, trust to grow big and maximize profits for shareholders. In the changing market scenario it has become very important for firms to maximise wealth for shareholders. Many researchers have shown significant findings out of their research. The Hubris hypothesis in fact states that the announcement of a merger or acquisition does not lead to return for shareholders since the acquisition would only lead to transfer of the wealth from the building shareholders to the target shareholders.

Overall the study conducted by the researcher shows that financial performance and acquiring company's shareholders wealth gets deteriorated post acquisition. However the industry sector were further analysed with the help of an interview. It was understood from the interview that operationally and financially the merger would prove successful in the long run as it offers great synergies to the shareholders of both the acquiring firm and the target firm.

The research had analysed specific acquiring cases and the findings have been constant. It has been seen that synergistically the mergers have been very strong and looks very definite to drive value for the shareholders of the acquiring firm's shareholders.

Mergers and Acquisitions are entered into for creating a win-win situation for all the concerned stakeholders of the company. The overall research has discussed the way mergers and acquisitions are created and their analysis of the pre and post financial performance has been studied. The study has shown that in the Indian context mergers and acquisitions haven't been able to create enough shareholder wealth post acquisition for the combined entity. However the research has also examined factors beyond financial analysis which shows that there is a lot of synergy in the form of geographical spreads, increased customer space, growth in size and scale, access to new markets, cutting costs in operational terms and reduction in areas where overlap was witnessed.

To conclude mergers and acquisitions do not create immediate shareholders wealth and margins for the acquiring firm in the immediate short term. However from a longer perspective a consolidated company would be able to better cope up with competition, increased pressure to cut costs and grow in the changing business environment. A number of studies have been done in various countries across the world to find out whether mergers and acquisitions create maximization of wealth for shareholders.

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PROJECT REPORT ON

A STUDY ON COMMODITY TRADING & INVESTOR AWARENESS

SUBMITED BY

AKSHADA SURYAKANT MHATR

M.COM: ADVANCE ACCOUNTING

SEMESTER III

2020-2021

UNDER THE GUIDANCE OF

PROF. VIJAY GAWADE

SUBMITTED TO

UNIVERSITY OF MUMBAI

VIDYALANKAR SCHOOL OF INFORMATION TECHNOLOGY

(AFFILIATED TO UNIVERSITY OF MUMBAI)

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(Affiliated to Mumbai University)

Certificate

This is to certify that

Ms. Akshada Suryakant Mhatre of M.com in Advance Accounting, Semester III has undertaken & completed the project work titledA Study on commodity trading work titled & investor awareness during the academic year 2020-2021 under the guidance of Ms. PROF. Vijay Gawde submitted on to this college in fulfilment of the curriculum of M.Com in Advance Accounting. University of Mumbai.

This is a bonafide project work & the information presented is True & original to the best of our knowledge and belief.

PROJECT GUIDE	**COURSE CO-ORDINATOR**	**EXTERNAL EXAMINER**	**PRINCIPAL**

ACKNOWLEDGMENT

I hereby acknowledge all those who directly or indirectly helped me in drafting of this project report. It would not have been possible for me to complete the task without their help and guidance.

First of all, I would like to thank The Principal Dr. Rohini Kelkar and the coordinator Ms PrathmaNemane who gave me the opportunity to do this project work. They also conveyed the important instructions from the university time to time. Secondly, I am very much obliged of my guide Prof. Vijay Gawde for giving guidance for completing the project.

Last but not the least; I am thankful to the University of Mumbai for offering the project in the syllabus. I must mention my hearty gratitude towards my family, other faculties and friends who supported me to go ahead with the project

DECLARATION

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I Akshada Suryakant Mhatre, student of M. Com in Advance Accounting Semester III, Vidyalankar School of Information Technology, hereby declare that I have completed the project on study the problems face by the A STUDY ON COMMODITY TRADING & INVESTOR AWARENESS in academic year 2020-21. The information submitted is true and original to the best of my knowledge.

Signature of Student

Akshada Suryakant Mhatre

EXECUTIVE SUMMARY

The emergence of the market for derivatives product like forward, future, options and swaps can be traced back many years ago, when people want to invest in any company and they want to protect themselves from incurring losses.Derivatives product (forward, futures, options and swaps) minimize the impact of fluctuations of price of stock of any company resulting in profit or loss to the investor.

Derivatives product initially emerged as hedging devices against fluctuations in commodity prices. Financial derivatives came into spotlight in the year 1970 due to growing instability in the financial market.

Derivatives are risk management instruments, which derive their value from an underlying asset. Underlying asset can be share, bonds commodity, currencies, interest rate etc. The objective of derivatives is to analyzing the capital market, to minimize the risk and to study various trends operating in derivatives market.

Importance of derivatives is to make investor aware of functioning of derivatives; it also acts as a hedging tool for the investors. The study is limited to derivatives with special references to future and option in the Indian context. Each strategy is analyzing according to its risk and returns. After analyzing each strategy the investor can easily decide that where he should invest his money according to risk and return from that particular strategy.

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TITLE: A STUDY ON COMMODITY TRADING & INVESTOR AWARENESS

CHAP/TER-1

INTRODUCTION

In India, commodity markets largely remained underdeveloped in earlier years. free trade in many commodity items remains restricted under the essential commodities Act (ECA), 1955 and forwards as well as future contracts are limited to specific commodity items listed under the forward contracts (Regulation) Act (FCRA) 1952. Following the introduction of economic reforms in 1991 and the expert committee report in June 1993, reintroduction of futures which were banned in 1966 and expansion of coverage to agricultural commodities along with silver was done. The National Agricultural policy 2000 envisaged external and domestic market reforms and dismantled all controls and regulations in the agricultural commodity markets.Today, commodity exchanges are purely speculative in nature when compared to the earlier period when the prices of any commodity were not fixed in an organized way. But, at present, before investing in commodity markets, the buyer can reach to the producers, end-users, and even retail investors at a grass root level, thus having price transparency and risk management in the vital market. Since 2002, the commodities market in India has experienced unexpected changes in terms of modern exchanges and the number of commodities allowed in 2006 became 94 as compared to 59 commodities in 2005. These

commodities included major agricultural commodities such as rice, wheat, jute, cotton, coffee, major pulses such as urad, arahar and chana, edible oilseeds such as mustard seed, coconut oil,groundnut oil and sunflower oil, spices like pepper, chillies, cumin seeds and turmeric, metals such as aluminium, tin, nichel, and copper, bullion as gold and silver, crude oil, Natural gas and polymers among others. Gold accounted for the largest share of trade in terms of value.

In India, there are 26 exchanges operating in India and carrying out commodity trading activities in as many as 146 commodity items at present. There are at present 6 nation-wide markets multi-commodity exchanges accepted by the Government of India, the National Multi Commodity Exchange (NMCE), Ahmadabad, Multi Commodity Exchange (MCX), National Commodity and Derivatives Exchange (NCDEX), Mumbai Indian Commodity Exchange (MICEX), the Ace Derivatives Exchange (ACE) and the Universal Commodity Exchange (UCX). The chief regulator of these commodity futures markets in India is the Forward Markets Commission (FMC), Mumbai and is overseen by the Ministry of Finance. At present, it regulates Rs 17 trillion worth of commodity trade in India for the year 2014-15. It is evident that an efficient and well-organised commodities market is generally helpful in price discovery for traded commodities. India, being one of the top producers of a large number of commodities, and also having a long history of trading in commodities and related derivatives, the knowledge about commodity markets among our Indian citizens is very important and essential. Since the commodity market has made enormous progress in terms of technology, transparency and the trading activity, how far the people are aware of this commodity market and its activities needs to be studied.

1.1 OBJECTIVE

The study aims to measure how far the people from varied socio-economical status inNamakkal district are aware of the functions and services of commodity market and analyse their preferences in commodities markets. Specifically the objectives of the study are as given below;

1. To examine the operations and functions of commodity markets.

2. To examine the awareness of the investors on commodity markets.

3. To examine the preferences of the investors in various commodity markets.

4. To suggest, if necessary, the recommendations and steps to be taken to improve the awareness of the investors on commodity market to enhance the commodity market trade.

1.2LIMITATION OF THE STUDY

1. The proposed study is confined to
(a) Investors in commodities market and people with varied socio-economic status in Namakkal District, Tamil Nadu.

(b) Commodities market services available at Namakkal District, Tamil Nadu.

(c) The results of the study are based upon the information given by theinvestors in Namakkal District, Tamil Nadu.

2. The data collected are based on the questionnaire and the results of the study and would be varying according to the opinions of individuals.

3. The statistical tools used to analyse the data have their own limitations.

1.3METHDOLOGY

Survey method of research is adopted for the study. The survey is conducted by means of a question schedule. The researcher visited various commodities market in Namakkal District to get the question schedule filled. Before visiting the above commodities market, the researcher selected the commodities market and stock broking officers to be visited by a lot system. After having entered in to the office, the researcher approached the manager of the commodities trading centre for selecting a few investors as respondent for the study. The researcher obtained the list of the investors from the manager of commodities trading centre office who had invested in commodities market. After having received the list, the respondents were numbered and the number of required respondents were chosen as per proportional allocation principle. The researcher approached every respondent with an introductory letter and got the questions schedule duly filled. The researcher visited 30 commodities trading centre in and around Namakkal town, 7 commodities trading centre in and around Rasipuram town, 9 commodities trading centre in and around Tiruchengode town, 5 commodities trading centre in and around Paramathi velur town. There are about 1500 investors participating in all these commodities trading centre. Out of the total population of 1500 investors, the researcher has selected 300 investors as sample respondents for the study.

CHAPTER -2

The Indian commodity market requires huge investments and better trading activity both in the national as well as the regional commodity markets. The participation of non-professional people trading commodity markets makes the market a risky venture. Non-professional participants simply add to the instability factor of the market. There is a terrible need for professional experts who are able to provide advice on commodity trading and build commodity inclusive portfolios. Such professional awareness, expertise, and guidance in commodity trading can come from professional commodity traders called commodity trading advisors.

Commodity Market is an organized trader's exchange in which standardized, graded products are bought and sold. Worldwide, there are 48 major commodity exchanges that trade over 120 commodities, ranging from wheat and cotton to silver and oil. Most trading is done in futures contracts, that is, agreements to deliver goods at a set time in the future for a price established at the time of the agreement. Trading of S&P 500 and other financial futures has broken down some of the barriers that once separated stock, bond, and commodity markets and made it easier for investors to hedge their stock investments. Critics charge that the futures trading at the commodity markets in Chicago have made stock prices more volatile. The Chicago Board of Trade is the largest futures and options exchange in the United States, the largest in the world is Eurex an electronic European exchange. The main idea behind the study conducted was to find out the investors awareness in commodity market with reference to Stock Broking firm, Chennai. The study also deal with the investor's preference from commodity market. To identify the investor's preference means, it should find out the characteristics of investors who invest under the guidance of different share brokers. It also should concentrate on whether they are satisfied with the services and earnings from the commodity market to provided by the investment

on also by the brokers service. They will be expecting different types of commodities from their investment guide. Some of them may not be satisfied with their service and the information they give. The study is made to find out the investors preference from commodity market of the investors from their share brokers. How is investors satisfaction from commodity market satisfaction level can be improved by providing better services. Keeping all these things in mind the primary and secondary objectives of the study are set.

1.1 A statement of the problem

A commodity market facilitates trading in various commodities. It may be a spot or a derivatives market. In a spot market, commodities are bought and sold for immediate delivery, where as in derivatives market, various financial instruments based on commodities are traded. These financial instruments such as „futures" are traded in exchanges.Commodity markets have diverse avenues for investment, away from traditional avenues of equity, bonds and real estates. A better exposure to commodity markets and awareness of their services helps to increase the investors returns while lowering their risks. Not much people know that commodities marketing has something for everyone with ample opportunities to trade, hedge and speculate, commodities have long been the asset class to invest in. Hence, the awareness about such commodities market among the people has to be studied and analyzed to further improve the commodities trading inIndia. There is a general fear among the people that most investors lose money in commodities marketing. This happens only when market participants do not trade with discipline and fall victim to greed and fear. One more reason for the loss is that they lack proper awareness about the commodities market. This can be overcome by studying and analyzing about how far people are aware of commodities market.

1.2 IMPORTANCE OF THE STUDY

The commodity market plays a vital role in India economic growth. It is known that India major growth sector of the future are commodities and commodity market. India is set to become a major producer, consumer, exporter and importer of a wide range of commodities. Recently, many investors have been attracted to trade in commodities market due to many factors such as transparency in the price mechanism, low margins, risk management, benefits to farmers due to price clarity and a well organized market. Moreover, commodity market ensures uniform standardization of the product quality due to its stringent terms and it has enabled to predict the price of the commodities there by reducing the risk. The exporters can hedge their price risk and improve their competitiveness by making use of commodity futures market. The Indian commodity market has been integrating with the global market as a result of the free-trade environment. Unlike the share market, commodities market offers a different avenue for investment as they are less volatile when compared with equities and bonds is a highly liquid asset class and offers the investors an opportunity to gain from the price movements in commodities. Also the long trading hours of the commodity market enables easy access to markets all the time. With all these benefits, it is important that all commodity trading decisions should be based on good knowledge and commercial intelligence. Since many people do not have proper knowledge about commodity market, the role of brokers is mainly relied on. The broker plays an important role in giving depth and liquity to the market, and informing investors about the risks involved. But if the investors have no knowledge about their commodity trade, there are chances of facing loss. Demand for commodities both in domestic and global market is estimated to grow by four times than the current demand in the next five years. In this context, it is quite evident that how far the investors or the people are aware of the commodity market so as to attract more investors by removing the general fear of the people needs to be extensively studied. Moreover, the proposed study on “A study on investors awareness towards commodities market” (with reference to Namakkal District, state of Tamil Nadu, India) is considered more important to analyze the people awareness to recommend for further improvement in commodity market, there by uplifting Indian economy.

1.3 SCOPE OF THE STUDY

Indian commodity markets has risen to global standards with a decade of its launch and has become one of the top exchanges in the world. The Multi-Commodity Exchange (MCX), reached the worlds No.1 exchange for gold and silver futures, No.2 rank for copper and natural gas futures and No.3 rank in crude oil futures contracts recently. This proves the success of Indian commodity markets and also the scope of the future of commodities markets is very bright. NCDEX has benchmarked in agricultural commodities, targeting newer non–farm futures by re-launching its steel futures and launching India first Gold – Hedge contract. All these assure the scope for new investors in the commodities market which has ever-growing opportunities of trade and investment. Apart from this, the investor has an assurance of multiple benefits of trading in these commodity markets. The well –organized and strictly regulated environment of the Indian commodity markets has helped in the formation of the controlled and structured platform making it more beneficial for the investors of commodity markets , Namakkal District in Tamil Nadu is a financially active district being a hub for the poultry, rig and transport industries. Apart from these industrial wealth, it consists of large number of educational institutions of the state. Agriculture is the main occupation not the district with 90 percent of cultivated area being food crops. Being a prominent district with both commodities production through agriculture and busy financial fund flows, it is an appropriate area to conduct the study on commodities market. With the availability of many people with varied profession, financial status, educational qualification, community etc, the Namakkal district offers the platform for the study and analysis of the awareness of these people on commodity markets. The results and recommendations of the study has wide scope for the contribution to boost the Indian economy.

1.4 SAMPLING TECHNIQUE

Disproportionate stratified random sampling technique is adopted. The researcher decided the sample size in accordance with the population of investors at Namakkal District level. As such a large sample size of 300 investors were chosen from all five taluks of Namakkal District. The place and nature of employment were decided at random and sample respondents were chosen accordingly. Namakkal district already consisted of four taluks that is Namakkal, Tiruchengode, Paramathi velur, and Rasipuram. At present, a Kolli hills has been included as a new taluk of Namakkal District. Since large area of Kolli hills consists of hills, hill plantations, agricultural lands and forest area, there are no commodities trading centres in this in this taluk. Hence sample investors from this taluk do not exist.

As a result, 158 respondents were chosen from Namakkal taluk. Out of them, 35 investors from agriculturist, 73 from salaried class, 40 from business people and 10 from students and others

46 respondents were chosen from Rasipuram taluk. Out of them, 10 investors from agriculturist, 21 from salaried class, 11 from business people and 4 from students and others.

60 respondents were chosen from Tiruchengode taluk. Out of them, 13 investors from agriculturist, 27 from salaried class, 15 from business people and 3 from students and others.

36 respondents were chosen from Paramathi velur taluk. out of them, 8 investors from agriculturist, 16 from salaried class, 9 from business people and 3 from students and others. The statistical details of sample size have been shown in table 1.1

TABLE 1.1

Table showing number of sample respondents chose from

Namakkal District

Taluk wise respondents	Nature of profession				
	Agriculture	Salaried class	Business people	Students and other	Total
Namakkal	35	73	40	10	158

Rasipuram	10	21	11	04	46
Tiruchengode	13	27	15	05	60
Paramathi velur	8	16	09	03	36
Kolli hills	-	-	-	-	-
Total	66	137	75	22	300

I INVESTORS AWARENESS – CONCEPTUAL THEROY

3.1 DEFINITIONS OF AWARENESS

In marketing, awareness means a measure of how well known a brand, firm, or product is. Companies usually set a target for the degree of awareness they intend to achieve, and then plan a promotional campaign to reach that target. Awareness is the individual realization of the consequences of an action, in their own context of intention and impact. Awareness often leads to action, but the action needs to be guided and supported. —Once there is seeing, there must be acting. With mindfulness, we know what to do and what not to do to help. Thich Nhat Hanh Take passwords, for example. What does awareness of passwords mean? What does it look like? Start by applying the definition of awareness to the concept of passwords. What is the consequence of selecting and using a password? Or of password reuse?The challenge isn't the answer to the questions (especially from someone already aware). The problem is the lack of broad, individual understanding of the connection between intention and impact — in context. Instead, people know only that passwords are a pain to endure. The key to awareness is to create an environment for individual realization. Present familiar information readily embraced and understood by the audience. Focus on what matters to them. Guide a journey from a decision to an outcome. Allow them to work through the elements. Support the realization of the consequences — based on their intention, and with their impactAwareness does not generally mean individuals have the understanding and experience to take the proper actions. Awareness is the realization. Nothing more, once aware of the consequences, people often seek a desire to learn. They seek training.

3.2 TYPES OF AWARENESS

The 4 types of awareness are Mental, Emotional, Environmental and Physical, and they relate to personal safety and self defense. Each one of these are intertwined with the others, they not

separate skills or abilities. And there is one type of awareness that is especially important to the —function‖ of the other three types – Mental Awareness without mental awareness, the other three would be limited in effectiveness for enhancing personal safety. Mental awareness basically is the ability to know and understand what is happening all around you. In regards to personal safety and/ or self defense, there are several questions that can be asked to help develop our mental awareness. Here are some of them:

1. What is happening around us?

Do we notice all the activities occurring around us? What interactions between people are happening around us? Are there any disagreements happening that could affect our personal safety? Some life situations require our total concentration and focus. But, there are times when we need to be aware of all the activities that are happening in our external environment. Many times in airports or on trains, we have observed people so entrenched in reading a book or newspaper that they are totally unaware of what was happening right next to them. How could someone properly and effectively prepare a self defense strategy to deal with a situation he or she is totally unaware of?

2. What potential situations exist around us?

Do we ever stop to analyze or observe specific situations in ordeto —predict‖ or recognize potential problems that may require a personal safety defense action on our part? Example 1: We hear and see that there is heated argument developing between 2 people close to you us. What is the best course of action to take if we recognize that the conflict is escalating out of control? Is there a policeman close by? Is there a place where we could go and call a policeman? Where is the closet escape route from this situation? Mental awareness helps avoid the need to deal with —surprises‖ that could result in emotional responses that may not be best for the specific situation. Lack of mental awareness prevents the development if well-planned solutions to potential or real problems. Recognizing potential situations provides two important things: 1) maintenance of emotional control and 2) development of a plan to handle the situation in a rational, non-physical manner. Where are we (also a reference to Environmental Awareness)? Being aware of our location provides some of the information we need to develop the proper response to a potential conflict situations that place us in unfamiliar surroundings. What is our destination? What potential situations could be encountered when traveling to a specific place? If unfamiliar with a destination, we should do whatever is necessary to eliminate the weakness of —ignorance.‖ Become familiar with a destination by obtaining information from reliable sources, such as travel agents, friends, or family

who know about the specific destination. Do this prior to traveling there. Call travel lodges, city organizations (police, city hall, chamber of commerce, etc.), recreational services to get information. Use the internet obtains as much detail as possible. When asking for directions, request specific landmarks or anything that would be clearly visible. When we only have street names to go by, we are forced to be looking for and reading sings. This an obvious and very visible indication that we are in an unfamiliar area-we —look‖ like a victim.

3.3 THE SEVEN LEVEL OF AWARENESS

What can we do to become more aware, work at our full potential and realize your goals? What will allow us to choose positive thoughts even in gloomy situations? It is our level of awareness. There are seven levels of awareness (listed from low to high): 1. Animal 2. Mass 3. Aspiration 4. Individual 5. Discipline 6. Experience 7. Mastery all of us will primarily function at one of the above levels. According to where we are in our lives at any given time, we may bounce back and forth between levels. We should strive to reach the highest level, mastery, where the air is thin and the ideas are great. As you read the description of each level below, we can determine which level of awareness we are operating at in the following key areas:

• Spiritual

• Love relationship

• Money

• Personal/Professional

• Health

LEVEL 1: ANIMAL

This isthe —fight or flight‖ syndrome. A person at thislevel is doing just enough to get by. They are victims of circumstances. This person is REACTING to whatever is going on around them rather than responding. They allow what is going on in their current circumstances to dictate how they react. To react or respond is a choice. Reacting is a negative choice and responding is a positive choice. Reacting implies that we have given charge of the situation to someone or something else. We surrender our input and any control in the matter. We are now at the mercy of the situation and are forced to been reaction mode where we are constantly dodging bullets and expending great amounts of energy just to stay afloat. We do not anticipate that which isto come because we are too

busy handlingthe present when we are reacting. The future then surprises us and the whole mess begins again. They are probably reacting using alcohol, drugs or other negative expressions. Responding to a situation is a positive choice. It is proactive and anticipates those things to come. Responding is preceded by thought. In responding, we take charge and have command over how the situation affects us. We also have control over how it affects usinternally

. LEVEL 2: MASS

This is where we are programmed to conform. A person at this level is following the crowd rather than doing their own thinking. This person does not consciously choose the things that they want. They ask others what they think they should do with their money. If we MUST follow others, follow the one or two folks that are doing things differently than the masses. It is a good chance that they have put some thought into what they are doing. Most people do not think. George Bernard Shaw said that two percent of people think, 3 percent of people think that they are thinking and 95 percent of people would rather die than think! It is not a coincidence that 1% of the world's population earns over 90% of the money being made. Break out of the —mass‖ level of consciousness and claim the life you deserve! Successful people do not follow the masses. They are independent thinkers. If we wish to achieve success, realize that it is not an easy path to follow. We will face ridicule from strangers, family and friends. Remember that our first responsibility is to be true to our self and do whatever fulfils us and makes us happy. Bob Proctorstates —The masses are obsessed with conformity rather than creativity.

LEVEL 3: ASPIRATION This is where we are beginning to wake up. We now want to break away from the masses and become an individual. You realize that you can be more, do more and have more than your current circumstances. We saw the Secret. You listen to dynamic speakers such as Bob Proctor, Paul Martinelli, and Mary Morrissey. We read Think and Grow Rich and as a Man Thinketh. We know that there is something more that we are capable of Many people become stuck at this level because their new desires are just wishes until they back them with action. We may desire to earn more money. Desire is derived from the Latin word da–sire, which means, —to give birth to''—The desire for riches is simply the capacity for larger life seeking fulfilment; every desire is the effort of an unexpressed possibility to come into action. It is power seeking to manifest which causes desire. That which makes us want more money isthe same as that which makesthe plant grow; it is Life,seeking fuller expression. – Wallace D.Wattles Decide to believe in yourself. Take charge of your own self-concept and beliefs. With enough positive self-talk and positive visualization combined with

the proper training, coaching, and practice, anyone can learn to do almost anything. We must choose to believe that we can do anything we set your mind to. We can–it is a fact!

LEVEL 4: INDIVIDUAL

We begin to express your uniqueness through our actions…we are out of your head and into our uniqueness. We realize that there is no one like us. Only we possess our special gifts and talents. We move into action because we have the faith to move toward our desires. If we can think it, we can do it. Keep your mind only on the things you desire. If we focus on what we want rather than what we do not want, we will know when it istime to move into action. Our action will be effortless. Doors will open and the entire universe will conspire to assist us with our desire. You begin to dream. Once you step into the action, everything that you are seeking is also seeking us. We begin to live on purpose. Our goals begin to manifest. We leave your comfort zone because we realize that this is necessary for change to take place. All growth takes places outside the comfort zone. Abraham also said that either we advance forward in the direction of our dreams or we revert backwardsinto safety.

LEVEL 5: DISCIPLINE

Discipline means, the ability to give ourselves a command and follow through on it regardless of what is happening. This means to stay on course regardless of what the masses are doing and/or saying. When we attend a concert or an opera and we listen to a voice that utterly captivates the audience, dowel wonder how those voices happen. Of course, they do not just happen. Although they may be especially gifted people, those magical moments that happen are coming from discipline–not chance or accident. They consciously chose, ardently desired and patiently persisted in disciplineAre we willing to devote our self to do anything necessary to make the goals and dreams we have become a reality? Are we able to become disciplined enough to see that what we 34 need to do to make our desires manifest is to be totally focused on the result from the beginning of any task? it into an opportunity for growth and transformation as you build your success character? When you are devoted to being disciplined in all areas of your life, amazing things will happen. Being disciplined is a way of being that allows for abundant thinking so that when a limited belief pops up, we can see it for what it is and move through it with a conviction and determination that will bring us closer and closerto the results we want in any area of your life.

LEVEL6: EXPERIENCE

The difference between learning and experience isthe discovery that the answers are within us. At this level, we recognize that all of the answers that we are looking for are really found within. It is unnecessary to gather information externally. As we look within our self, God brings to us the ideas and people we require to accomplish our desires. We have a wonderful world of power, possibility, and promise that is within us. Because within us is the mind and the mind is the creative cause of all that transpires in the experience and our lives. The personal conditions that we experience are the direct result of the actions of your mind. We never make a move of any kind unless we first form an image or plan in the mind. We can learn to use our mind constructively and we can learn to correctly use these hidden powers, forces, and faculties. When we apply steadfast discipline and do the things that will elevate us to new levels, the experience gained reinforces our awareness of our amazing abilities. This, in turn, leads to great accomplishments. When you see the desired results manifest, we will become stronger in how we practice and do more of the same. When we do not see the desired results, we will make the necessary corrections and then practice with discipline until that desire manifests.

LEVEL7: MASTERY

Mastery is the highest level that we can attain. Only a small percentage of the population reaches this point; however, we all have the mental faculties and capacity to do so. The feedback that we receive at the sixth level, experience, allows usto master what we want to accomplish in our life. These individuals have learned the laws of the universe, they understand how the science and process operates, and they have fine-tuned their methods based upon their experience. They are quite effective at attracting success, wealth and resources. They are goal achievers. Life just seems to flow here. One has reached a higher level of thought. This is where a person will respond rather thanreact. This person truly thinks and takes the action that movesthem in the direction of what is desired. At this level of awareness, a person functions from an abundance perspective. This person is not controlled by habits that do not serve them. They are the captain of their ship. It takes a while to achieve this awarenesslevel. It takes persistence and discipline.

3.4 IMPORTANCE OF INVESTORS AWARENESS:

• Investment is an area where we mistake familiarity with in-depth knowledge. Most of us have an illusion of knowledge with regard to investment. Lot need to be done with regard to investor education in order to enhance the knowledge and increase the awareness.

• Research has established links between financial literacy and household savings and has brought to light the fact that lack of financial literacy make people undersave for their retirement, take poor decisions and experience other problems in this complex financial environment leading to not achieving their financial goals. Investor awareness include not only the knowledge of various financial products available but also facilitate decision particularly among the less educated as well as those investors committed to long term financial decisions.

• Advertising and the agent network have worked positively, to create awareness, but not knowledge. A coordinated approach is needed to covert this awareness into knowledge. The Reserve Bank of India (RBI) has taken a lead in the financial literacy space, and its efforts are mainly in the banking space. The Ministry of Corporate Affairs too has programmes on the ground, including the setting up of the Investor Education and Protection Fund (IEPF), and this mainly in the securities market space. However, for the consumer, there is need for a holistic approach. While buying a product, they need to have a big-picture view of their portfolio and how diversified it is rather than individual pieces of information regarding the products. The rural consumer possibly needs the literacy effort even more urgently, though at a different scale and content level• Investor education is the first and necessary step towards investor protection. Indian investors are good savers, but often lose hard-earned money due to lack of knowledge and understanding about financial markets and financial products.

• Having said this, it is just not enough to educate investors and create awareness. In these times of uncertainty and high volatility, it is equally vital that advisors and agents and transparent in their dealings and impart all necessary and relevant details to the investor, to help him make an informed investment decision.

CHAPTER 3

REVIEW OF LITERATURE:

1. JiDWangYandChenF(2014)DoesCeoIncentivesimprovetheeffectivenessofinternalcontrol?Evidencefromstate-ownedlistedcompanies.

2. ZhaoYXandWUW.R.(2014)ResearchontheinfluenceofexternalregulationofEnterprisesoninternalcontroleffectiveness-EvidencefromChineselistedcompanies.

3. YuH.z.andWuY.L.(2015)EquityIncentivesandinternalcontroleffectivenessincontractperiod-basedonthePrespectiveofStockoptionsandrestrictedstocks.

4. Ahmad Rizal Razali, Izah Mohd Tahir

   Business management dynamics 1 (5), 8, 2011

The aim of this paper is to review previous studies on Enterprise Risk Management (ERM). Previous studies show that empirical works on ERM are still limited. Research using both primary and secondary data will be discussed. From the previous studies, it was found that most of the studies in Malaysia on risk management or ERM used primary data. The scopes of the previous studies in Malaysia include construction, financial institutions, service sector, technology, industrial products, consumer products, plantation and trade and services, and these studies used mail questionnaires and interviews. While studies from the secondary data focus on industrial product companies, of which data are gathered from their annual reports.

5. Davide Aloini, Riccardo Dulmin, Valeria Mininno

   Information & Management 44 (6), 547-567, 2007

In recent years ERP systems have received much attention. However, ERP projects have often been found to be complex and risky to implement in business enterprises. The organizational relevance and risk of ERP projects make it important for organizations to focus on ways to make ERP implementation successful.

6. William Ho, Tian Zheng, Hakan Yildiz, Srinivas Talluri

International Journal of Production Research 53 (16), 5031-5069, 2015

Risk management plays a vital role in effectively operating supply chains in the presence of a variety of uncertainties.

7. Tamás Vasvári

Public Finance Quarterly 60 (1), 29-48, 2015

Risks have become an integral part of our society. in this context, the aim of this paper is to provide a summary of the findings of risk research conducted in different fields of study and to trace the effect of these findings on risk management practices.

8. Claudia Colicchia, Fernanda Strozzi

Supply Chain Management: An International Journal, 2012

Supply chain risk management (SCRM) has recently gained increasing attention in the supply chain context, both from the practitioners' perspective and as a research area.

9. Florian Kache, Stefan Seuring

Supply Chain Management: An International Journal, 2014

Purpose

– This paper aims to assess the links among these supply chain constructs by conducting a full-scale systematic review of all supply chain management (SCM) literature reviews published in ten leading logistics, SCM and operations management journals from 1989 to 2012. Collaboration and integration are as central to SCM as risk and performance management.

10. Iwan Vanany, Suhaiza Zailani, Nyoman Pujawan

International Journal of Information Systems and Supply Chain Management (IJISSCM) 2 (1), 16-33, 2009

Supply chain risk management has increasingly becoming a more popular research area recently. Various papers, with different focus and approaches, have been published since a few years ago.

11. Martin Leo, Suneel Sharma, Koilakuntla Maddulety

Risks 7 (1), 29, 2019

There is an increasing influence of machine learning in business applications, with many solutions already implemented and many more being explored.

12. Fumie Yokota, Kimberly M Thompson

Medical Decision Making 24 (3), 287-298, 2004

This article provides the first comprehensive review of value of information (VOI) analyses related to health risk management published in English in peer-reviewed journals by the end of 2001.

13. Arsham Mazaheri, Jakub Montewka, Pentti Kujala

WMU Journal of Maritime Affairs 13 (2), 269-297, 2014

Ship grounding accidents, being one of the major types of maritime accidents, are significant failures putting in danger maritime transportation systems.

4.1 INTRODUCTION

Commodity derivatives made their appearance before financial derivatives in the world and also in India. Informal trading in commodity derivatives was there even in ancient India, but the formal market took shape in the late nineteenth century. However, the growth path of the Indian derivative market was not smooth.

4.2 EVOLUTION OF COMMODITY DERIVATIVES TRADING IN INDIA

Organized trading in commodity derivatives was initiated in India with the set up of Bombay Cotton Trade Association Ltd in 1875. Following this, Gujarati Vyapari Mandali was set up in 1900 to carryout futures trading in groundnut, castor seed and cotton. Forward trading in Raw Jute and Jute Goods began in Calcutta with the establishment of the Calcutta Hessian Exchange Ltd., in 1919. Later East Indian Jute Association Ltd. was set up in 1927 for organizing futures trading in Raw Jute. These two associations amalgamated in 1945 to form the present East India Jute & Hessian Ltd., to conduct organized trading in both Raw Jute and Jute goods. In case of wheat, futures markets were in existence at several centres at Punjab and U.P. The most notable amongst them was the Chamber of Commerce at Hapur, which was established in 1913. Futures market in Bullion began at Mumbai in 1920 and later similar markets came up at Rajkot, Jaipur, Jamnagar, Kanpur, Delhi, and Calcutta.

During the Second World War Futures trading was prohibited. However, after independence, the Constitution of India brought the subject of "Stock Exchanges and futures markets" in the Union list. As a result, the responsibility for regulation of commodity futures markets devolved on Govt. of India and in December 1952 Forward Contracts (Regulation) Act, 1952, was enacted.

1. An association recognized by the Government of India on the recommendation of Forward Markets Commission,

2. The Forward Markets Commission (it was set up in September 1953) and

3. The Central Government.

Forward Contracts (Regulation) Rules were notified by the Central Government in July 1954. The Act divides the commodities into 3 categories with reference to extent of regulation, viz

: 1. The commodities in which futures trading can be organized under the auspices of recognized association.

2. The Commodities in which futures trading is prohibited
3. . 3. Those commodities, which have neither been regulated for being traded under the recognized association nor prohibited, are referred as Free Commodities and the association organized in such free commodities is required to obtain the Certificate of Registration from the Forward Markets Commission.

The ECA, 1955 gives powers to control production, supply, distribution, etc. of essential commodities for maintaining or increasing g supplies and for securing their equitable distribution and availability at fair prices. Using the powers under the ECA, 1955 various Ministries/Departments of the Central Government have issued control orders for regulating production/distribution/quality aspects/movement etc. pertaining to the commodities which are essential and administered by them.

In the seventies, most of the registered associations became inactive, as futures as well as forward trading in the commodities for which they were registered came to be either suspended or prohibited altogether. The Khusro Committee (June 1980) had recommended reintroduction of futures trading in most of the major commodities. The government, accordingly initiated futures trading in Potato during the latter half of 1980 in quite a few markets in Punjab and Uttar Pradesh. After the introduction of economic 39 reforms since June 1991, the government of India appointed one more committee on Forward Markets under Chairmanship of Prof. K.N. Kabra in June 1993 and the Committee submitted its report in September 1994. Following this, the government of India has issued notifications on April 1, 2003 permitting futures trading in commodities. Trading in commodity options, however, is still prohibited. The lifting of the 30-year ban on commodity futures trading in India has opened yet another avenue for investors.

4.3 COMMODITY FUTURES MARKET IN THE LAST DECADE

Throughout the last decade the commodity futures market has developed significantly in terms of both network and volume. At present, there is a two-tier structure for Commodity Exchanges in India: Regional and Country-Wide. Regional exchanges are permitted to have only a limited number of contracts whose membership is local. Countywide national exchanges are multi-commodity electronic exchanges with a demutualized ownership pattern. Currently, there are three such exchanges, viz., MCX (Multi Commodity Exchange), NMCE (National Multi Commodity Exchange)

and NCDEX (National Commodities and Derivatives Exchange). MCX has evolved as the largest exchange in the country.

MCX started its operations on November 10, 2003 and today it holds a market share of over 80 per cent of the Indian commodity futures market and has more than 2000 registered members operating through over 100,000 trader workstations across India. The exchange has also emerged as the sixth largest and amongst the fastest growing commodity futures exchange in the world, in terms of the number of contracts traded in 2009. MCX offers more than 40 commodities across various segments such as bullion, ferrous and nonferrous metals, and a number ofAgri-commodities on its platform. The Exchange is the world's largest exchange in silver, the second largest in gold, copper and natural gas and the third largest in crude oil futures, with respect to the number of futures contracts traded. MCX maintains an Insured Settlement Guarantee Fund of about Rs. 100 crores.

Even as reform initiatives are slowly taking shape, turnover in the Indian commodity futures market has increased many times over. The total value of trade in theCommodity Futures Market has risen substantially in the last few years (Table 1). MCX recorded the highest turnover in terms of value of trade from 2006 to 2010 followed by NCDEX and NMCE. MCX has been certified to three ISO contracts on its platform. Standards including ISO 9001:2008 Quality Management System standard, ISO 14001:2004 Environmental Management NCDEX. 8 Headquarters are located in Mumbai and offers facilities to its members from the centres located the Exchange, is on throughout India. February 9, 2012 offered contracts in 34 commodities - comprising 23 agricultural commodities, 6 precious metals, 2 energy, 1 polymer and 2 other metals. The top 5 commodities, in terms of volume trade at the Exchange, were Soya oil, Gaur Seed, Chana, RM NCDEX seed and Guar gum. The country's second largest commodity derivatives exchange has been listing contracts since the NCDEX ranked number 32nd in 2010 and the Futures Industry Associations global list of top 53 derivatives exchanges measured by volume, rising as of 2011, India's TOP National Multi-commodity Exchange (NMCE). Commodity exchanges are: ACE Indian Commodity Exchange ICEX. Multi Commodity Exchange (MCX). Derivatives and Commodity Exchange ACE.

4.4COMMODITIES ALLOWED FOR FUTURES TRADING IN INDIA

As per the list presented on Forward Market Commission (FMC), there are more than 25 exchanges are in operation carrying out futures trading activities in a wide variety of commodity items under 8 major categories 1.Vegetable oilseeds, oils and meals, 2. Pulses, 3.Cereals, 4. Spices, 5. Metals 6. Energy products, 7. Fibbers, 8. Others. Factors to be considered while trading in order to trade in

commodity futures, the participants need to keep certain facts in mind. These factors can be broadly grouped into the following categories.

AGRICULTURAL COMMODITIES

Carryover stocks: Leftover stocks from the previous year's production after meeting the demand.

Expected demand: Average level of consumption and exports during the past few years

Cropacreage: Extent of area sown under the crop.

Production: Estimated output based on the acreage and weather conditions and pest infestation etc.,

Imports and exports: In case of the commodities that have a sizeable amount of external trade (either imports or exports) such as edible oils and pulses, the traders need to know the details of important sources and destinations of the external trade. Further, the traders have to monitor the crop status in the respective countries.

Government policies: any change in government policy relating to the crops.

Procurement: direct procurement by the government agencies and storage in warehouses change in tariff and base prices of externally traded goods will have a direct impact on the respective commodity prices.

Metals Currency effects: main source of long-term volatility Variation in supply and demand for

risk capital: Risk capital is largely provided from established routes such as debt and equity.

Shocks: Unexpected changes in production techniques, Massive changes in exploration techniques, Changing geopolitics, Cartel instability, Environmental regulation with respect to production process

CHANGES IN CONSUMPTION TRENDS, DUE IN PART TO PRICE ELASTICITY

Inflation: change in global inflation as well as inflation in the US and the respective countries.

Crude (energy) futures

- Stocks of Crude Oil and Petroleum Variance from five year average
- OPEC production variance from quota

• Strategic Petroleum Reserve (SPR) variance from target

• Demand factors • OPEC spare capacity (Saudi Arabia)

• Refinery capacity variance

• Interest rates

• US dollar

4.5 INTERNATIONAL COMMODITY MARKET

Commodities future trading have evolved from the need for ensuring continuous supply of seasonal agricultural crop. In Japan, merchant stored rice in warehouses for future use. In order to raise cash warehouse holder sold receipts against the stored rice. These were know as rice ticket. Eventually such rice ticket became accepted as a kind of general commercial currency rule come into being to standardize the trading in rice ticket. This concept of trading evolved in the 19th century. In Chicago trading had emerged as a major commercial hub with rice road and telegraph line. It happened in 1848. Gradually the farmers and dealer started to make commitment to exchange the produced for future trading evolved where by the produced would agree to sell his produce (wheat) to the buyer at a future delivery date at an agreed up to price. This contract became popular very quickly and started changing hand even before the delivery date of the products. If a dealer in not interested in taking delivery of the produce he would sell his contract to someone. Similarly if a farmer who did not able to deliver his crop then he would pass on the responsibilities to another with some more modification. Such contract gradually transformed into an instrument to protect the parties evolved against adverse factors like unexpected price movement, unfavourable climatic factor etc. For example, during bad weather people having contracts to sell wheat would be interested to hold more valuable contracts due to supply shortage conversely. If there is oversupply the sellers contract value would decline. This prompted the entry of traders in the future market who had no intension to buy or sell wheat but would purely speculate on price movement in the market to earn profit. The hedger's (farmers) who wanted to protect themselves from price fluctuation began to efficiently transfer risk to the dealer trading in future as a result become a very profitable mode of activity that encouraged the entry or other commodities, thereby creating a platform to setup a body that can regulate and supervise these contracts . Thus during 1848, the Chicago board of trade (CBOT) was established. It was initially formed as a common location known both to the buyers and seller to negotiate forward contracts.

4.6HISTORICAL PERFORMANCE

Historical data show that the performance of commodities has been quite attractive, though there have also been periods with little returns. Over the last decade, the performance of the commodity benchmark has been in double digits. The downside to this attractive performance is considerable volatility, which has also delivered some high negative returns in recent years. And some commodity markets are relatively small, adding to the volatility profile. These dynamics make it crucial for the private investor to approach commodities with caution. Nevertheless, it cannot be denied that the high performance has been attracting investors. There has been a change in the composition of trade. Initially, agricultural commodities dominated the market, bullions occupying the second place. In 2004-05, for instance, 69% of the total volume of trade was in agricultural commodities and rest was bullions and metals. However, the importance of agricultural commodities has decreased sharply in recent years while that of bullions has increased. In 2010-2011, bullions occupied the first position with 45% share followed by metals with 24% and energy with 19%. The share of agricultural commodities in futures trading has come down to the level of 12%.

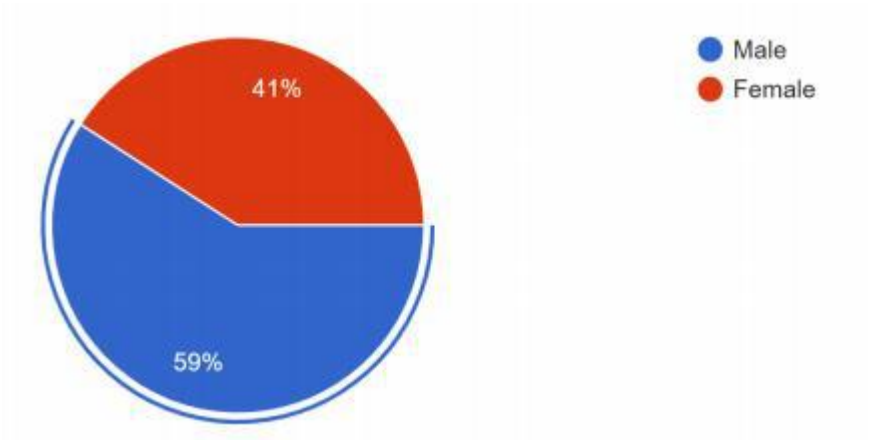
CHAPTER-4

DATA ANALYSIS AND FINDINGS

The data collected through field study is presented in tables and interpreted as below:

1.GENDER OF THE RESPONDENTS

SL NO.	Gender	Percentage
01	Male	59
02	Female	41

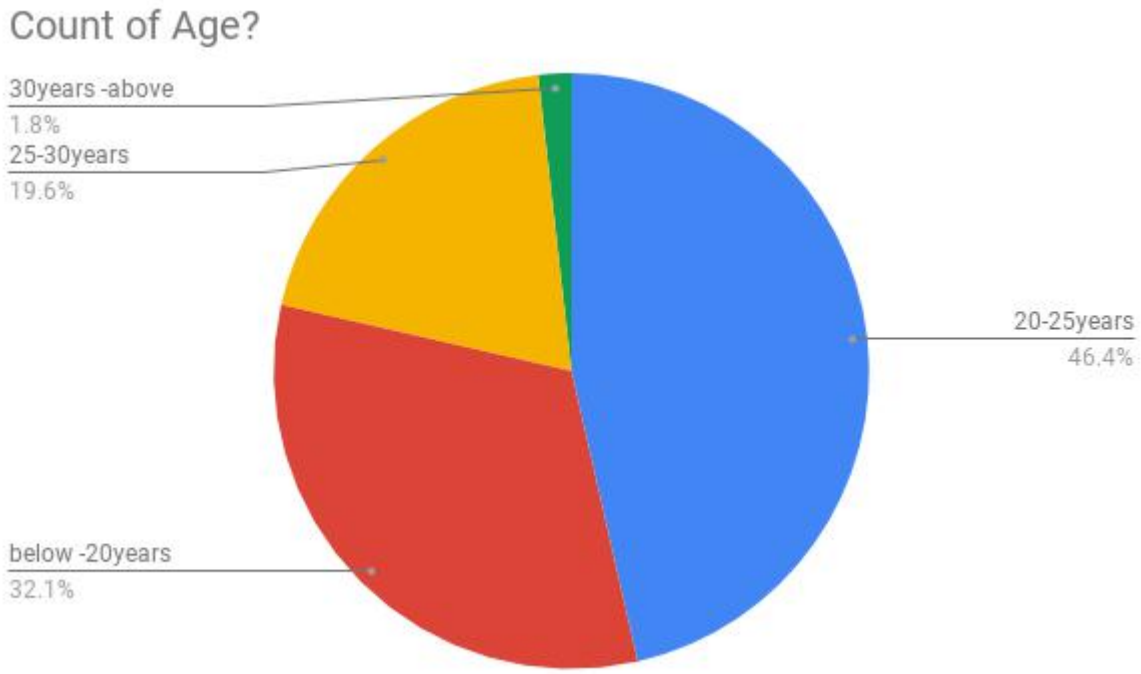


DATA INTERPRETATION

Represents gender of the respondents. It is clear that, out of 100 respondents, 59% of respondents are male and remaining 41% are female. Here interpreted that majority of respondents are male as they are the head of the family

2.AGE

Choices	No. of respondent	Percentage
Below-20 years	18	32.1%
20 years-25 years	26	46.4%
25years-30years	11	19.6%
30 years-above	1	1.8%

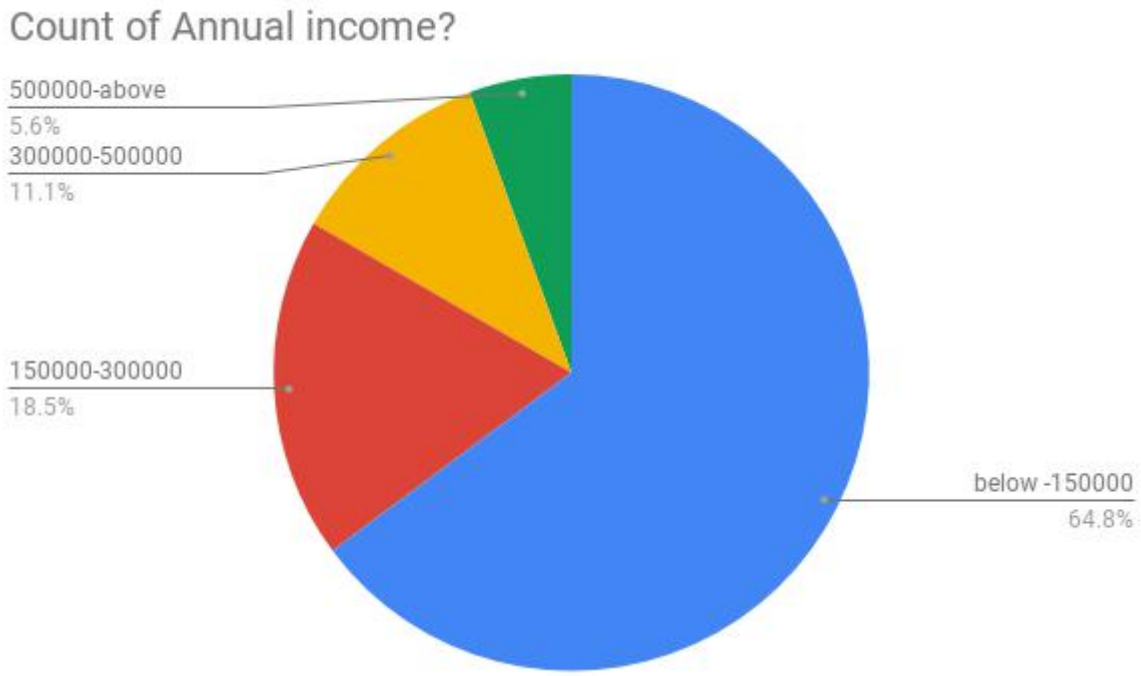


INTERPRETATION:

- 32% of people are belongs to below 20 years
- 46% of people are belongs to 20-25 years
- 19.6% of people are belongs to 25-30years
- 1.8% of people are belongs to above 30 years

3. Monthly Income

Choices	No. of respondent	Percentage
Below-150000	35	64.8%
150000-300000	10	18.5%
300000-5000000	6	11.1%
500000-above	3	5.6%

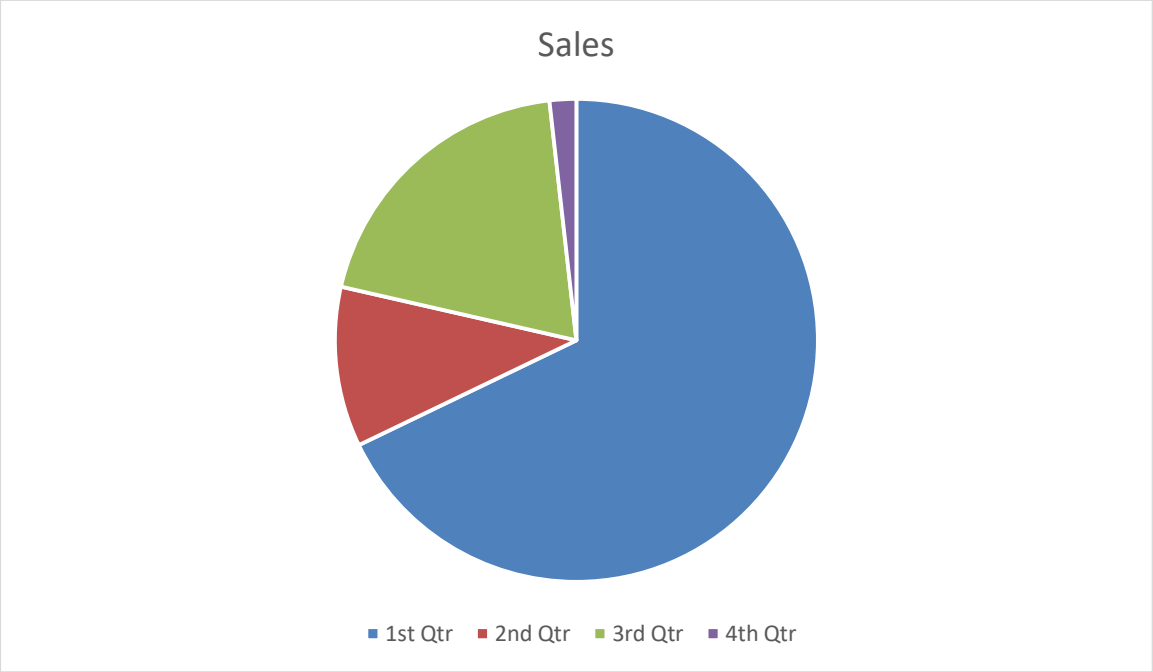


Interpretation

- 64.8% annual income
- 18.5% annual income
- 11.1% annual income
- 5.6% annual income

5. OCCUPATION

Choices	No. of respondent	Percentage
Student	38	67.9%
Business	6	10.00%
Service	11	19.6%
Other	1	1.8%

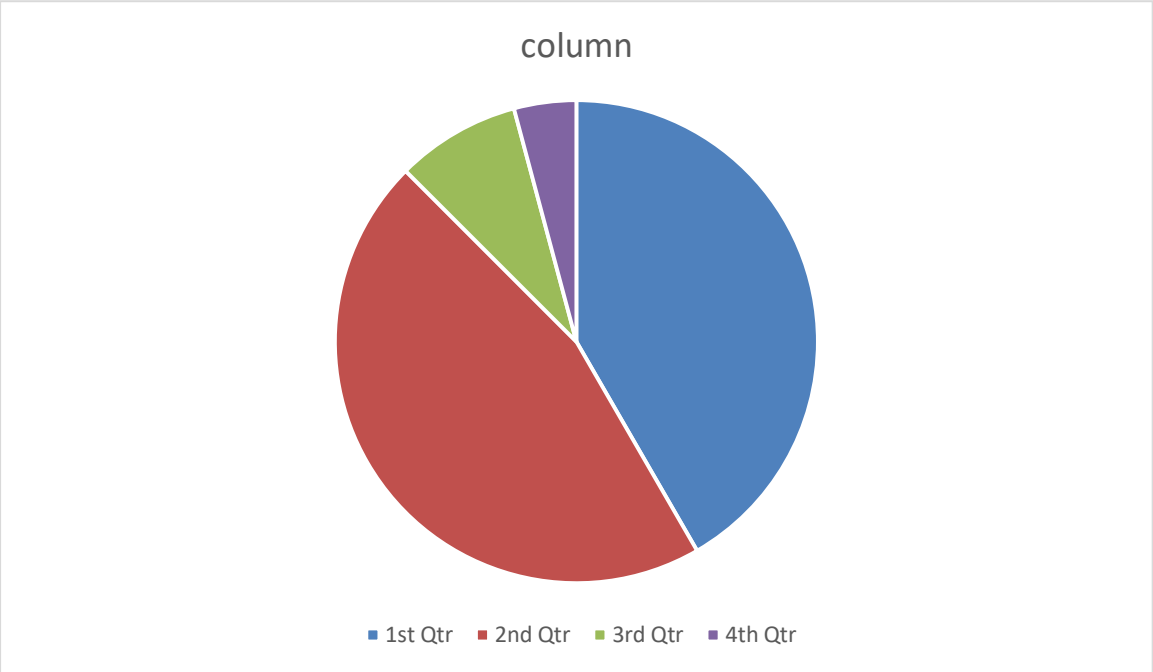


Interpretation

- 67.9% they are students
- 10.7% they doing business
- 19.6% they doing service
- 1.8% is others

5. How many years have you been participating in this commodities trading?

Choices	No. of respondent	Percentage
Less than 1year	10	17.9%
2-3%year	11	19.6%
3-4%year	2	3.6%
5 above year	1	1.8%

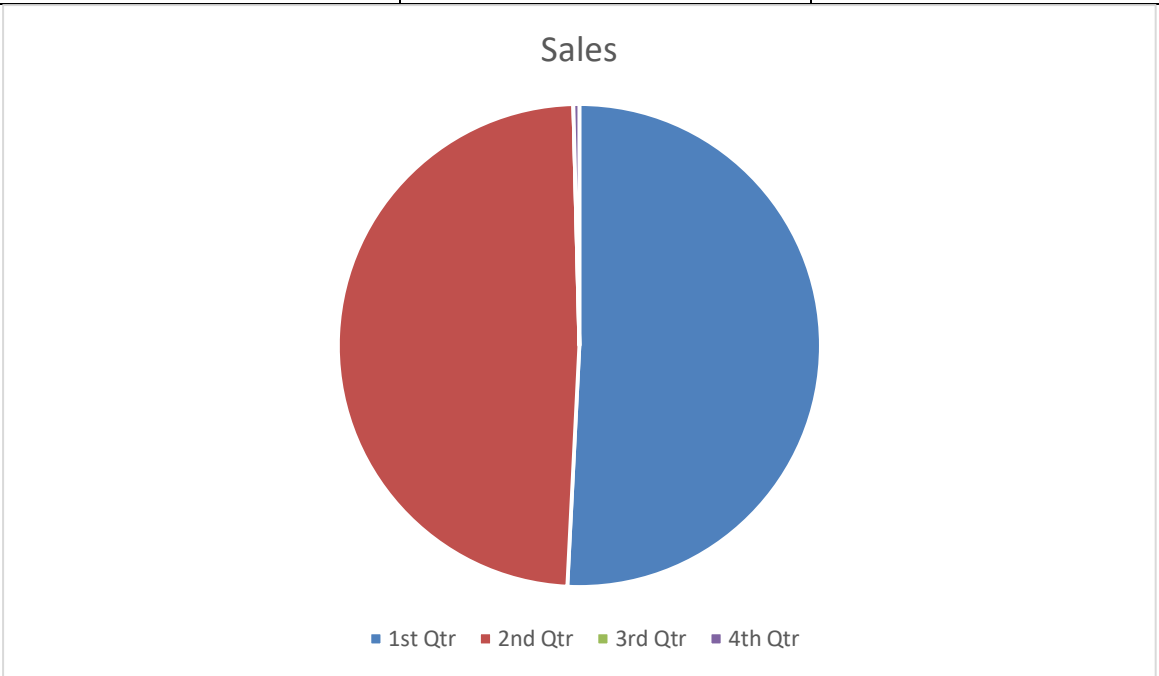


Interpretation

- 17.9% income trade in derivatives market
- 19.6% income trade in derivatives market
- 3.6% income trade in derivatives market1.8% income trade in derivatives market

7. Do you think this experiences (i.e. less than one year to above five years) is enough for you to participate in commodities trading?

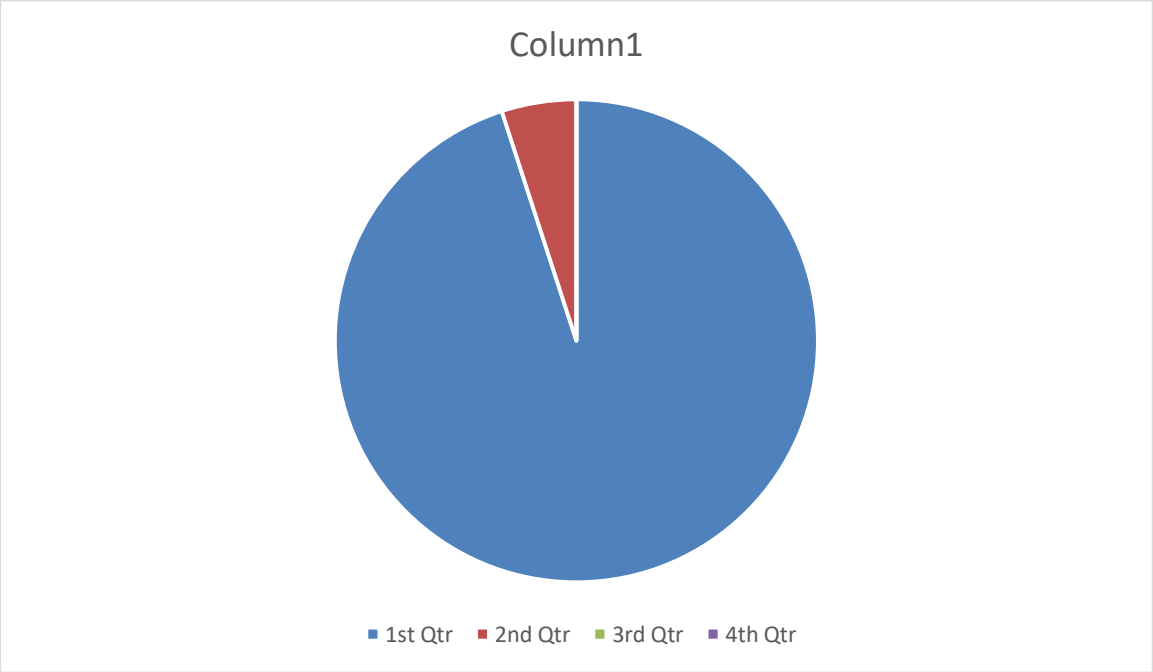
experiences	Number of respondents	Percentage of the respondents
Enough	153	51
Not-enough	147	49
total	300	100



reveals that out of 300 respondents, 51 percent of the respondents said that the above said experiences are more than enough to participate into commodities trading but the rest of 49 percent of the respondents said that the above said experiences are not enough to participate into commodities trading. So, 51 percent of the respondents are satisfied with above experiences to participate into commodities trading. This fact has also been exhibited by means of a bar chart

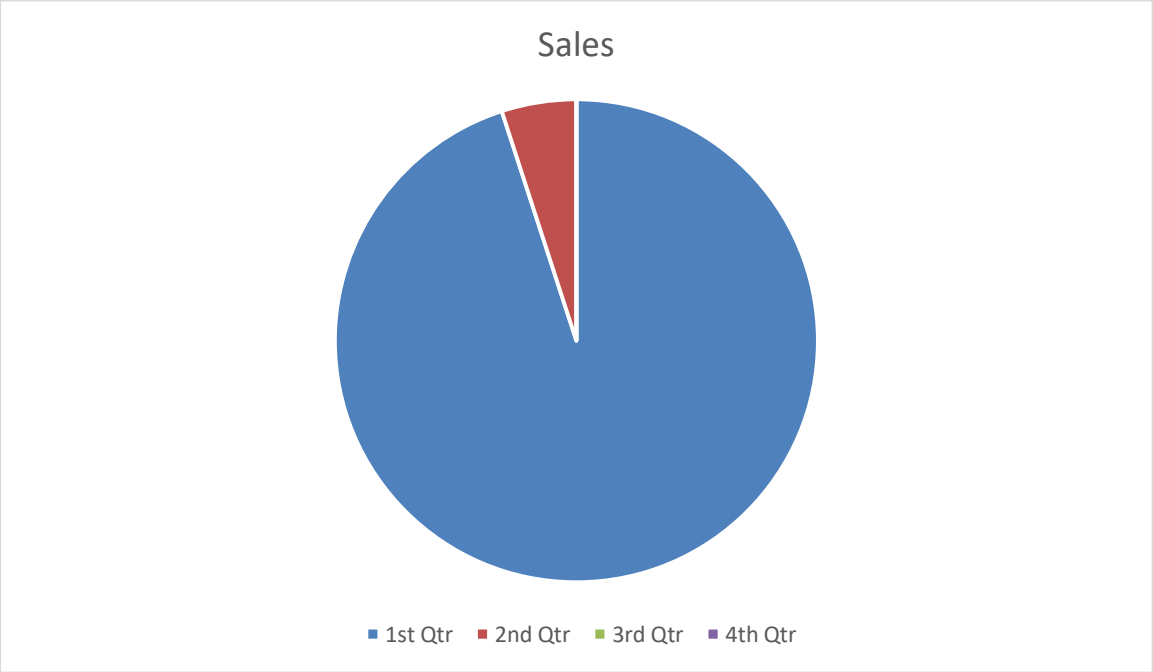
8. Do you have any other business apart from commodities trading?

Doing	285	95
Not doing	15	5



9. Is commodity trading a part time or full time business for you

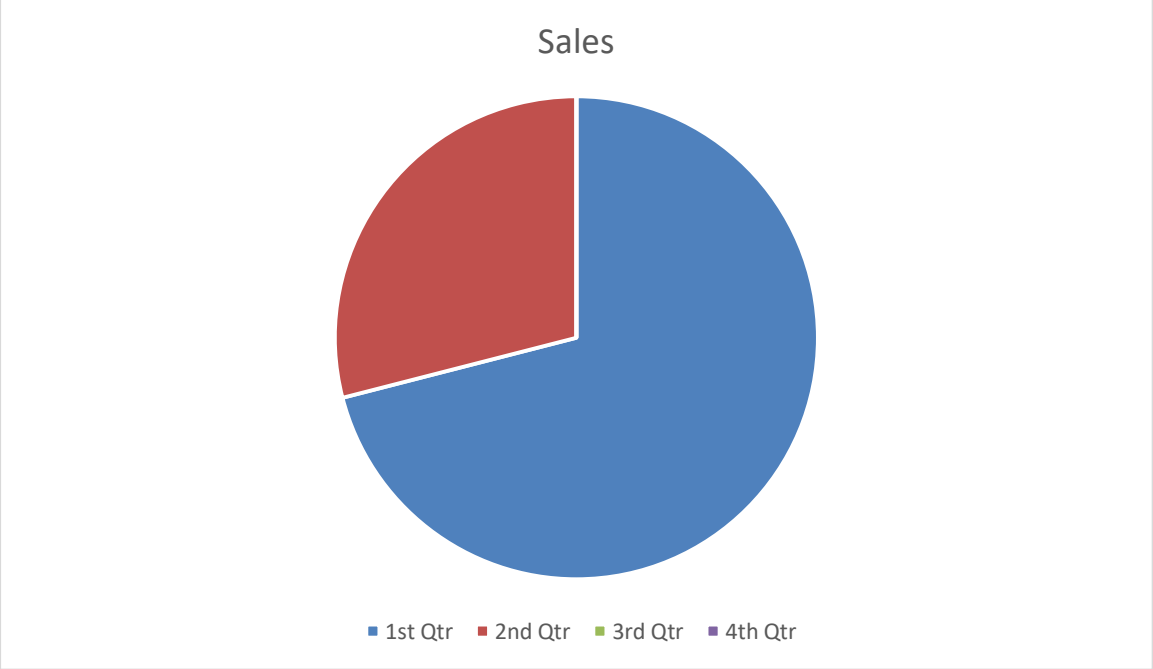
Part time	285	95
Full time	15	5



As per table 7.9, 95 percent of respondents were doing commodities business under part-time basis, 5 percent of the respondents were doing commodities business under fulltime basis, as such, majority of the respondents were doing commodities business under part-time basis. This fact has also been exhibited by means of a pie-diagram

10. Which level of investment is suitable to commodities trading according to you?

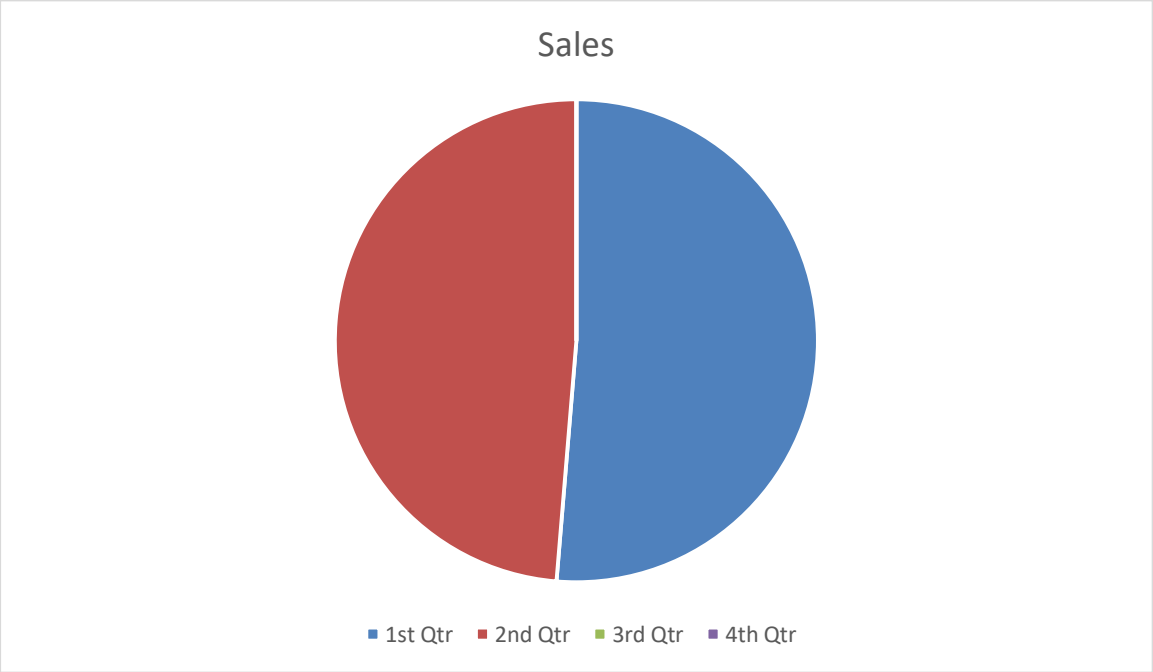
Minimum level investment	213	71
Maximum level investment	87	29



Only 29 percent of the respondents had been invested in maximum level. But 71 percent of the respondents had been invested in minimum level in commodities trading. The statistical details have been shown in Table

11. Do you understand thoroughly about operations of commodities trading?

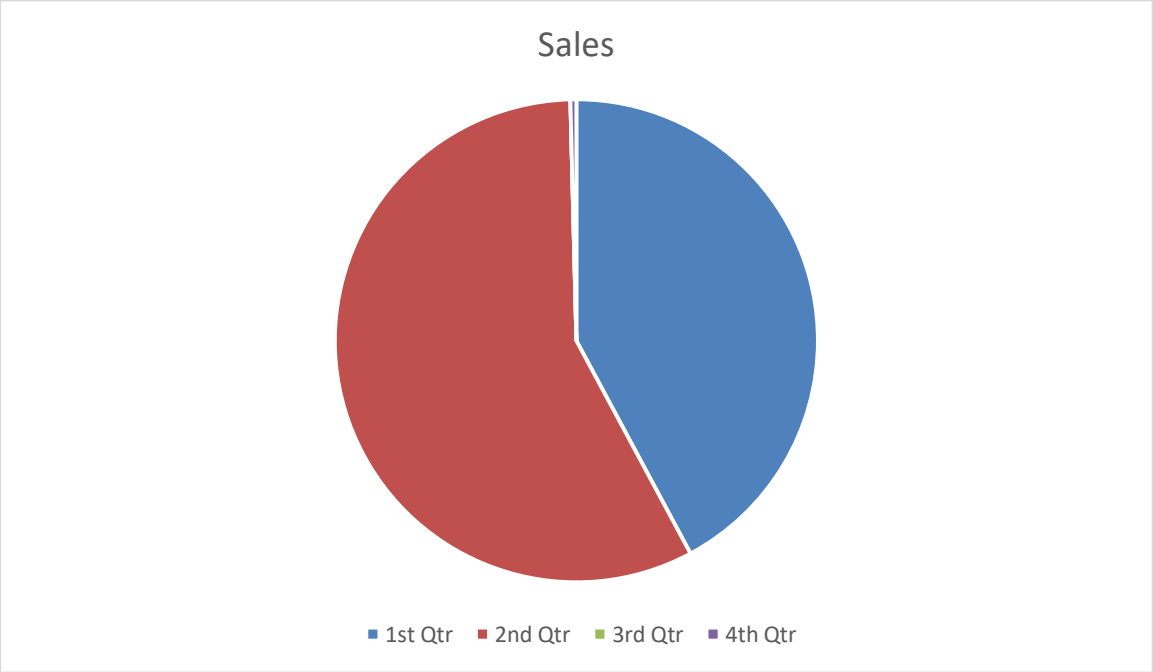
Understand	156	52
Not understand	148	44



Out of 300 respondents, 156 respondents were able to understand the commodities trading operations, but 144 respondents were not able to understand about operations of commodities trading. So, majority of the respondents were able to understand about operations of commodities trading. It has also been shown by means of pie-diagram

12. Do you listen the world level commodity position before entering in Indian commodities trading?

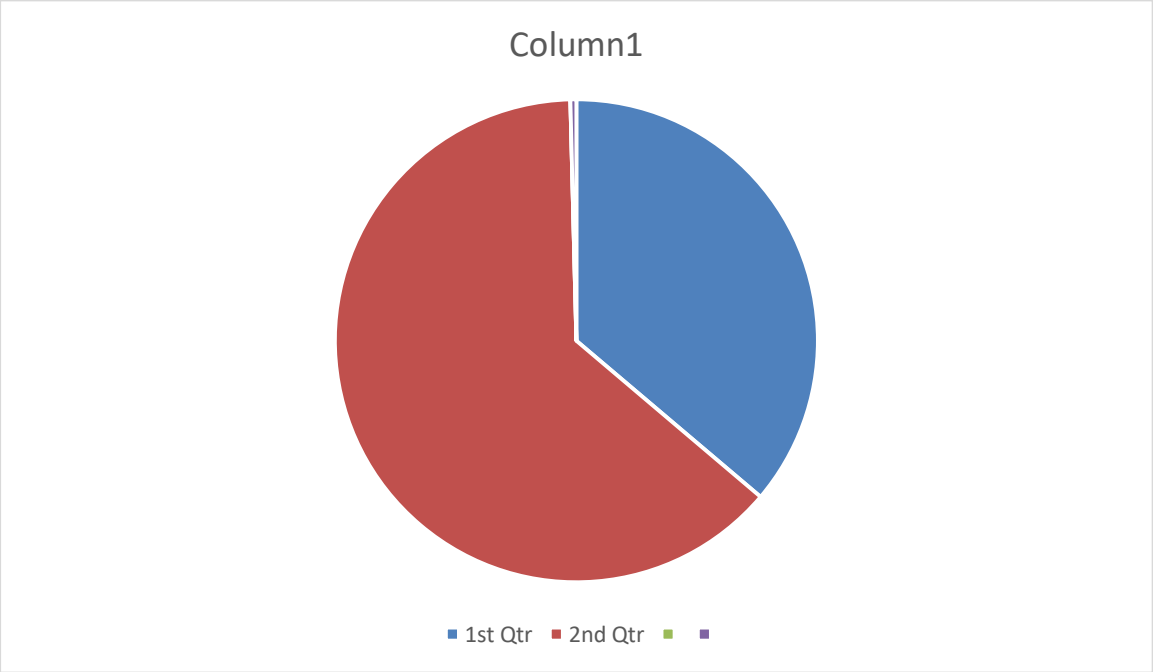
Listening	127	42
Not listening	173	58



Out of 300 respondents chosen for the study, only 127 respondents were listening the world level commodity position before entering into Indian commodities trading and the remaining of 173 respondents were not listening. So, largest number respondents were not listening the world level commodity position before entering into Indian commodities trading

13. Do you listen to the American Dollars open value in commodity trading?

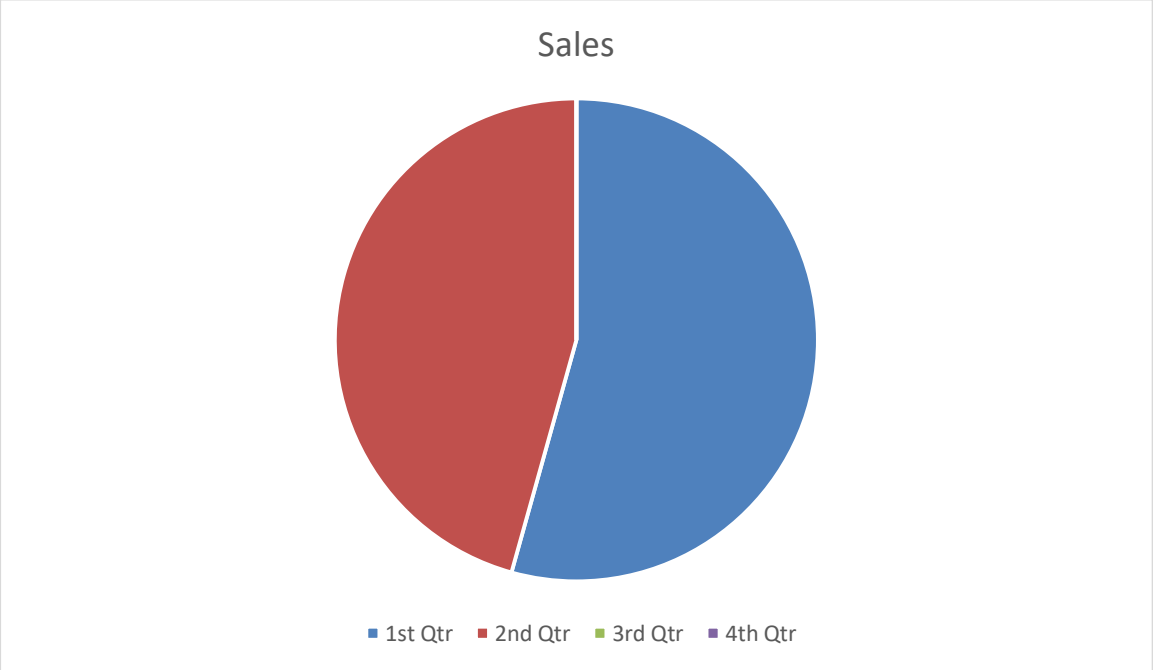
Listening	109	36
Not Listening	191	64



An increase or decrease in the American dollar value as an immediate effect in the price of gold, so any investors must moniter the changes of the American dollar value before entering into commodities trading, The statistical detail have been shown in TableOut of 300 respondents, 36 percent of the respondents well listening the American dollars open value and 64 percent of the respondents were not listening the American dollars open value before entering into commodities trading. So, largest number of respondents (64 percent) were not listening the American dollars open value before entering into commodities trading

14. Do you listen to the world level important news like money inflation, economic saturation, war, natural disorder and so on, before participating in commodities trading?

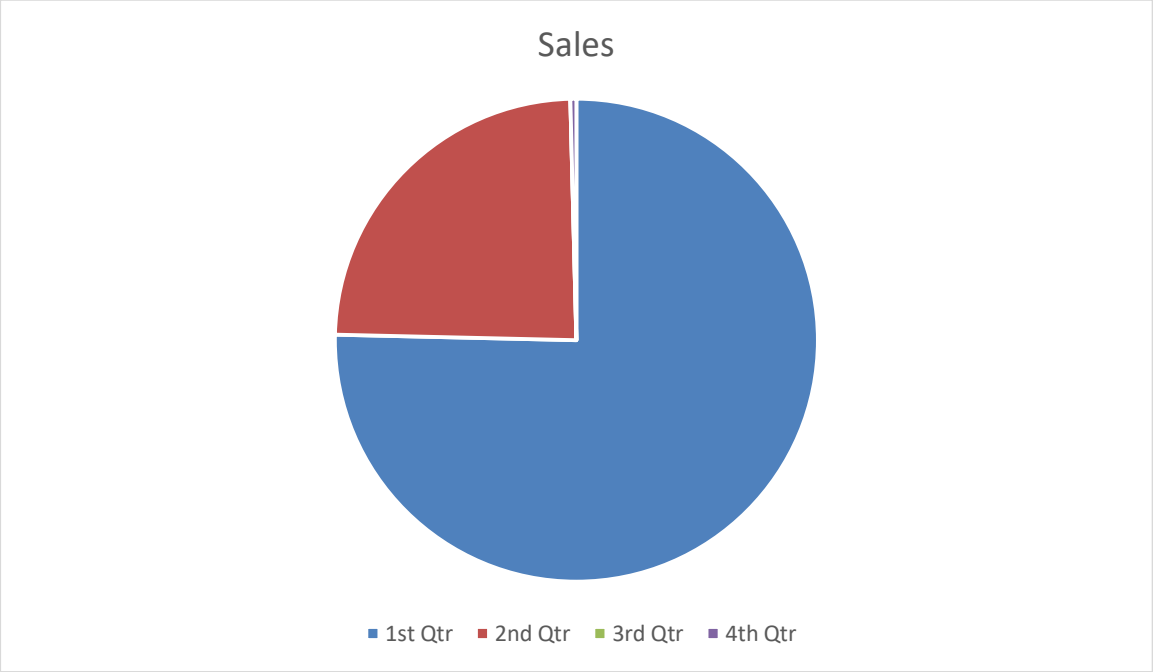
Listening	163	54
Not Listening	137	46



The world level important news like money inflation, Economic saturation, war, natural discover and so on must moniter by an investor before participating into commodities trading. As per table 7.14. Out of 300 respondents 54 percent of the respondents were listening and 46 percent of the respondents were not listening important world news. So, majority of the respondents were listening the world level important new before participating into commodities trading.

15. Do you know the operating time of Indian and International commodities market?

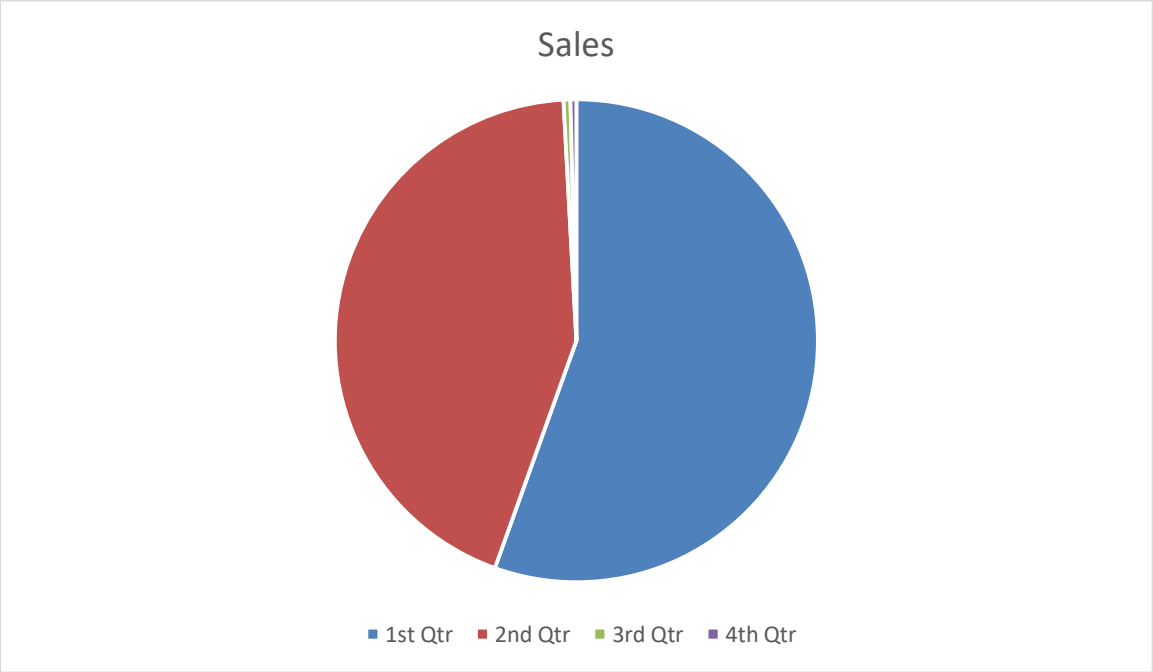
Know	227	76
Unknow	73	24



As per table out of 300 respondents, 76 percent of the respondents did know the operating time of Indian and international commodities market. But 24 percent of the respondents did not know the above operating time. So, majority of the respondents (76 percent) did know about operating time of Indian and international commodities market.

16. Have you invested above the margin amount in order to avoid loss in commodities trading?

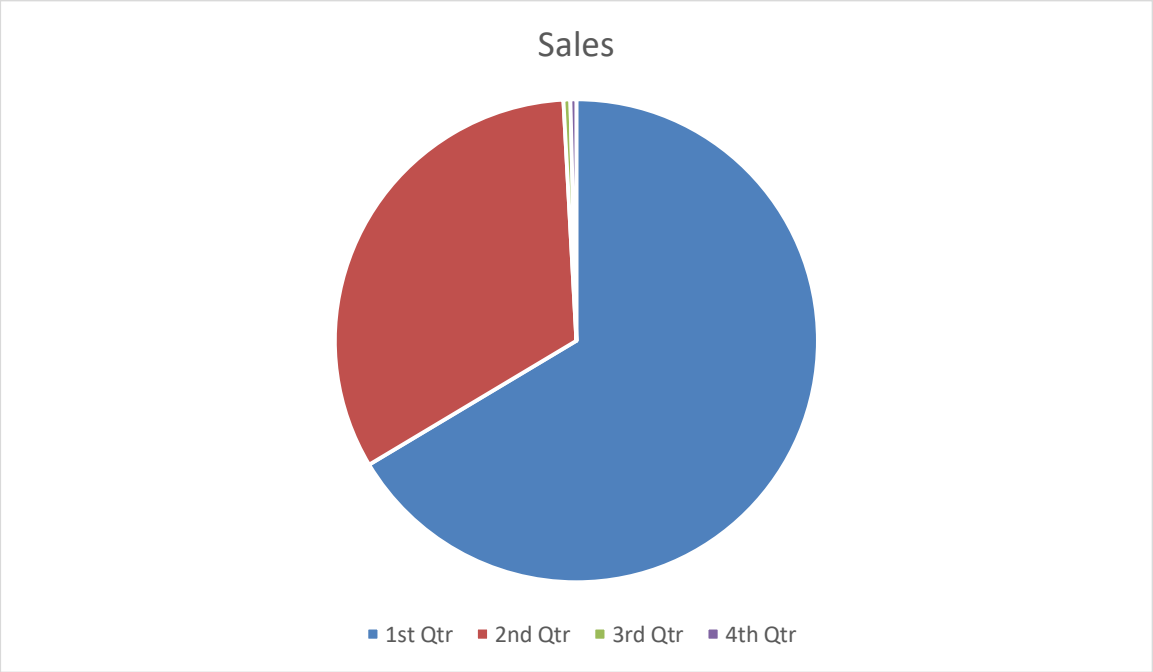
Invested	169	56
Not invested	133	44



he Table shows that among the respondents, 169 respondents have been invested above the margin amount in order to avoid loss in commodities trading and 131 respondents have not been invested in to the above practice. So, largest number of respondents (56 percent) have been invested above the margin amount in order to avoid loss in commodities trading.

17. Do you know where the commodities trading are functioning in India and abroad?

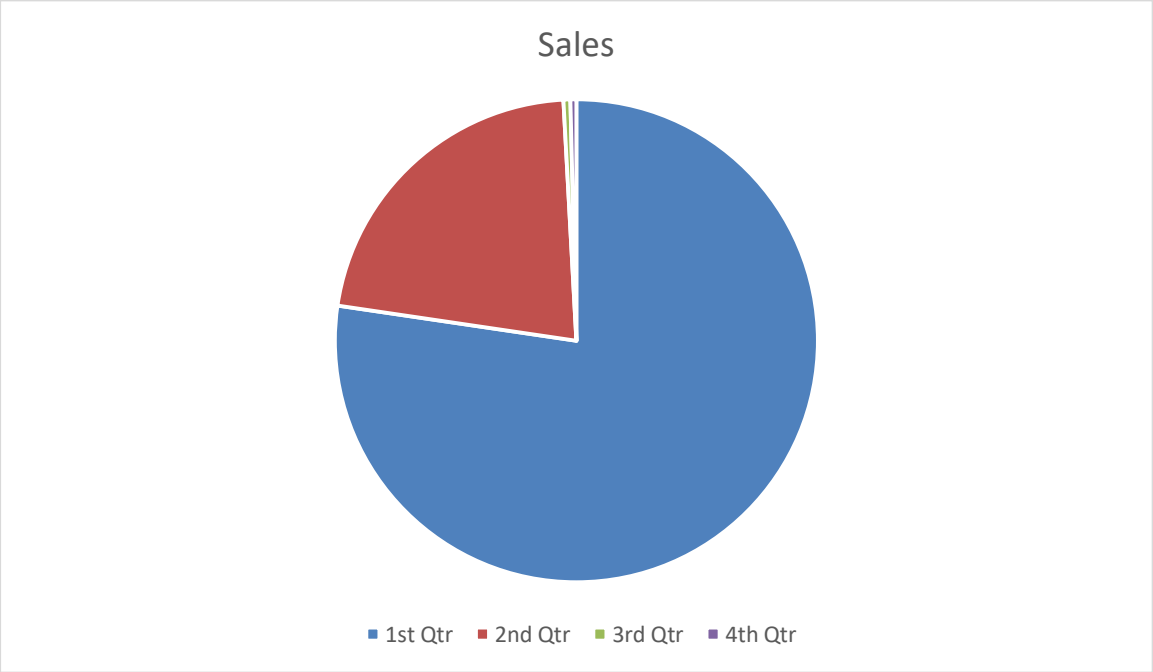
Known	201	67
Unknow	99	33



As per the statistical details shown in table 67 percent of the respondents did know the places of functioning of commodities trading in India and abroad. 33 percent of the respondents did not know the places. So, 67 percent of the respondents did know the places of functioning of commodities trading in India and abroad. This fact has also been exhibited by means of a pie-diagram

18. Do you know clearly about various service charges implemented in commodities trading?

Known	234	78
Unknow	66	22



8

Various service charges have been implemented in commodities market. Like in share market, the commission must be given to broker. This commission may vary from broker to broker and sometimes it is based on the type of trading transactions. As per Table No 7.18. Out of 300 respondents, 234 respondents were known very well about the service charges and 66 respondents were not known about service charges. So, largest number (234) of respondents were known very well regarding various service charges implemented in commodities trading. This fact has also been exhibited by means of a bar chart

19. Do you know about which kind of commodities to buy or sell in commodities trading?

Known	300	100
Unknow	-	--

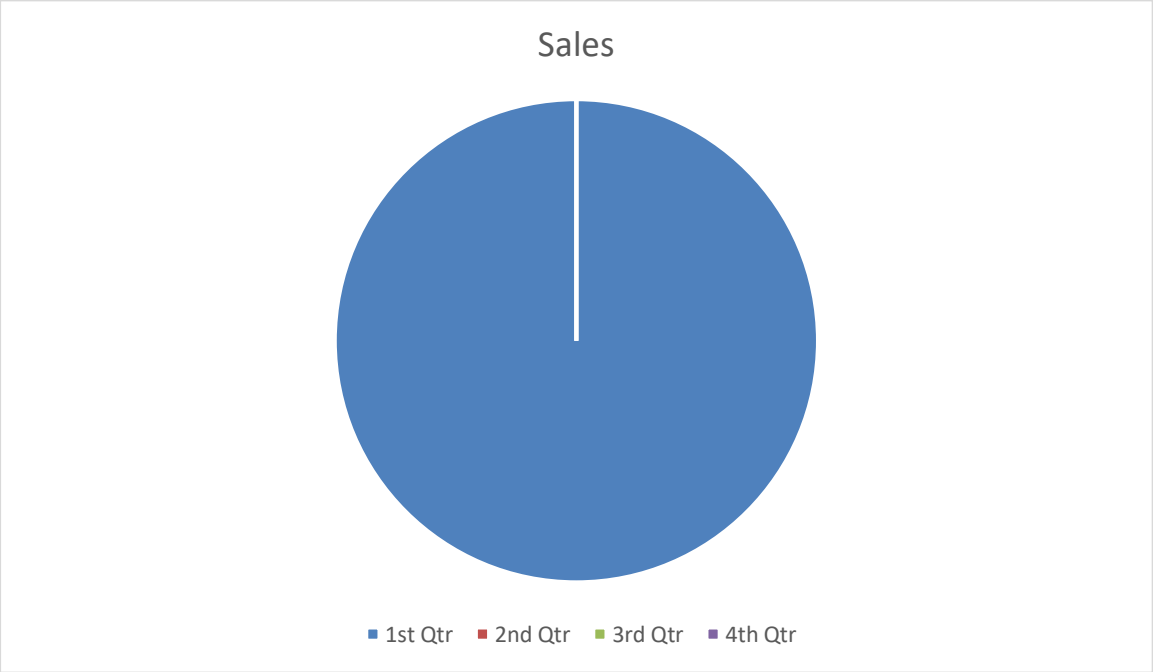
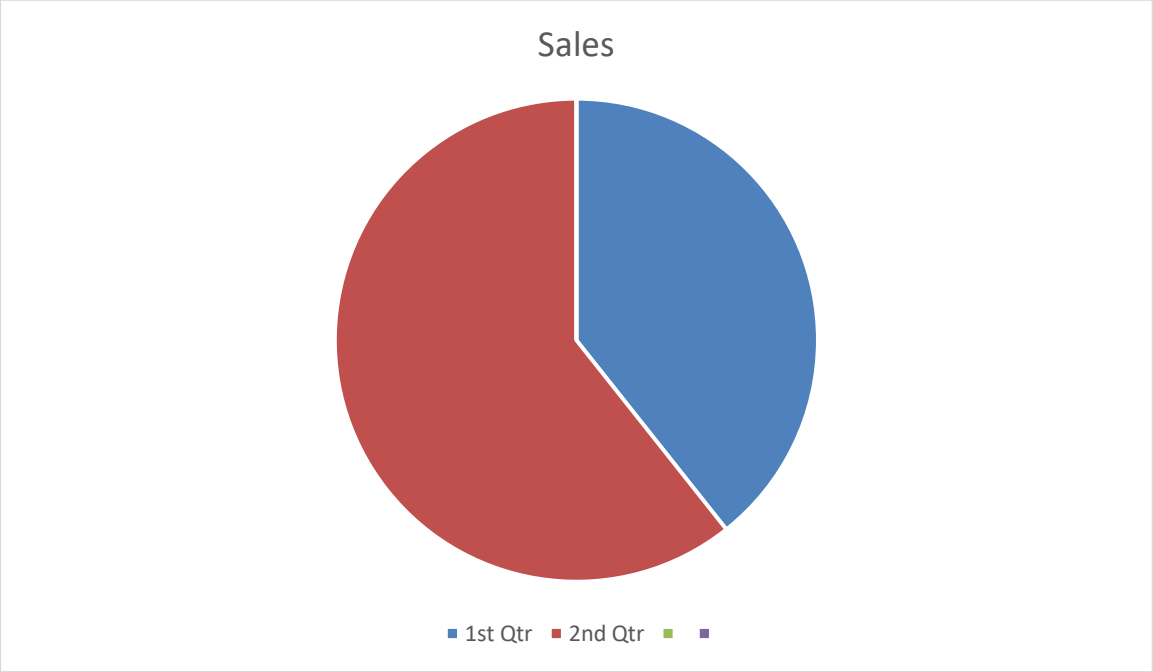


Table shows that out of 300 respondents, 100 percent of the respondents were known clearly regarding kind of commodities to buy or sell in commodities trading

20. Have you been listening property before purchasing of Agri Commodities?

Listening	118	40
No listening	182	60



As per the statistical details shown in Table 118 respondents have been listening properly before purchasing of Agri commodities and 182 respondents have not been listening properly. So, 60 percent of the respondents have not been listening properly before purchasing of agri commodities.

CHAPTER 5

FINDING

1. 56 percent of the respondents are male and 44 percent are female.

2. Largest number of respondents were in between 51 and 60 years of age.

3. Majority of the respondents were graduate.

4. Most of the respondents had monthly incomes between Rs 25000 to Rs 50000.

5. Majority of the respondents (137) were salaried class.

6. Most of the respondents have been participating in commodities market two to three years.

7. 51 percent of the respondents are satisfied with mentioned experiences to participate into commodities market.

8. 95 percent of the respondents were doing other business apart from commodities trading.

9. Majority of the respondents were doing commodities business under part-time basis.

10. 71 percent of the respondents had been invested in minimum level in commodities trading.

11. Out of 300 respondents, 144 respondents were not able to understand about operations of commodities trading.

12. Largest number of respondents were not listening to the world level commodities position before entering into Indian commodities trading.

13. Majority of the respondents (64 percent) were not listening the American dollars open value before entering into commodities trading. 142

14. Largest number of respondents were listening to the world level important news before participating into commodities trading.

15. 76 percent of the respondents did know the operating time of Indian and International commodities market.

16. 56 percent of the investors have invested above the margin amount in order to avoid loss in commodities trading.

17. 33 percent of the respondents did not know the places of functioning of commodities trading in India and abroad.

18. Most of the respondents (234/300) were known very well regarding various service charges implemented in commodities trading.

19. 100 percent of the respondents were known clearly regarding kind of commodities to buy or sell in commodities trading.

20. Most of the respondents prefer to buy gold in commodities market at Namakkal District, Tamil Nadu.

21. American dollars value changes stands first in affecting factors the changes in gold price.

22. According to score table again the American dollars value changes stands first factor affecting the changes in silver price.

23. From the score table, factors affecting crude oil price changes in American dollars value changes stands first, followed by Naxal attacks on oil wells, less production and closure of existing oil wells.

24. 60 percent of respondents have not been listening properly before purchasing of commodities.

25. Crops production stands first factor in influencing the agri-commodities market. 143

26. Largest number of respondents were known about stop loss method to save the investment in commodities market.

27. 30 percent of the respondents have not used stop loss method to save their investment in commodities market.

28. 47 percent of the respondents had not known about circuit breaker method in commodities trading.

29. 57 percent of the respondents are not known about square of procedure in commodities trading.

30. Most of the respondents are known about sale tax is levied for those who take

CHAPTER 6

CONCLUSION

The growth of commodity market is remarkable during last decade. Prices of all commodities are heading northwards due to rapid increase in demand for commodities. Developing countries like China are voraciously consuming the commodities. That's why globally commodity market is bigger than the stock market. It is the market where a wide range of products, viz., precious metals, base metals, crude oil, energy and soft commodities like palm oil, coffee etc. are being traded. It is important to develop a vibrant, active and liquid commodity market. This would help investors hedge their commodity risk, take speculative positions in commodities and exploit arbitrage opportunities in the market. Value of contracts traded in commodity market represents the demand for trading and the people awareness regarding market. The inverse relation of commodity market with stock market shows the alternative ahead investors whenever the feel bearish trend in the same.

Chapter 7

Suggestions

The researcher recommends the following suggestions to the securities and exchange Board of India (SEBI), the stock exchange markets, stock broking offices and the related institutions for improving the level of awareness of the investors in commodity markets.

1. Since largest number of respondents were in between age group of 51 years to 60 years, effective measures can be taken to attract young and middle aged people to invest in commodities market.

2. About 144 respondents out of 300 were unable to understand the operations of commodities market. So a proper beginners guide to the investors of commodity market has to be made available at all share broking offices. 224

3. As per the research, 71 percent of the respondents have made only minimum investments in commodities market. This is mainly due to their fear of taking risk. They can be well – educated about the risk management of commodity market to enable them to increase their investments.

4. As most of the respondents were not regularly watching the changes in the world level of commodities trading position before they started to invest in Indian commodities market, it is recommended that each investor should be advised to regularly listen to the world level commodities market news and update their knowledge about the trade.

5. Most of the investors in Namakkal district have invested in gold commodities trading. Necessary steps have to be taken to create an interest to the investors to invest in diversified commodities to get increased benefits and reduced risk.

6. Though most of the investors have invested in gold and some others in other commodities, lack of knowledge about E-gold and E-silver trading was identified. All

the share broking offices can be asked to educate their investors regarding E-gold and E-silver commodities trading to improved in such
investments.

7. Around 77 percent of the investors were not aware of the proper officials to register their complaints, in case of disputes with their share broking agency. The authorities can solve this by providing full details of the complaint receiving authority in the form of posters and pamplets or in the guide manual in the trading office.

8. Since only 47 out of 77 respondents who had grievances, were able to get a positive results from SEBI. The officials incharge can take necessary actions to satisfy all the investors grievances to enable better customer satisfaction

9. Awareness programmes can be conducted in simple and understandable ways for the benefit of public.

10. Many people have a wrong opinion that those who invest in commodities market are incurring loss. SEBI should take necessary steps to remove this fear among the investors.

11. The general thought among the investors that only very wealthy people can take part in commodities market has to be changed and investors from every walk of the society have to be encouraged to participate.

12. Though SEBI in conducting awareness programmes for college students, it has not much reached effectively among most of the students. So, required changes in such programmes are to be made.

CHAPTER 8

ANNEXURE

1. Gender –
   (a) Male
   (b) Female

2. Age-
   (a)below-20year
   (b)20year-25year
   (c)25year-30year
   (d)30year-above

3. Educational Qualifications

(a) Less than SSL (b) SSLC

(c) HSC (d) Graduate (e) Post graduate

4. Monthly Income

(a) Rs 10000 to Rs 25000 (b) Rs 25001 to Rs 50000

(c) Rs 50001 to Rs 75000 (d) Rs 75001 to Rs 100000 (e) Rs 100001 and above

5. Profession

(a) Agriculturist (b) Salaried class

(c) Business people (d) Student & Others (specify)

6. How many years have you been participating in this commodities trading?

(a) Less than one year (b) Two to Three years

(c) Three to four years (d) Five and above years

7. Do you think this experiences (i.e. less than one year to above five years) is enough for you to participate in commodities trading?

(a) Enough (b) Not-enough

8. Do you have any other business apart from commodities trading?

(a) Doing (b) Not doing

9. Is commodity trading a part time or full time business for you?

(a) Part time (b) Full time

10. Which level of investment is suitable to commodities trading according to you? (a) Minimum level Investment (b) Maximum level Investment

11. Do you understand thoroughly about operations of commodities trading?

(a) Understand (b) Not understand

12. Do you listen the world level commodity position before entering in Indian commodities trading?

(a) Listening (b) Not listening

13. Do you listen to the American Dollars open value in commodity trading?

(a) Listening (b) Not listening

14. Do you listen to the world level important news like money inflation, economic saturation, war, natural disorder and so on, before participating in commodities trading?

(a) Listening (b) Not listening

15. Do you know the operating time of Indian and International commodities market?

(a) Known (b) Unknown

16. Have you invested above the margin amount in order to avoid loss in commodities trading?

(a) Invested (b) Not invested

17. Do you know where the commodities trading are functioning in India and abroad?

(a) Known (b) Unknown

18. Do you know clearly about various service charges implemented in commodities trading?

(a) Known (b) Unknown

19. Do you know about which kind of commodities to buy or sell in commodities trading?

(a) Known (b)unknown

20. Have you been listening property before purchasing of Agri Commodities?

(a) Yes (b) No

CHAPTER 9

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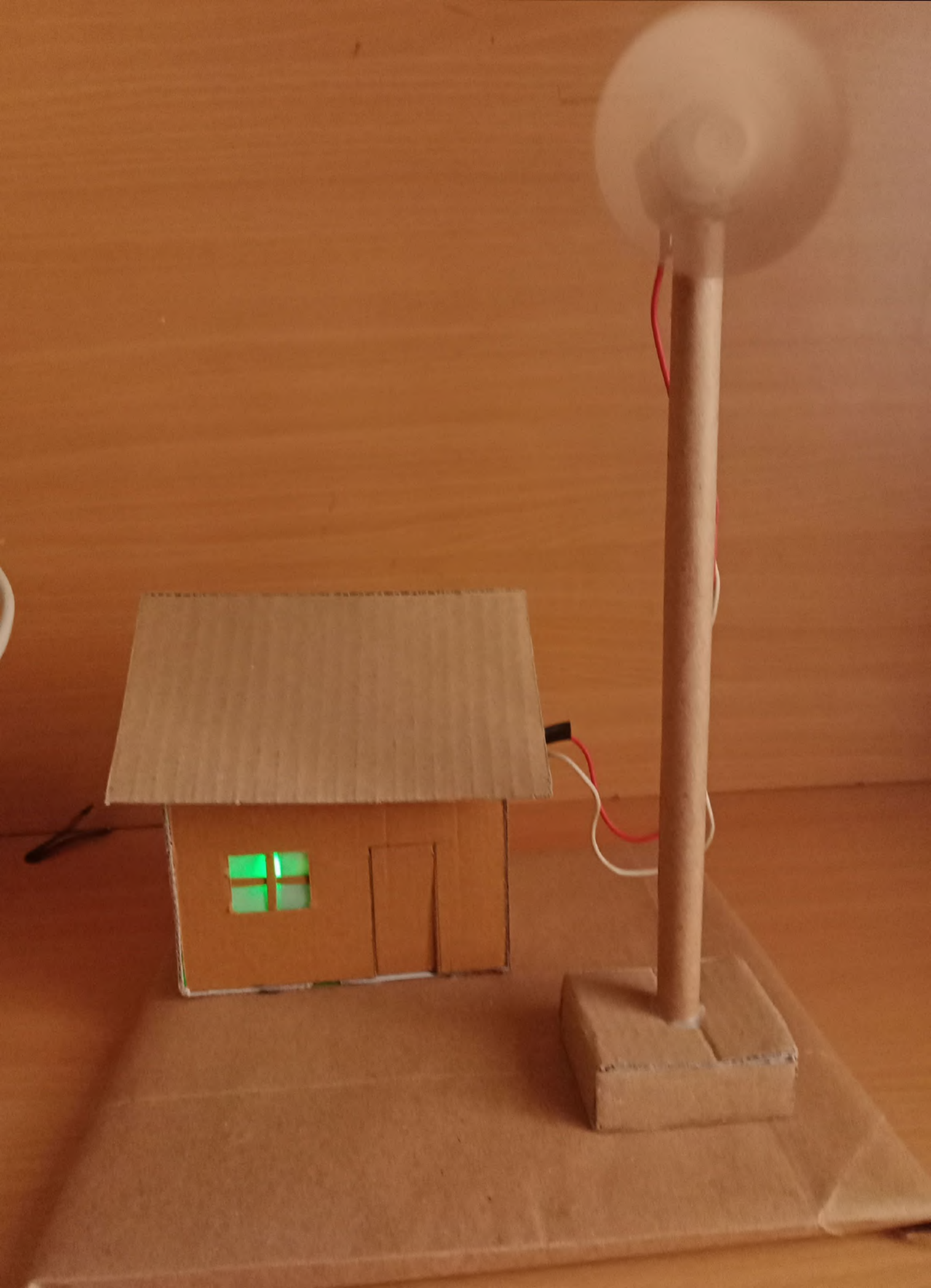

REDUCE,REUSE,RECYCLE

Imagine if trees gave off the WIFI signals

We would be planting so many trees and probably save the planet

Too BAD they only produce the oxygen we breathe!

E Waste Recycling Centers in Sharjah

Creativity is making marvellous

Out of the DISCARDED..!

TOGETHER WE CAN MAKE A DIFFERENCE.

SO RECYCLE THE PRODUCTS AND SAVE THE PLANET.

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Q.2) Do you think culture is fixed or fluid?

→ Culture are not fixed, but are fluid. Always changing and responding while there are specific different to each culture, generally speaking, culture shares a number of traits such as sharing languages, social relationship art and etc. Culture is not a fixed subject. It changes as per needs at the society. It also influenced other ~~cutt~~ culture is an inseparable part of the society. Both are directy proportion to each other on in other words or in simple words culture creat's society and society create culture is also developing unique abilities. The culture cannot be fixed in countries like India. It can be the fluid form.

* Project Report

SUB:- FOUNDATION COURSE - II

TOPIC:- The Family as an agent of socialization in India.

Group no:- 11

Group Members:-

20311A0055 - Ishika Singh
20311A0056 - Tanisha Shinde
20311A0057 - Suprita Saha
20311A0058 - Kajal Paigwar.

Prof :- Ms. lakshmi Pillai.

Introduction

Socialization is a fundamental process through which a family acquires cultural and personal identity. Each person ~~ing~~ undergoes natural, planned, negative, or positive socialization in his or her life. Regardless of gender or age. A family is one of the agencies that introduce a child to aspects like culture, physical and psychological identities or behaviours and environment, which are some of the major elements of socialization.

Commonly, there are three types of families, single parent, nuclear, extended. which can be described as a set of relationships including parents and children and can include anyone related by blood or adoption. Family is the most important for it is within the family that the child is first socialized to serve the needs of the society and not only its own needs.

To thoroughly elaborate on the institution of family we must look at the family as it was before and how much it has changed over time.

Throughout the years we are recognizing that the family is slowly being supplied by other agents of socialization. families in the past consisted of a mother and a father and most times children. We are, as many societies a patriarchal society; mens are usually the head of the households. this has always been considered the norm.

There is no set time concerning the commencement and end of socialization. however some social scientists have devised distinct socialization stages that include oral, anal, oedipal and teenage stages. The family is the chief socializing agent in these stages. ~~oral stage is~~

Oral stage is the stage where an infant is not involved with the whole family but associates with the mother

The newborn at this point only identifies the mother. The second stage, anal usually begins after the first year and ends when the child is three years. During anal stages. the infant distinguish his role from his mother's it is also during this stage when the child learns fundamental issues in his society.

Sundaram
FOR EDUCATIONAL USE

Oedipal stage starts when the infant is about four years to adolescent.

The child during this stage becomes a full member of the community and identifies his role in society. The last stage adolescent adolescence starts in puberty and this is when the child seeks freedom from his parents. it is at this stage when he chooses his career and a spouse. At this stage, he learns about the taboos of his community.

In rural societies, children have most of their early social contact with the family. Today, however, the family's importance in the child's life is changing although most children growing up today will spend a great deal of time with people other than members of their families, this does not mean that the participation of families in socilization has ended. Still the family continues to be a major mean of passing on values, attitudes and behaviours.

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* OBJECTIVES.

- The main purpose of this research is to study "The role of the family in the socialization of children".

Man being social origin and social aspects of child development constitutes the basis of his human life. Necessary social, psychological fitness, enjoyment of social skills, self-esteem and social adaptability. Undoubtedly, the personality of the community is the social dimension of personality. In a word, family, good character developement of children's basic platform. Parents, at least begin from the time that thought in your mind nurture childbearing, educational work. All eyes all walked and everything directly and indirectly voluntary and involuntary them makes the book a lesson and an example to the children and the critical factors of the social developement. In the process socialization of children in the family, which forbids parents, imiation and identification of the most important ways of transmitting the values, norms and social customs that are mentioned. In fact, in the family that children learn what is right and what is wrong. child characteristics inherited from their parents in this way; parents provide growth and developement of children. Parental influence

on children is not limited to here ditary aspects, but also in understanding childs parents in public life and cultural also play an important role Family social status, economic situation, opinions, customs, ideals and aspirations of parents and their education level has a lot of influence on children's behaviour. Healthy child is born, the highest growth potential, he created at his best, and it has the capicity to be trained in the best way and to achive the highest perfection; provided that the family should be given the right enviroment to grow. For childreh from socially desirable growth should benifit from the experience of pleasent social. When the adult patterns because parents always intinate and emotional relationship with the child and establish social balance and vitality of the association and play together, they prepare children to communicate with others and to participate in social achivates more. conversely, children whose parents are not with them but autocratic behaviour and ordering another behaviour, such experiences and upplesent and repungent not show much desire to connect with others. Anxiety, shyness, anger and aggression among parents and children could be socially desirable growth of pests. To encourage children to develope their social connections have sweet memories of their relationships with their parents remain in their minds so that social satisfaction for the positive relationship and interaction with others

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* Methodology.

↳ The Family marks the start of socialization for most people. It assists young ones assimilate their culture and identity with their community. The Family also gives the young members their social status. It plays a prominent role in teaching these members of society about the dangers and effects of early sex. Young members of the society usually socialize with their relatives by learning their routines and establishing signals for their wants.

↳ The Family as an agent of socialization is seen in the fact that the young grow in a vicious assosiation, where in they are taught to love people who strike and subjugate them. The Family thus comprises the initial cell of the society. Children start to watch their parents and siblings for satisfactory ways to intermingal socially, and this remains as a physically powerful influence in their lives.

↳ As an agent of socialization, the family provides a person with skills and practices necessary for partaking in societal activities. Communal and cultural stability are achieved through the family.

↳ It entails an understanding of how thing occur in the society and the developement of emotional associations with the community members. Through the family, socialization endows a society member with the responsibility of performing certain task in the society. This means the closest relatives are the most imperative agents of socialisation agents.

* We used "Google Forms" to make a survey Form for our Project Report on topic, "Family as an agent of socialisation in India."
↳ We asked the youngsters to fill the form, by sending them a link whatsapp.

↳ We also used "Google" to collect data for our topic, the Reference is mentioned below:-

- Reference:-

1) IVY Panda:-

Family as agents of Socialization - 1419 words | Research Paper Example (ivypanda.com)

FOUNDATION COURSE-II

* PROJECT REPORT

- "The Family as an agent of socialization in India" is the topic of our Report.
- We made a set of 10 questions and shared them with the youngsters to get their reviews.
- We first asked them their personal information, i.e. their Name, Age, Gender and their Email-id.
- The first question we asked them regarding the topic was, "Do you think Family plays an important role as an agent of socialisation" and the response we got was,
  7- Yes , 1- NO , 1- Maybe.
- The second question was, "Why do you think the conduct of parents is very effective in children's developement and social education.", We got few responses, the most common were;
  a) Because children learn from the elders.
  b) They've lived with them since childhood.
- The third question was, "Do you think it is in the family that individual understands life experience, moral and cultural standards of societies.", The response were
  3- Yes , 1- NO , 5- Maybe.
- The fourth question was, "Who do you think can be more effective agents of socialisation", The response we got was,
  4- Family Media -2 Peer Group -3.

- The fifth question was, "Nowadays kids face problems in socializing with each other and are being called, "Introverts" what do you think is a major reason behind this", we got few response, some of them are;

a) low self esteem
b) kid's involvement in their phones
c) there's nothing major people have different personalities and they only get along with people they like
d) lack of self confidence
e) fear of not fitting in or being accepted.
f) The pressure created by social media and their peers, unfathomable characterization of qualities.

- The sixth question was, "Does a bad family background affect child's upbringing.", and the response we got was "Yes" from everyone.
- The seventh question was, "Is family sometimes negative agent of socialization", the response we got was,

5 - Yes 4 - Maybe 0 - NO.

- The Eighth question was, "Is TV the most influential form of mass media?", the response we got was,

2 - Yes 4 - NO 3 - Maybe

- The Ninth question was, "which agent of socialization exposes us to real world situations and people?", the response we got was, Media, social Media, Being Alone,

All, Peer Group, Friends, Family, Self Respect.

- The Last question we asked was, "Do you think your family played an important role in your life as an agent of socialization?", The response we got was,

6- Yes , 1- NO , 2-Maybe.

* RECCOMENDATIONS

A] Data collected :- All the data was collected through / from the news paper ~~reseac~~ research, Google sites, books, etc.

B] Order in which thing occured :- While preparing project and collecting information, our aim was to study the role of family as an agent of socialisation

C] Who collected the data :- We divided work equally ~~among~~ among our group members,

Ishika Singh - Introduction / bibliography / appendix
Pankaj Kondalkar - Objective
Tanisha Shinde - Methodology / Procedure
Kajal Paigwar - References / Recommendations
Suprita Saha - Conclusion

D) Where all the activities took place :-
Due to pandemic, we couldn't meet and work on project, so, we discussed all the project work through virtual meeting and calls. And all the events took place at our home.

E] What happened in the study :- We collected all the data. and had a discussion by which we came to a conclusion that, as the primary agents of childhood socialisation, parents play a critical role in guiding children into their gender roles deemed appropriate in a society.

F] Important points about topic :- Family is the first and most important agents of socialisation. Mothers and fathers, siblings and grandparents, other members of family, all teach a child what he or she needs to know. As we all are aware, from the ~~~~ surroundings, Socialisation includes teaching and learning about an unending array of objects and ideas.

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DISCUSSION

The family marks the Start of Socialization for most people It assists young ones assimilate their culture and identify with their community. The family also gives the young members their Social Status. It plays a prominent role in teaching these members of Society about the dangers and effects of early Sex. young members of the Society usually Socialize with their relatives by learning their routines and establishing Signals for their wants. The family as an agent of Socialization is seen in the fact that the young grow in a vicious association wherein they are taught to love people who Strike and Subjugate them. The family thus comprises the initial cell of the Society children Start to watch their parents and Siblings for Satisfactory ways to intermingle Socially and this remains as a physically powerful influence in their lives. Family influences on Socialization have become highly influential. The family regardless of its nature and Size is the fundamental factor in Socialization. The young learn how to associate with others by observing their parents. They learn how to behave in disagreements. They also learn how to achieve what they want from others.

children are Socialized via their families control to view the globe in different ways. This may include viewing the nation as an insecure place a place to train and discover place where one is Sustained

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only totally loved. Though these lessons keep changing all through the live of an individual, the influence of the family as an agent of Socialization never weakens. As an agent of Socialization the family provides a person with Skills and provides a person with Skills and practices necessary for partaking in Societal activities. communal and cultural Stability are achieved through the family It entails an understanding of how things occur in the Society and the development of emotional associations with the community members. Through the family, Socialization endows a Society member with the responsibility of performing certain tasks in the Society. This means that the closest relatives are the most imperative agents of Socialization agents A family provides to its members love and care. This helps the child to grow Socially, emotionally and physically. The parent is the most crucial in the development of the child. By interacting with other family members, the child learns Social acquaintance, loyalty and patriotic Skills. when a child lacks a family to train him in his early Stages then Socialization for this child becomes exceedingly hard. The basic function of the family is to bring persons into being both physically and Socially. one's family experiences, therefore fluctate with time. From the children's Socially and plays a key tasks in their cultivation and Socialization From parent's perception the family is the basic unit of procreation whose goal is to give birth acculturate and bring children together.

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The family has an effect on the Social relationships in any community. It is an depicted as the building Social element of the Structure of any community The family as an agent of Sociological of any community The family as agent of Sociological change is also seen when it comes to patterns of exchanging ideas. There is a Set of beliefs in a family that demonstrate how the family that demonstrate how the family members Should exchange ideas and interrelate with one another. The family pattern of exchanging ideas originates from two fundamental principles. This is the level at which communication is valued and the degree the establishment of a cost effective family unit is necessary. Although the context of a family was initially anthropologists assert that one must comprehend the blood nation metaphorically. Many communities however recognize the family via other contexts Such as genetic detachments. The veracity of a State is the integrity of its maleness. In fact it can be reproductive if only the right version of Sex hierachy has been developed and reproduced if only the right version of the instrument in this process. It blinds all the males and females in a Society to a larger combination in which they are Supposed to familiarize themselves to one another to be productive. If the contemporary State is to be Set of a war, then the preferred institutional Setting to carry out this action is the Socialization is thus comprehended as a building idea of the family runs all characteristics traditions of rebirth after times of fault and decadence.

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In the modern Society, the family is viewed as a place of Safety, which Supplies total fulFillment. It encourages closeness, love, and confidence where person may run away from the Struggle of dehumanization. The family is a Storehouse of warmth and compassion and Stands in resistance to the aggressive world of trade. It Safeguards its member against the external world. The family is a customary community forms the basic economic unit. This monetary role of the family has, however Slowly diminished in the modern era. In the US, the family is Still immensely influential in the agricultural Sector and many other Sectors in the country. The association between the financial role of the family unit; Socialization, and artistic values is Still complicated. Family units may also affect both national and religious organizations. The Surprising esteem for women in any Society tends means that young people in that Society tend to doubt dictatorial leaders.

FOUNDATION COURSE - II

CURBING PLASTIC CONSUMPTION AND POLLUTION IN INDIAN HOUSEHOLDS.

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INTRODUCTION

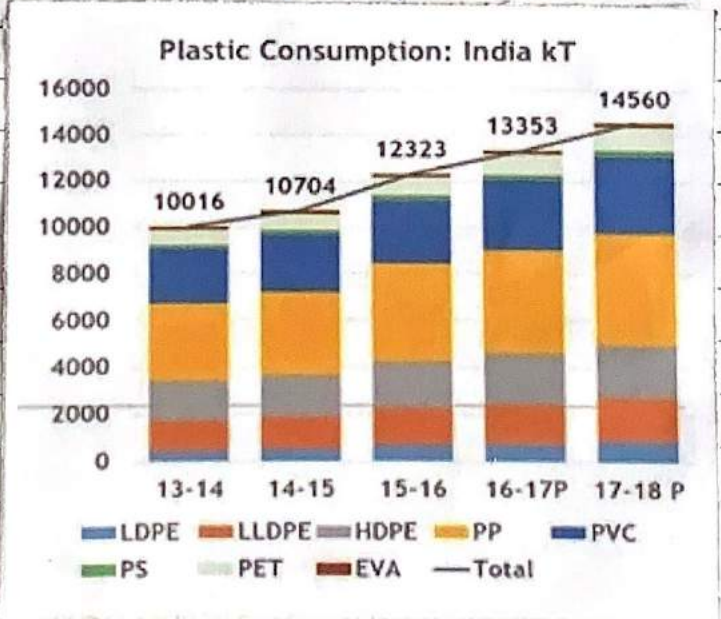
Over the last few decades, the prominence of plastic and plastic related material in Indian households is increasing steadily and significantly. Plastics are a wide range of synthetic or semi-synthetic materials which use polymers as the basis or their main ingredient. Their plasticity make these transformable and allow them to be moulded, extruded, and changed into a wide variety of shapes, making it the perfect commodity in an Indian household where products are generally ranked on the basis of their ~~ttt~~ utility over a dynamic range of functions. Since plastics are so easily modifiable, it is the go-to choice for most, if not all Indian households and are used in all aspects of daily lives including but not limited to packaging, storage and the very popular use of polythene bags and / or garbage disposal bags. Most importantly plastic as a ~~meter~~ material is very durable albeit harmful to the environment, it is not easily destroyed This durability and long lasting nature of plastics can explain its ~~reliance~~ emergence as a reliant one stop source to fulfill all the needs of a typical Indian household. This, combined with it's accessibility and its transformable nature. can help us understand the growing importance of plastics and the increasing plastic consumption as a result in the Indian households and the surrounding society.

This over reliance of the Indian society on

plastic and plastic related products has it's fair share of problems as well. The durable nature of the plastic which seems like an appealing quality at first glance also has it's share of problems where it is non bio-degradable in the environment and it stays on dumping grounds for way too long filling up landfills and covering up areas. Apart from that the major impact of plastic on the environment is the time taken by them to decompose. In addition, toxic substances are released into the soil when plastic bags perish under sunlight and the burning of plastic bags also releases toxic substances into the air causing ambient air pollution. The mass production of plastics has also created the perception that these products are easily disposable creating an exponential increase in the size of the landmasses required, in the form of dumping grounds, land fills and other methods of garbage disposals. Thus, this ever increasing importance of plastics in Indian households also has a collateral effect on the environment including pollution, and the problem of creating spaces for collected waste.

The Central Pollution Control Board (CPCB) estimated in 2015, that the average plastic waste generation in the country is around 6.92% of Municipal Solid Waste (MSW). Extrapolation of plastic waste generation data from 60 major cities showed that around 25,940 tonnes of plastic waste per day (TPD) is generated in India. Cities like Mumbai, Delhi, Kolkata, Chennai are amongst

the top contributors to the generation of plastic waste in India. Of this, around 15,600 TPD or 60% gets recycled and more than 9,400 tonnes ends up in seas, oceans or gets piled up in lands devoid of source segrigation. The massive generation of plastic waste in India is due to rapid urbanization, spread of retail chains, plastic packaging from grocery to food and vegetable products to cosmetics to consumer goods. The plastic processing industry in 2018, estimated that polymer consumption from 2017 to 2022 is likely to grow at ~~10%~~ 10.4%, nearly half of which is single use plastic. The above statistical data, gives a clear representation of India which is rapidly emerging with a global phenomenon of plastic waste generation. Most of the plastic waste that is generated domestically and Indian households, both act as major contributors to India's share of plastic waste generation. It can be thus inferred by the above that plastic waste generation is a major up and coming ~~fr~~ problem in India.



Curbing this overspill and reigning in the over increasing waste that is increasing consumption of plastic is creating a very relevant and real crisis that not just India, but the entire world is going through right now; and to ~~deal~~ deal with this in the Indian context we need to start with the root of this problem, the Indian households. If the crisis is ever going to be solved, one of the most prominent factors is the search for an alternative that is just as ergonomically efficient and has multiplicity in uses. ~~More~~ Moreover, after finding such an alternative, the normalization of its use and the generation of awareness about its uses will be another challenge; but a necessary one in the cause of curbing and reducing the use of plastic waste and its pollution, which is a by-product from Indian households.

This report aims at analysing this very question of the overuse of plastic, its significance in the traditional, middle class Indian households, the technique of disposal, the aftermath of this overuse and how to actually diminish this inseperable status of plastic materials in day to day use.

AIMS AND OBJECTIVES.

Plastic pollution is emerging as one of the biggest threats to eco-system. Daily use of plastic by the common man in Indian households, being one of the biggest contributors to the greater problem of plastic waste generation is one of the most dynamic problems the ~~fo~~ world is facing today. Plastic cannot be completely eradicated from human life as way too many industries are highly dependant on the availability of plastic for their packaging and distribution needs. This poses a bigger question of how to differentiate between individual and industrial use of plastic and how to regulate those to find some sort of optimum use for this dynamic polymer that has sort of ~~be~~ accumulated an absolute negative connotation over the years as the harbinger of destruction throughout the environment.

This report precisely aims to talk about not only the results of this increasing demand and it's concurrent increased supply in the society over the past couple of years, but also tries to approach how to curb it's monopolistic status in Indian Households. It indubitably ads to the problem of waste generation and has garnered a negative connotation due to that, but it's necessity in some situations is often overlooked while talking about things. This report aims to take an objective look at the multiplicity of the reasons why the use of plastics in Indian households needs

to be curbed and reduced.

One of the reasons why plastics is widely used in the Indian Households is because of its economic nature. It is readily available as well as produced in various shapes and sizes. It is also pocket friendly to the average middle-class consumer, especially as compared to the environmentally friendly options. There is also a socio-cultural scenario, where plastic material has become the traditional go-to for carrying things. Both these factors combined have created a strong hold of plastic and plastic waste materials of daily use in the human life. But the environmental factors are also to be considered while thinking about these things. Sustainable development needs to be considered while talking about plastics. Because, in the coming years, the issue of landfills and waste disposal will be even more relevant than it is today.

This project also aims at drawing out a fairly implementable and sustainable development plan harmonising the three major aspects of plastic consumption and the subsequent reduction in use in the Indian households. It aims to compensate for the overtly environmental approach in tackling this issue by giving the psycho-social and economical aspects just as much importance. This helps to not only truly reach the crux of the situation and bring the real issues to the forefront but also draw out a long term plan that fulfils not just the objective of sustainibility

but also take factors like accessibility in consideration and keeps the order of functioning intact.

Given the global scale of plastic pollution, the cost of removing plastics from the environment would be prohibitive. Most solution to the problem of plastic pollution, therefore focus on preventing improper disposal or even on limiting the use of certain plastic items in the first place. Fines for littering have proved difficult to enforce but various fees or outright bans on foamed food containers and plastic shopping bags, are now common, as are deposits redeemed by taking beverage bottles to recycling centres. So-called extended producer responsibility (ERP) schemes make the manufacturers of some items responsible for creating an infrastructure to take back and recycle the products that they produce. Awareness towards the serious consequence of plastic pollution is increasing and new solutions, including the increasing use of bio-degradable plastics and a 'zero-waste' philosophy, are being embraced by the governments and the publics.

The primary objective of this project is to reduce the consumption of plastic and plastic related materials in Indian households and subsequently the surroundings, aiming at the creation of a better and healthy environment while finding different alternatives that are better suitable for the functioning of the society having taking into consideration different aspects of change

of lifestyle that such an alternative would insinuate. This also attempts at providing suggestions about the disposal of already existing waste as that would also play an important role in the fulfillment of the primary objective. A change in the way of living in the Indian households might also create awareness about the bigger problem of waste generation and its disposal in general, equipping them with necessary tools for waste management in the process.

The other objective that this paper looks at is economic viability, accessibility and availibitity of ~~all~~ alternative to curb the use of plastics in Indian households, the environmental friendly nature of the available alternative and figuring out a way to bridge the gap between all the factors to derive the best suitable substitute, without majorly disturbing human life.

To also find different approaches while tackling this issue other than the prominently single faceted approach that has been traditionally followed in dealing with plastic use in day-to day life, the practice of which is majorly attempted through the generation of awareness are one of the main focus points. The report attempts to consider this issue just as much as an environment issue to actually explore different possible solutions to the curbing of plastic use.

PROCEDURE / METHOD

In order to understand the magnitude of input of plastics to the natural environment, we conducted an online interview with Mrs. Swati Parab who is a plastic pollution activist and a member of several NGOs across Mumbai.

Here are a few answers by Mrs. Parab that we would like to share with all of you:

1. Where does your engagement against plastic pollution come from?

→ I have been interested in ecological issues since I was a child. I have been born and brought up in Mumbai – a very polluted. As I grew up, I realised, growing amount of trash is polluting the shores. I was very upset and decided to do something about it. However, it took me decades, to become aware of the magnitude of the problem.

2. As you dudve deeper into plastics and environment, what is it that you are learning?

→ If I had to summarize everything I have learnt uptil now, I would say that we have a very limited impact on the health impacts of plastics. We need to asses the hazards in order to evaluate and understand the interaction of plastic with other stresses in the environment. Howevery currently it is difficult to conduct studies and draw valid comparisons due to lack of a globally standardized approach.

3. What projects have you been a part of for awareness and cleanups?

→ I have been a part of cleanup drives at beaches all over Maharashtra. I am also a part of NGOs who have installed bins in the city for recyclable plastic and have conducted several awareness programs in schools and colleges.

4. Last year you were a part of project 'Expedition Plastic'. Please tell us more about it.

→ Plastic pollution is one of the topics where people known know the half truth. I wanted to tell all about this - specially to the young generation. This expedition was carried out at Juhu Beach and through this I learnt, that most of the waste dumped into oceans degrades in less than 10 years. Yet most of it is plastic and it takes about 500 years to 500 years to disappear and we don't know if it will ever truly degrade.

5. Many countries and local governments are banning plastic straws and single use bags. What are you thoughts on the same?

→ Before instituting a ban it is crucial to identify the problem. Eliminating single use plastics will reduce global mismanagement of plastics only by 5 percent. It is not that I don't agree with bans, but I believe bans should be informed, methodical and practical.

6. What little measures can each household take to reduce their carbon footprint?
→ You can begin by drinking water out of metal containers. The government has installed water filteration systems almost everywhere, so make sure you don't purchase plastic water bottles when you are not at home.

7. Are there any ~~ainnovative~~ innovative ways to dispose tonnes of plastic generated each year by the city, rather than just dumping them in landfills?
→ There are some new ways that have emerged over the years. There are companies that make park benches and tables out of plastic water bottles by compressing them. Such items should be placed all over the city. Now-a-days, there are also railway tracks being made by compressing plastic under pressure.

8. Lastly, what advice would you like to give to all the readers, reading this interview?
→ I would say, ~~that~~ the way to change the world is through individual responsibility and taking local action in your own community. If everyone around the world did this, it would be the first step in solving the ~~s~~ problem.

We believe that we can tackle this problem if we understand various elements of the plastic production, distribution, and waste management chain. Hence, we conducted an online survey to understand the thoughts and problems of people regarding this issue.

The questions included in the survey are as follows:

1. Name
2. Age
3. Gender
4. Which of the following best describes your household?
   (a) single household
   (b) family with children
   (c) family without children
   (d) retired household
   (e) other: _____
5. Plastic is harmful to the environment
   (a) Agree
   (b) Disagree
   (c) Neutral
6. If online shopping helps to reduce plastic bag usage, would you consider doing more online shopping?
   (a) Yes, I may do online shopping.
   (b) No, I still need my plastic bags.

7. How often do you carry your own shopping bag while shopping?
(a) always
(b) never
(c) sometimes
(d) rarely

8. Imagine there was a tax of 25₹ on coffee cups, in order to encourage people to bring their own cups, what would you do?
(a) pay extra 25₹
(b) carry your own coffee cup.

9. What makes it difficult for you to use re-useable bags?
(a) I forget to carry my own bag.
(b) re-useable bags are expensive.
(c) plastic bags are convinient.
(d) It is the retailer's responsibility; not mine
(e) It is not difficult for me
(f) other: _____

10. Why do you prefer using plastic products?
(a) they are cheap
(b) they are durable.
(c) they are easily available.
(d) lack of alternate materials.
(e) All of the above
(f) other: _____

11. Are you aware of the ways plastic can be recycled?
(a) Yes
(b) No
(c) Not sure.

(12) Do you recycle objects at home?
(a) yes
(b) no
(c) sometimes

(13) How often do you help with reducing plastic pollution?
(a) constantly
(b) sometimes
(c) I don't help at all.
(d) I would like to help but don't know how to.

(14) How polluted by plastic is your area?
(a) little
(b) moderate
(c) a lot
(d) don't know.

(15) Do you think the government is doing enough to tackle the problem of plastic pollution?
(a) yes, they are doing enough
(b) no, they are not doing enough.
(c) may be
(d) don't know

(16) Which plastic product do you use the most?
(a) plastic bags.
(b) plastic liquid containers (bottles)
(c) plastic bins, barrels, buckets.
(d) plastic shoes
(e) All of the above
(f) Other: _____

(17) According to you, what is the most effective to manage plastic pollution in the city?
(a) Government regulations actions.
(b) campaigns by NGOs
(c) Individual action and efforts.

(18) How do you dispose plastic waste?
(a) open burning.
(b) dumping
(c) handover to waste collectors
(d) BMC collection bins.

(19) Did you follow the ~~recent~~ plastic ban that was implented in 2019?
(a) yes
(b) no
(c) partially.

(20) If you could pass one law or ~~impre~~ implement one scheme to curb plastic pollution, what would that be?

RECOMMENDATION.

Total 145 ~~peo~~ individuals contributed to our survey of which 71 were females between the age group of 40 - 60.
The conclusions drawn ~~of~~ from the survey are as follows:

Of 145 responses almost 93.8% believe that plastic is harmful to the environment. In order to help reduce the usage of plastic bags 94.5% are willing to switch to online shopping while the rest 5.5% are only comfortable with traditional shopping methods. On a day-to-day basis, 51% always carry their own shopping bags, 4.07% sometimes, 6.02% rarely while 2.1% nevery carry their own bags.

We then asked the participants to imagine that there were a 25 ₹ tax on coffee cups in order to encourage people to bring their own cups. In such a situation 91% chose to carry their own coffee cup while 9% chose to pay the extra 25 ₹ tax. On asking the participants, what makes it difficult for them to carry their own bags; 6.9% believe plastic bags are convenient, 6.8% believe re-usable bags are expensive, 24.1% of people said that they forget to carry their own bag, 0.8% think that its the retailers responsibility not theirs while 0.8% have other reasons. People use plastic products because 29.7% think plastic is easily available, 9.7% think plastic is cheap, 6.2% think plastic is durable, 18.6% think there is a lack in alternative materials, 11% have other problems while

9.7% voted for all of the above.

Out of the total responses, 66.9% are aware of ways to recycle plastic, 9% are unaware and 24.1% are not sure. Besides this, 27.6% recycle objects are home, 23.4% do not while 49% recycle objects sometimes. 16.6% ~~of~~ help in the reduction of plastic pollution constantly, ~~3.4% help sometimes~~ 3.4% do not help at all, 60% help sometimes, while the rest 20% would like to help but do not know how to contribute. Then we asked the participants, how polluted by plastic was their area? 20% said a lot, 31% said little, again 31% said moderate and the rest 18% said they did'nt know. 66.9% believe that the most effective method to manage plastic pollution in the city is through individual action and effort, 29% believe it is through government regulations while the rest 4.1% believe it is through campaigns by NGOs. While disposing plastic waste, 55.2% hand it over to waste collectors, 35.9% dispose it in the BMC collection bin, 6.2% opt for dumping while the rest 2.7% opt for open burning. Lastly we asked the participants if they followed the plastic ban that was implemented in 2019. 59.3% said yes, 80.8% said no, while the rest 37.9% said partially.

While studying the results of this survey, we realised that the major problem in Indian households regarding plastic pollution and consumption is the lack of awareness among the people. Majority of the masses aren't aware of the ways to recycle and/or dispose plastic. Some of them aren't even aware about the ill effects and the damages caused by plastic.

Another major problem in the Indian households is that people only respond to authoritative government measure like fines / punishments bans etc. people only tend to follow rules when the fines are effectively heavy and damaging. There's also a need being pointed out for making more bins available around every locality along with the bifurcation of the waste gathered based on bio-degradability and the quality / type of the plastic waste.

The best alternative to using plastic bags is not to use any bag at all. The next best alternative is using reusable bags and bio-degradable bags. There is a wade range of reusable shopping bags available from retailers which are not harmful to the environment. There is low recycling rate in case of plastic bags, so when it is wasted it creates environmental pollution in one or the other way.

So, when we think from benefits from the welfare of the society and good environmental condition, it is a much needed decision to ban plastic bags everywhere and people must welcome the government acts.

CONCLUSION

Although plastic is very useful in Indian households, and provides us with various useful articles, it serves as a serious threat to our environment. So, we should try our level best to reduce, reuse and recycle plastic whenever possible and hence reduce the level of environment pollution caused by plastics.

Research shows that it takes about 500-1000 years for plastic to degrade. This means that the plastic we use ~~is'nt~~ isn't going away anytime soon. Hence, it is essential that we reduce the number of plastic articles we use on a day-to day basis. Something we all must know is that '50% of plastic we use, is single use plastic'

Over the last 100 years we have produced more plastic than during the whole of the last century. This is because, majority of the Indian population is totally dependent on plastic and plastic related materials. This proves that we are using esstential resources in the production of something that ~~is~~ isn't a necessity. It means that we are using up oil to make these plastic and plastic related materials which really isn't something we ~~nn~~ need.

By this point, we are all aware that plastic is harmful to us as well as the environment. Hence, we must ~~&~~ use other materials that are environment friendly that which can be reused and recycled.

Saying that, we need to ask ourselves if this is a realistic and an achieveable goal. The answer is 'YES'.
We believe, that there are tons of easy ways to use less plastic everyday. The first step is awareness. We must try and bring attention to plastic pollution by participating in several NGO and media campaigns. Second, we must educate the illiterate and encourage the literate people to reduce the amount of plastic they use by promising them a healthy environment and sustainable development. Lastly, we must try and provide tools that people can use in their community in order to create puplic awareness of plastic waste.

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TOPIC : CAUSES FOR DECLINING GENDER RATIO IN INDIA

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DATE :- 7 DECEMBER 2020

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★ Introduction

Sex ratio or Gender ratio in the Indian population is becoming diverse to women. It has been rapidly declining decade by decade. It widely differs among states and union territories. The major cause for declining sex ratio are sex ratio at birth; sex-selective abortions, sex ratio of children and sex-differentials in mortality etc.

· Definition

In India, the sex ration has been declining due to prevailing social norms that tend to value males much more than females, which leads to 'son preference' and the relative neglect of girl child. In 1901 it was 972, 946 in 1951 and 927 in 1991

★ Objectives

① To study the states trends of sex ratio in India its States as well as Union territories
② Cause for declining sex ratio
③ Its ~~m~~consequences

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★ Reasons for declining Gender Ratio

- Patriarchal System : dominated by men
- Preference for male child
- Religious belief
- Economic Reason
- Dowry System
- Small Family Norms
- Sex Determination Technology
- Female Foeticide | Infanticide

★ Measures to Improve Sex Ratio

- Equal importance to girl child
- Incentives : Free education, Reservations in jobs
- Equal rights
- Women Empowerment

★ Analysis

At present the the world has 986 females for 1000 males. The Sex ratio in Russian Fede (1140); Brazil (1025); U.S.A (1029); and etc.
In India, the overall sex ratio has been unfavorable to females and during 1901-2001, it become increasingly so, with slight exceptions, the 1981 and 2001 census have recorded a tiny upward movement.

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There have been periods when the decline in the sex ratio has been sharp; for example, between 1901 and 1911 between 1911 and 1921 and then between 1961 and 1971. It was considered as a serious matter by the demographers and social scientists. However after an improvement in sex ratio in 1981 the 1991 census again recorded a decline of it. Further, the sex ratio is widely differing in Indian States and is Union territories.

- High sex ratio

States/Union territories with higher sex ration than the national average in most of censuses are Bihar, Orissa, Andhra Pradesh, Madhya Pradesh, Chhattisgarh, Tamil Nadu, Kerala, Karnataka, Manipur, Jharkhand, Pondicherry, Meghalaya, Mizoram, Goa, Daman & Diu and Lakshadweep

- Low sex ratio

States / Union territories with lower sex ratio than the national average are: Assam, West Bengal, Rajasthan, Uttar Pradesh

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Punjab, Jammu and Kashmir, Haryana, Delhi, Andaman and Nikabar, Chandighar and Arunachal Pradesh, its is

* Consequences

- Declining sex ration is certainly leads to imbalance in sex composition of population which causes for many consequences. These would be:

1] It is primarily adverse to men.

2] Crimes will increase in future if the trend continues

3] Bring down society's reprodactive potential by lower net reproduction rate

4] Events such as new household formation will decline

5] Marriage becomes problem to some males

6] Household chores of female such as child rearing, housekeeping, and other works remain as serious problems.

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✱ Conclusion

The sex ratio in the country has always been adverse to women. The sex ratio which was 972 in 1901 has decreased to 933 in 2001 showing more and more preponderance of males in the population. The sex ratio also widely differs among states as well as in union territories. All South Indian states have higher sex ratio than the national average. However, most of the north Indian states have shown lower sex ratio than the national average. The major causes for declining sex ratio in India are :-

1. Sex ratio at birth
2. Sex selective abortions
3. Sex ratio of children
4. Sex differentials in mortality.

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Unit 1 PPT By Reshma Suryawanshi

CAST SYSTEM IN INDIA

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- Date : **07-12-2020**.

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1. Meaning , Definition.
2. Objective of the topic.
3. Characteristics
4. origins Of caste system in India
5. Statistical data.
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MEANING AND DEFINITION

"NDIA'S CAST SYSTEM" is a social structure that divides different groups into ranked categories . Members of "higher" castes have a greater Social status than individuals of a "lower" caste. The Varnas which are associated with early Hinduism, are the first recorded manifestation of India's Caste System.

A Caste System is a class structure that is determined by birth Loosely ,it means that in some societies, if you're parents poor, you'r Going to be poor too.

The Caste System In India is the example of caste.It has origins In ancient India, and was transformed by various ruling elites in Medieval, early-modern , and modern India, especially the Mughal empire and the British Raj. It is today the basis of affirmative action programs in India .

OBJECTIVE OF THE TOPIC

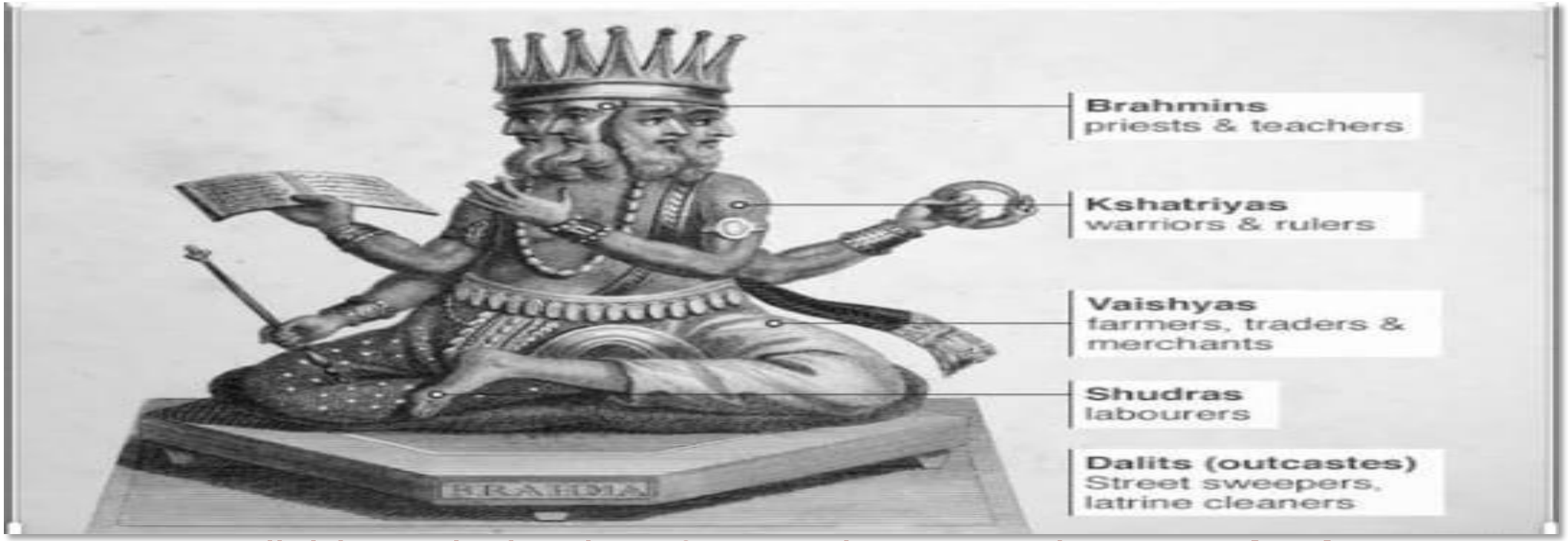
- The Caste is a closed group whose members are severely restricted in their choice of occupation .
- True cast system are only found in India .
- Social status is determined by the caste of one's birth .
- People are born into a particular caste and remain in that caste all of their life. They can only move up after the death .
- Analyse how caste system shaped India .
- There is no social mobility from one caste to another .
- The caste is based on the unique system of division of labour .
- All the activities necessary for the society have been divided into various cast groups .
- All the caste groups have to follow certain fixed and rigid rules and regulations .

CHARACTERISTICS

- Segmental division of society .
- social and religious Hierarchy .
- Restriction on Food, drink and smoking .
- Purity and pollution .
- Social and religious disabilities and privileges few section .
- The constitution of India removed and made all caste are equal .
- Civil and Religious disabilities .
- Endogamy .
- cultural differences .
- Social segregation .

ORIGINS OF CASTE SYSTEM IN INDIA

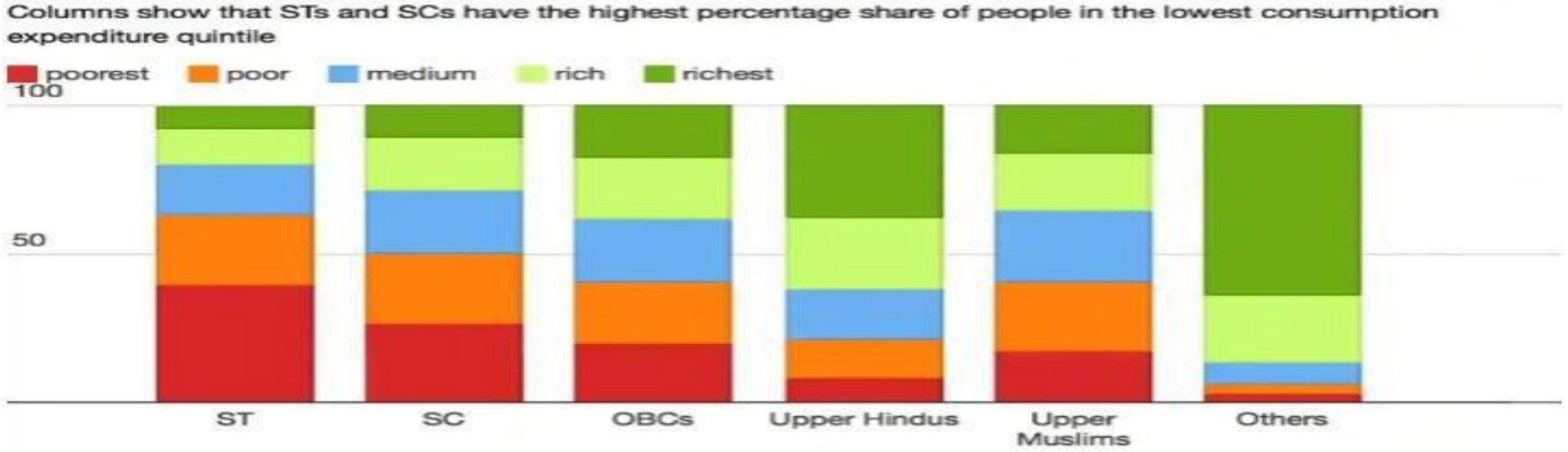
The caste system began with the arrival of the Aryans in **India**. The Aryans arrived in **India** around 1500 BC. The fair skinned Aryans arrived in **India** from south Europe and north Asia. Before the Aryans there were other communities in **India** of other **origins .**



The caste system divides Hindus into four main categories - **Brahmins**, **Kshatriyas**, **Vaishyas** and the **Shudras**. Many believe that the groups originated from Brahma, the Hindu God of creation.

STATISTICAL DATA

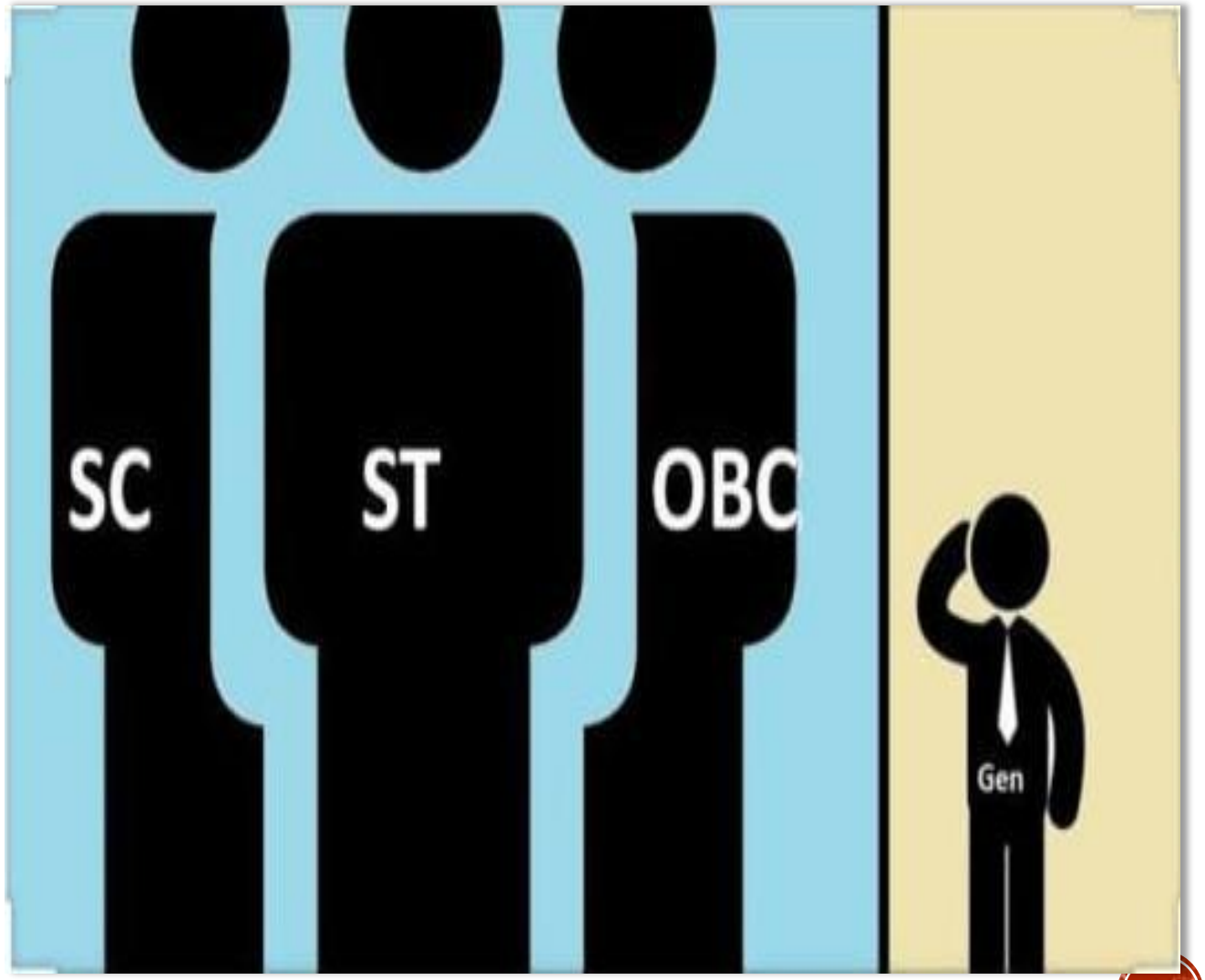
- An important finding from the two charts given above is the poor condition of Muslims on most of these indicators, which has also been highlighted in official reports such as that of the Sachar Committee. The existing framework of caste-based affirmative action has been of little help to Muslims, especially lower caste Muslims. Another caveat vis-à-vis these statistics is that the headline figures on STs might be very different from the condition of tribal population outside the north-eastern states. Unlike the relatively better off ST population in the north-east, the tribal population in places such as central India is extremely poor and backward.



ADVANTAGES AND DISADVANTAGES

ADVANTAGES :

- panchayat system .
- Absence of competition .
- cooperation within castes .
- Division of labour .
- Preservation of purity .
- Preservation of culture .



DISADVANTAGESS :

- Social disorganization .
- Political disunity .
- Untouchability .
- Duspotism of upper caste .
- Religious conversions .
- Undemocratic .

CONCLUSION

CONCLUSION The **caste system** had a great affect on the **Indian** society. All of India's people played a role in their society and had certain jobs . The former Cast members are now more tolerant of other castes and subcastes People, and the divisions in the society are gradually diminishing .

- **Deep –** rooted in socio- culture and religion .
- Going against a s means as sin or disrespectful .
- Untouchability .
- Youths discarding social norms .
- Cannot abolish caste system completely .
- Law can provide protection from exploitation but not attitudinal change in upper castes .
- youth are the only hope for a change in society .

REFERENCE

It is referred to frequently in the ancient Indian texts. The four classes were the Brahmins (priestly people), the Kshatriyas (also called Rajanyas, who were rulers, administrators and warriors), the Vaishyas (artisans, merchants, tradesmen and farmers), and Shudras (labouring classes).

A PROJECT REPORT ON

- **A STUDY ON GREEN LOGISTICS IN INDIA**

SUBMITTED BY

Abdul Qaas Shaikh

T.Y.B.M.S (MARKETING) VI

2020-21

UNDER THE GUIDANCE OF

PROF. Mangal Singh

SUBMITTED TO

UNIVERSITY OF MUMBAI

VIDYALANKAR SCHOOL OF INFORMATION TECHNOLOGY

(AFFILIATED TO UNIVERSITY OF MUMBAI)

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NAAC ACCREDITED COLLEGE

(Affiliated to Mumbai University)

Certificate

This is to certify that

Mr. **Abdul Qaas Shaikh** *of Bachelor in Management studies (Marketing) Semester* VI *has undertaken & completed the project work titled* **A STUDY ON GREEN LOGISTICS IN INDIA** *during the academic year* **2020-21** *under the guidance of submitted on to this college in fulfilment of the curriculum Bachelor in Management studies, University of Mumbai.*

This is a bonafide project work & the information presented is True & original to the best of our knowledge and belief.

PROJECT GUIDE	COURSE CO-ORDINATOR	EXTERNAL EXAMINER	PRINCIPAL

ACKNOWLEDGMENT

I hereby acknowledge all those who directly or indirectly helped me in drafting of this project report. It would not have been possible for me to complete the task without their help and guidance.

First of all I would like to thank the principal Dr. Rohini kelker

And the Vice Principal Prof. Vijay Gawde who gave me the opportunity to do this project Work. They also conveyed the important instructions from the university time to time. Secondly, I am very much obliged of Prof. Mangal Singh for giving guidance for completing the project.

Last but not the least; I am thankful to the University of Mumbai for offering the project in the syllabus. I must mention my hearty gratitude towards my family, other faculties and friends who supported me to go ahead with the project.

DECLARATION

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I Abdul Qaas Shaikh student of T.Y.B.M.S Marketing Semester VI, Vidyalankar School of Information Technology, hereby declare that I have completed the project on study on Green Logistics in India in academic year 2020-2021.

The information submitted is true and original to the best of my knowledge.

Signature of student

Abdul Qaas Shaikh

EXECUTIVESUMMARY

In today's highly competitive environment, green logistics issues are gaining high attention. Since it is an important part of supply chain management and plays an important role in the improvement of transport system. Logistics facilitates in getting products and services as and when they are needed and desired to the customer. It serves as a major enabler of growth of trade and commerce in an economy because it is helpful in economic transactions. The American Council of Logistics Management defines logistics as "the process of planning, implementing and controlling the efficient, cost effective flow and storage of raw materials, in-process inventory, finished goods and related information from point of origin to point of consumption for the purpose of meeting the customer's requirements. Contemporary technological developments have improved the cost, efficiency and reliability of freight and passenger transport systems. At the same time, the negative environmental impacts of transportation have gained wide recognition and are at the core of issues of sustainability, especially in urban areas. Green logistics describes all attempts to measure and minimise the ecological impact of logistics activities. This includes all activities of the forward and reverse flow of products, information and services between the point of origin and the point of consumption. The objectives of this paper are to study and review the concept of Green Logistics and various issues governing green logistics in India. This paper aims to discuss the concept of green logistics through case studies of a few business organisations. The paper also highlights the challenges in implementing green logistics in Indian business organisations.

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1. SCOPE OF STUDY

The concept of green logistics is still in its infant stage and many Indian business organisations still lack in understanding the concept of green logistics and its applications. Only few business firms are practicing green logistics in India. Further, researches require to know the implementation of green logistics in the field of automobile industry, garment industry, textile industry, IT industry, cement industry and other industries in Indian economy.

CHAPTER 1: INTRODUCTION OF THE STUDY

"GREEN IS THE NEW BLACK"

It has become important for organisations, be it big or small, to adopt it and market it to the people and inform them about their initiatives, to protect the environment. "Go Green" initiative is spreading like a wild fire across the globes the situation is alarming. Corporates are adapting the green methodology and environment friendly logistics with sustainable development goals. Going have not realised the compatibility of green logistics with their main stream services. Due to recent climatic changes, that time is not far away when both consumer and entrepreneurs will become accustomed to green logistic practices and will implement them in full swing, which will further lead to the green gives no advantage to Indian logistic industry due to consumer in-difference. Logistic firms booming of Indian logistic sector while maintaining the originality of our environment. When we discuss green logistics in India, the all four walls are confined to transportation (a major sub-sector of logistics), whereas logistics improves facilities like warehousing, transport terminals, packing, distribution, ,material handling, even disposable for implementing green logistics. The green logistics in India should be addressed at these levels: public policy, business and individual. These three tiers not only interact with, but also influence each other. There is an urgent need of government intervention for right pricing, incentivising, laying down regulations and enforcing them. India is one of the largest economies in the world and a major emerging market that has a young population, rising investment rates, large domestic on the economy, it is predicted that India will become the third largest economy by the year 2025 demand and globally competitive firm. Even though, the unexpected global crisis has taken its toll
after China and the USA. The transport and logistics sector are fundamental to the development of a country, especially so in India where it is estimated to provide employment for 45 million people. The economic growth in India has increased the demand for practically all transport services and further underlines the importance of providing an efficient logistics infrastructure in India. The Planning Commission of India has stressed that focus needs to be given to integrated transport solutions in preference to individual transportation and distribution services. In recent activity. That is why it has had an increasing amount of attention in the print and electronic media, years there has been increasing concern about the environmental effects on the planet of human
in governmental agendas, in the academic literature and from the general public. Stakeholders are increasingly pressuring firms to assume responsibility for any negative effects their business activities might cause as well. The rising attention to the greener solutions doesn't leave logistics aside because it plays a very important role, as it is one of the main pollution sources and resource user. Green logistics is largely studied in literature in the international context; yet very little research exists in order to better understand what the role of green logistics in sustainable development. This article analyses the state of art of green logistics, which still constitutes an unexplored field.

REVIEW OF LITERATURE

A literature review is an evaluative report of information found in the literature related to your selected area of study. The review should describe, summarize, evaluate and clarify this literature. It should give a theoretical base for the research and help you (the

author) determine the nature of your research. A literature review surveys books, scholarly articles, and any other sources relevant to a particular issue, area of research, or theory, and by so doing, provides a description, summary, and critical evaluation of these works in relation to the research problem being investigated.

A literature review is able to critically summaries the current knowledge in the area under investigation, identifying any strength and weakness in previous work, so helping you to identify them in your own research and thus eliminate the potential weakness, whilst bringing to the fore the potential strengths. In addition, a good and full literature search will provide the context within which to place your study. It is stressed that undertaking a literature review requires developing a complex set of skills and this you can only do by undertaking literature review. Therefore, before commencing writing your research proposal, you will need to allocate time to read the literature that is relevant to your proposed research study.

1. **Green Logistics for sustainable development: An analytical review**
    - Anil Kumar (VNS Institute of Management Bhopal, MP, India)

Green logistics as the sum of five pillars: green transport; green warehousing; green packaging; green logistics data collection and management; waste management. Waste management from the environmental perspective supports environmentally sound practices such as recycling, remanufacturing, reuse and recall. The basic principle is that if the product has longer life it will benefit the environment. The application of ICTs in logistics has allowed reducing inefficiencies and optimizing processes in all stages of freight transport. Automatic identification tools, optimization programs, satellite navigation and positioning systems (GPS) or mobile communications systems (GSM and GPRS) facilitate the development of new logistics processes, which attempt to reduce costs through better use of available resources.

2. **GREEN SUPPLYCHAIN PROCESSES**
    - Ravi Agrahari, Debjit Roy (IIM Ahemdabad, Gujrat, India)

Green logistics can help to reduce environmental adverse impact by reducing emission and fuel consumption while transporting materials or products, and increasing green warehousing practices that will lead to less waste generation. the scarcity of studies in green logistics performance measurement, strategies for green improvement and factors affecting its implementation. End of life product reconditioning is carried out via remanufacturing or recycling. The processes of remanufacturing and recycling are preceded by disassembly process.

3. **Analyzing alternatives for green logistics in an Indian automotive organization: A case study**
    - Deepti Chabbra, SK Garg, Rajesh Singh (Journal of cleaner production)

Green logistics is an important aspect of production system in today's world. It combines various efforts to quantify and control the environmental effect of production activities in an enterprise. This research is intended to emphasize upon the ways by which organizations can accomplish positive ecological effects simply by modifying their logistics practices. An Indian automobile company by analysing alternatives for green practices along with organizational objectives. It is imperative to focus on the green practices in context of Indian automobile sector as the volume of vehicles in India has increased considerably during last few decades.

4. **Development and implementation of a green logistics-oriented framework for batch process industries.**
    - Nagham M. & Bernd Scholz

Green logistics has received increasing interest due to the rise in greenhouse gases emission from transport operations. It is a promising approach to managing supply chain decisions to reduce environmental damages. Many models have been developed in the literature to study the environmental aspects of routing problems. However, these models have not been implemented in practice, particularly in batch processing industries. In this paper, we developed a two-stage stochastic model which integrates the tactical and operational decision levels to reduce the economic and environmental impacts of transport activities. This model generates optimum vehicle routes and their delivery velocities with the objective of minimizing the total distribution cost and the related emissions. We implemented the proposed model in two case studies drawn from the fast-moving consumer goods industry. This resulted in a cost reduction of up to 13 % of the total related economic and environmental costs compared to the actual situation at the test sites. These results also show the potential of green logistics-based models to improve the current modelling capabilities for batch distribution planning.

5. **Comparison between sustainable development concept and green logistics.**

- Paula Bajdor (Polish journal of management studies)

The concept of sustainable development can become a kind of benchmark for green logistics, because the concept is widely discussed issues concerning environmental protection, social development and economic development. Logistics usually occurs only in the scale of enterprises, even in the case of a company with a global reach, logistics operations will be conducted solely within the company and its effects will adversely affect the closest environment of the company. However, despite the introduction of the concept of sustainable development for logistics operations can contribute to the emergence of "green logistics", which not only will focus on actions to minimize its harmful effects on the environment but it will introduce the tools and behaviours that contribute to improving society local community and its rapid economic development. Currently, green logistics mainly focuses on issues concerning environmental protection, an introduction to the elements of the concept of

sustainable development will allow for its efficient operation in all areas listed in the concept of sustainable development and will help popularize the 'sustainable logistics' term.

1.1 OBJECTIVES OF THE STUDY

- To study major sector of logistics, not only transportation, also warehousing, packaging, distribution and disposal.
- To study the myths and realities of logistics.
- To study the contribution green logistics to the creation of economic and social values.
- To study reverse logistics in India.

1.2 LIMITATION OF THE STUDY

- Implementation of Green Logistics is still a narrow mounting concept and business organisation may face some limitations to its implementation.

- Lack of information and data is available on Green Logistics in India.

- Lack of awareness among the individuals about Green Logistics. And it was a major barrier while carrying out the survey.

1.3 RESEARCH METHODOLOGY

- Primary data:

Primary data is collected by surveying the students in the Google survey form by 60 respondents.

- Secondary data:

The study is mainly descriptive in nature. Secondary data are used for the purpose of the study. Secondary data was collected from websites, various articles and journals.

CHAPTER 2: REVIEW OF LITERATURE

A literature review is an evaluative report of information found in the literature related to your selected area of study. The review should describe, summarize, evaluate and clarify this literature. It should give a theoretical base for the research and help you (the author) determine the nature of your research.

A literature review surveys books, scholarly articles, and any other sources relevant to a particular issue, area of research, or theory, and by so doing, provides a description, summary, and critical evaluation of these works in relation to the research problem being investigated.

A literature review is able to critically summaries the current knowledge in the area under investigation, identifying any strength and weakness in previous work, so helping you to identify them in your own research and thus eliminate the potential weakness, whilst bringing to the fore the potential strengths. In addition, a good and full literature search will provide the context within which to place your study.

It is stressed that undertaking a literature review requires developing a complex set of skills and this you can only do by undertaking literature review. Therefore, before commencing writing your research proposal, you will need to allocate time to read the literature that is relevant to your proposed research study.

- Prof. Manjunath G. (Dec. 2014), Green Logistics: Learn, evaluation and initiatives in business organisations. *International Journal of Business Quantitive Economics and Applied Management Research.*

- Prashant K. Singh (2015), What is green logistics and why is it important for India? *Business Standards.*

- Anil Kumar. (2015), Green logistics for sustainable development: An analytic review. *IOSRD International Journal of Business.*

CHAPTER 3: INTRODUCTION OF THE TOPIC

Logistics is the management of the flow of goods between the point of origin and the point of consumption in order to meet some requirements, for example, of customers or corporations. The resources managed in logistics can include physical items, such as food, materials, animals, equipment and liquids, as well as abstract items, such as time, time, information, particles and energy.

The logistics of physical items usually involves the integration of information flow, material handling, production, packaging, inventory, transportation, warehousing, and often security. The minimization of the use of resources is a common motivation in logistics for import and export. Logistics is the terminology used to convey the transportation, storage and handling of products as they move from the source of raw materials, through the manufacturing system to their final point of sale from where the purchase happens for end consumption. However, in this period logistics has been managed and studied for purely commercial reasons. It is only over the last few years that the concern for the economy has slowly grown about the environment. The last decade has seen a tremendous increase in the public and government concern for the environment. As a result there has been excessive amount of pressure on major firms to decrease the environmental impact of their logistics operations. Transportation of goods has a negative impact on the local air quality, generates noise pollution, leads to accidents and, in totality, makes a remarkable input to global warming. The impact of logistics on weather change has called for increasing attention in recent years, partially because increasing controls on pollution and road safety improvements have alleviated the other environmental problems.

GREEN LOGISTICS:

The concept of green logistics refers to supply chain practises that attempt to reduce energy and environmental footprint in terms of freight distribution. To be more specific, it focuses on material handling, waste management, packaging, and transportation. While green logistics encompasses a variety of dimensions, companies that focus only on one specific dimension can still be implementing green logistics. For instance, one firm may be looking to decrease the amount of packaging materials while another firm may be looking into using alternative fuels. In both instances, each firm is attempting to implement a green logistics strategy. Green logistics describes all attempts to measure and minimises the ecological impact of logistics activities. This includes

all activities of the forward and reverse flows of products, information and services between the point of consumption.

GREEN LOGISTICS IN INDIA:

As per the global ranking of the World Bank ‘s 2016 Logistics Performance Index in 2016, India jumped to 35th position from its previous position 54th in 2014, registering in overall ranking across all six components of the Logistics Performance Index. However, India’s fast track rise to become global economy has led to a devastating impact on its environment and ecology. India’s poor Environmental Performance Index, which slipped from 141/180 To 177/180 in 2018, is a loud warning sign for the economy to urgently adopt sustainable practises so as to remain globally relevant.

Taking a cue from global trends and the ‘Green’ revolution that is bringing about the adoption of environmentally responsible business practices worldwide, the next wave of disruption for Indian logistics is in the making, with a steady evolution of ‘Green Supply Chain Management (GSCM)’ process, that is slowly making its impact. GSCM or Green Logistics is a process of adapting and adopting environmentally responsible processes that are sustainable and effective in minimizing the ecological impact of traditional logistics activities.

A HISTORY OF LOGISTICS

Green logistics has its origin in the mid-1980s and was a concept to characterize logistics systems and approaches that use advanced technology and equipment to minimize environmental damage during operations.

Admittedly, the consciousness of environment has increased for last some decades. More people know about environmental problems in the world, such as global warming, use of toxic substance, and decreasing in non-replenish resources.

Furthermore, the government has let out campaigns to advance this problem on people. Applying the green principles to their company, such as use of environmental friendly raw materials, reducing use of the oil petroleum power, and using recycle papers for packaging. Green principles have been expanded to many departments within the organization, including system of deliveries.

As we know, the Green Logistics has appeared in the last some years. This idea covers each stage in manufacturing in front to last stage of lifecycle, for example: from the product design to recycle. Not only manufacturing, but also and Green Logistics can get used also to the other industry sectors, such as a government, education moreover services.

300 B.C

The revolutionary invention of rowing vessels created the basis for rapid travel across the high seas.

2700 B.C

Blocks of stone weighing tons were transported and assembled at the construction site of Pyramids in Egypt

1800 A.D

Discovery of new road conveyances and the railroad expansion of logistics tasks through new technologies and means transport

A.D 700

Procurement logistics in the construction of the Mezquita Mosque – pillars came to Spain from all the parts of Islamic empire.

1956

Invention of the sea container-structural evolution of world trade and the expansion of international flows of goods

1980

Logistics concepts with a special emphasis on procurement were introduced.

1990

Technology on logistics concepts were introduced.

MODERN DAY

Advancing globalization efficient logistics as a competitive edge in the era of globalization.

WHY GO GREEN IN YOUR LOGISTICS?

There are compelling reasons why green logistics is gaining ground:

- Green logistics policies represent a **strategic advantage over the competition**. Not only do they revalue your brand and set it apart, but they also prepare your company for the future, which inevitably must be sustainable.

- Energy saving measures are an effective strategy for **coping with rising supply costs**.

- They ensure that a company is prepared to comply with environmental regulations.

KEY PLAYERS OF GREEN LOGISTICS

- State and central government.
- Customers and consumers with rising consciousness and demand for eco-friendly products and logistics services.
- Employees who are conscious about the environment and want to work in an environmentally and socially responsible company.
- Society with increasing claims for more Corporate Social Responsibility (CSR)
- Companies themselves who can take initiatives towards environment.

SUSTAINABILITY AND GREEN LOGISTICS

Sustainability has been increasingly discussed within recent years as a cross-sectional character which integrates three issues: economy, environment and society. The term ‘sustainability’ has a German origin ‘nachhaltende Nutzung’ and was used in the field of forestry at 1713 by Hans Carl von Carlowitz. It came to his mind during the building of silver mines under his

supervision. He thought about how to guarantee a permanent supply of timber. His idea was not to fell more trees than could grow back.

In 1972, the concept of sustainable development officially introduced for the first time based on the concept of Eco development at the United Nations Conference, held in Stockholm. This concept of sustainable development defined as 'Man is both creature and moulder of his environment, which gives him physical sustenance and affords him the opportunity for intellectual, moral, social and spiritual growth' (Declaration of the United Nations Conference, 1972). According to this definition, governments are the main responsible for improvement and protection of the environment for people now and in the future. Later, this concept has been extended to involve societies with governments to share the prime role toward the environmental requirements. In order to play this vital role for sustainable development, the economic level of the society should be able to develop and maintain rising in a sufficient way.

Due to this evolution in the conceptual definition, the most popular definitions of sustainable development are based on ecological roots. However, in the literature review of the sustainable development concept, there are also definitions that have economic base. Hence economic targets are the base of stability in markets; the focus moved from the ecological to the economical roots. Throughout the logistics activities, more attention is given to the related economic issues such as the production, transportation consumption, waste management and the consequences of actions which reflect the state of the future. Afterwards, the focus has been moved again to the environmental issues. The concept of sustainable development became a kind of benchmark for green logistics. Green logistics is a multifaceted discipline, which comprises economic, environmental and social elements.

It focuses on actions to minimize harmful effects on the environment and introduces the tools and behaviors that contribute to improve society and its economic level. Green concepts integrate environmental thinking into the logistics activities in order to develop the society .

In 1991, the first green design literature was to consider the need for a green design to reduce the impact of product waste. The key themes that came out in the literature over the last twenty years are the concepts of green design, green operations, reverse logistics, waste management and green manufacturing. International logistics are mainly done by enterprises in a large scale because they require a chain of resources.

Logistics operations affect by the closest environment to the enterprise even if this enterprise is an international one. For many years, logistics activities consider only economic objectives which are mostly maximization of the profit or minimization of the total cost. Currently, planning these activities requires balance between economic, environmental and social priorities. Implementing green logistics leads to sustainable enterprises.

The prime initiative to implement green logistics was legislation; many enterprises nowadays implement green issues to their logistics as it is the right thing to do for the environment.
Numerous motivators drive enterprises to become green such as cost reductions for customers, suppliers and partners, competitiveness increase of enterprise and as a result its revenue and market share as well as improve customer relationship and service. Green logistics practices

are only about ‘win-win’ relationships on environmental and economic performance. The core of sustainable development is the cooperation and collaboration between society, environment and economy. The integration between economic, environment and social actions taken by the present society should be considered in terms of their consequences for the future generations. Benefits of applying green issues are not recognizing borders between countries or generations. Green logistics encourage environmental awareness by driving all users’ logistics system, to consider how their actions affect the environment. The main objective of green logistics is to coordinate all activities in the most efficient way that balances between economic, environmental and social priorities. Enterprises should maximize the net benefits of economic development by minimize the logistics related cost and save the environment at the same time. Currently, cost is not only means the cash but it also involves the additional costs of logistics activities such as climate change, air pollution, and waste. In order to incorporate the environmental concerns in the supply chain management and to respond to the higher consumer demands, the environmental aspects could not be dealt with separately at each step of the chain. Therefore, emerging and developing integrated models for logistics activities within the wider context of sustainable development are necessary. To sum up, implementation of green logistics is an approach that makes enterprises sustainable. Sustainability considers as one of the measures that can judge the situation of any enterprise internationally. Sustainability concept in logistics is in essence about delivering profitability for long term.

ECONOMIC, ENVIORNMENTAL AND SOCIAL CHALLENGES:

With the progressively important rule of globalization, to maintain a competitive enterprise, the offered logistics services have to be unique. Although that the barriers have been decreased globally, the pressure to meet the international standards increased the total associated logistics cost. The logistical enterprises are trying hard to balance between the economic, environmental and social benefits to keep compete within this dynamics environment. These three issues will be described as following:

1 Economic Issue

The economic goal is a double-sided goal. On one side, it is to maximize the value creation of logistics services by enterprises. This value is related to the financial performance measures such as revenue, assets, and customers’ service levels. On the other side, it reduces the related logistics costs by utilize the available resources. Within global competitive markets, these goals are achievable not only through services quantities rather than by the quality of these services which offered by enterprises. In the near future, this bench mark will be replaced by sustainability as measure for successful enterprises. It is essential that the logistics enterprises encourage the development of innovate and efficient logistics services to reach the economic sustainability. Economic dimension considered as a fundamental prerequisite in order to survive in today’s highly competitive environmental global. Moreover, economic challenges are not isolated from environmental and social ones. A society that does not have a stable economic situation will not be able to focus on the environmental or social issues beside the economical one. Without guarantee to income related benefits, conflict within society between peoples will break out in order to survive and fulfil their main financial requirements. But in a

time of rising concern about environmental issues, as corporations and businesses are encouraged to adhere to environmental norms rises, they must also account nowadays for the external costs of logistics associated, among others climate change, air pollution and noise.

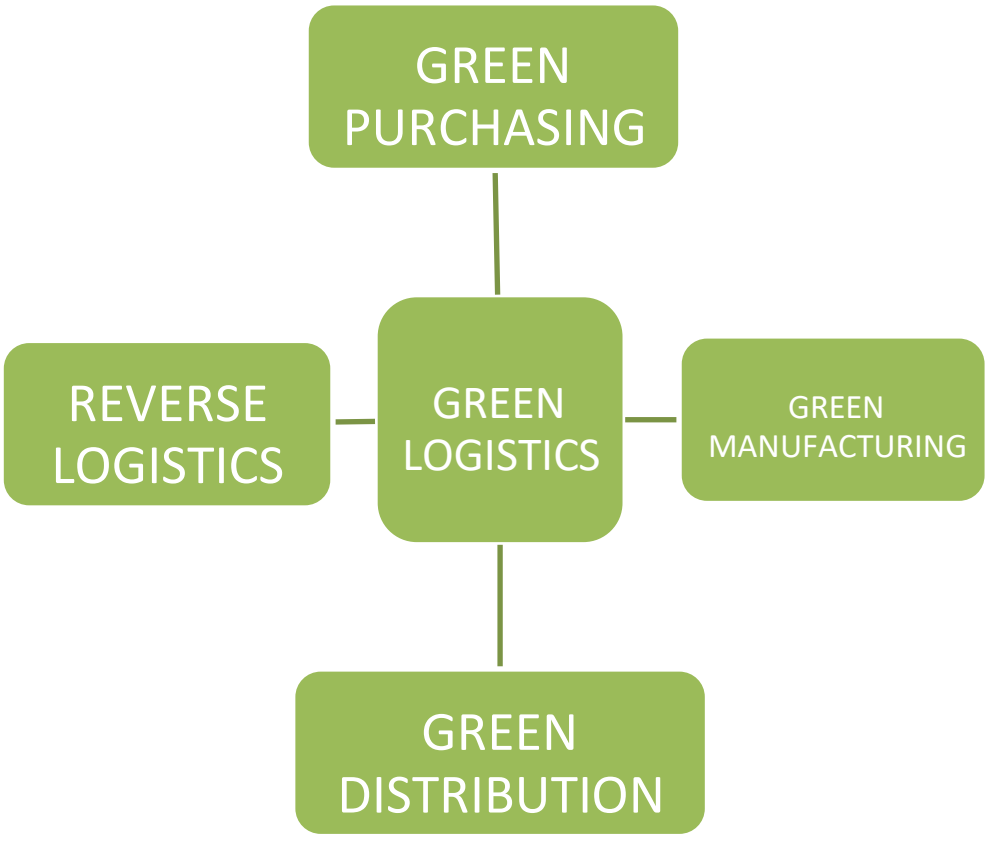
2 Environmental Issues

Environmental goals are mainly succeed using environmental management that targets to balance between utilize nature resources and the human requirements in accordance with the possibilities of the environment. The environmental integrity principle ensures that the human activities do not erode the earth's land, air, and water resources. Human activities can have a significant negative impact on the natural environment such as ozone depletion, accumulation of greenhouse gases and waste generating. Environmental benefits include the reduction of waste, fossil fuel consumption, and air and water emissions as well as raising energy usage efficiency. Generally, transportation is the major activities of most logistics services. As far as more countries continue to industrialize rapidly, the associated carbon emissions are greatly increased. Thus, there is a growing need for climate friendly solutions, especially in the area of logistics transport. Nowadays, significant reduction of carbon emissions as well as costs during transport are achievable by optimizing the design of a logistic network, using the right modes of transportation and managing efficiently the load capacities and routes. Furthermore, the reduction in total travelled distance by itself provides environmental benefits, not only due to the reduction in fuel consumption and the consequent pollutants, but also because it will trim unpredictable fuel prices and long lead times. Minimizing the distance travelled is a key step in network optimization because it reduces both emissions and total supply chain cost. Due to lack of information about green logistics best practice, optimization tools to achieve a sustainable balance between economic and environmental objectives still needed by researchers.

3 Social Issues

Social goals are achievable by rising up people's awareness about their responsibility and rules toward their society and culture. Sustainability is a universal goal that implies a concern for social equity between generations. These goals are willing to reduce the negative impacts toward society within all the actors: individuals, enterprises, industries, and governments. Although that the concept of sustainable development is highly dependent on society, for two decades this human dimension has been neglected in comparison with economic and environmental dimensions. Social sustainability is defined as 'Development that meets the needs of the present without compromising the ability of future generations to meet their own needs'. Social aspects affect the economic development of any society in many ways. Some examples of these aspects which have effect are evolving of a new hierarchy of human values and attitudes, integration of society in decision making process and generating equal opportunities of development for all members of society, taking into account the limitations and requirements of the environment in their decisions. The social equity principle ensures that all society' members have equal access to resources and opportunities. It is a must that the needs are met in present and future.

COMPONENTS OF GREEN LOGISTICS



- **GREEN PROCUREMENT**

  Green Procurement (GP) is defined as environmental purchasing consisting of involvement in activities that include the reduction, reuse, recycling of materials in the process of purchasing. It is a process of selection and acquisition of products and

services which minimises the negative impact over the lifestyle of manufacturing, transportation, use and recycling.

- **GREEN MANUFACTURING**
  Green Manufacturing (GM) defined as a production processes which use inputs with relatively low environmental impacts are highly effective and generate little or no waste or pollution.

- **GREEN DISTRIBUTION**
  The distribution of goods, either done by the companies themselves or by the logistics and distribution companies, generate a lot of waste and damages the environment. Green distribution consists of green packaging and green logistics.

- **REVERSE LOGISTICS**
  The concept of reverse logistics (RL) includes not only the returns from the customers, but also the management of e-waste. Reverse Logistics is the process where a manufacturer accepts previously shipped products from the point of consumption for possible recycling or re-manufacturing.

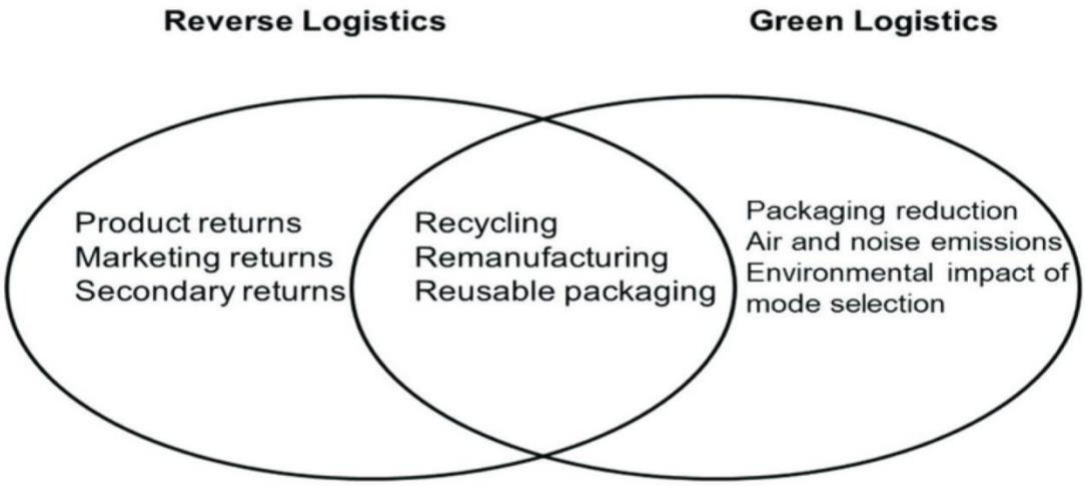
Over the past 40 years, "Green Logistics" has represented a lot of nature trails, the most distinguishable as follows:

Reduction in transport costs
City logistics
Corporate environmental strategies towards logistics
Reverse logistics
Green supply chain management

The green logistics represents also three perspectives: public (public to private), operational (operational to strategic) and local (local to global). The first perspective of green logistics relates to pressure groups which began to lobby government intervention to mitigate the damaging effects of freight movement and public agencies sought to improve their understanding of the problem and find means of addressing it. The public sector interest in this subject has been complemented by a growth in the private sector involvement in green logistics research as business has begun to formulate environmental strategies both at a corporate level and more specifically for logistics. Operational to strategic as a second general trend has been a broadening of the corporate commitment to green logistics, from the adoption of a few minor operational changes to the embedding of environmental principles in strategic planning. Local to global perspective is focused on the local environmental impact of air pollution, vibration, noise, accidents and visual intrusion. With climate change now the dominant environmental issue of the age, the impact of logistics on global atmospheric conditions has become a major focus.

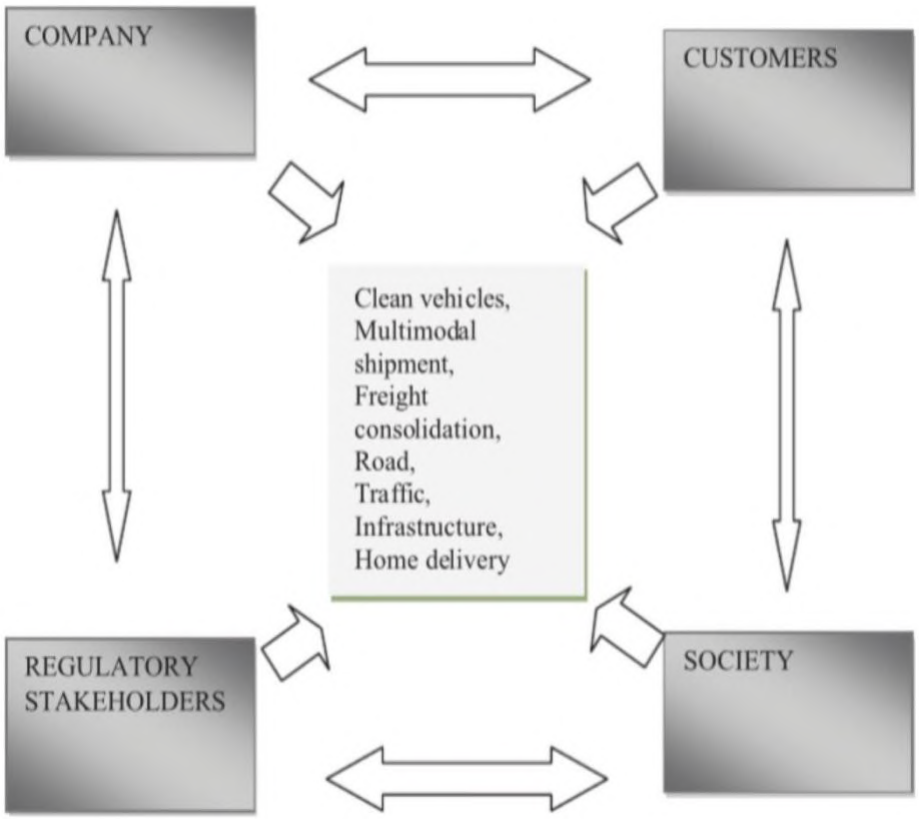
GREEN LOGISTICS AND REVERSE LOGISTICS:

Green logistics and reverse logistics It is worth mentioning about the reverse logistics which is a part of green logistics. In reverse logistics there should be some flow of products or goods back from the consumer to an earlier stage of the supply chain. The reduction of waste that this implies certainly means that reverse logistics should be included within green logistics. Currently, the term "green logistics" is often used interchangeably with "reverse logistics", but in contrast to the reverse logistics, green logistics “summarizes logistics activities that are primarily motivated by environmental considerations”. First of all, the most significant difference is that reverse logistics concentrates on saving money and increasing value by reusing or reselling materials to recover lost profits and reduce operational costs. In turn green logistics focuses on transportation issues, recycling and re-use. “Green logistics is about using material friendly options for transportation and centred on saving money but places priority on the company’s image”. Green logistics focuses on the forward flow of the supply chain while reverse logistics is viewed as sustainable development. “The prominent environmental issues in [green] logistics are consumption of non-renewable natural resources, and both hazardous and non-hazardous waste disposal”. Green logistics is often known as ecological logistics defined as “understanding and minimizing the ecological impacts of logistics”. These activities are designed to measure environmental impacts on transport reducing energy consumption, and reducing the use of materials.

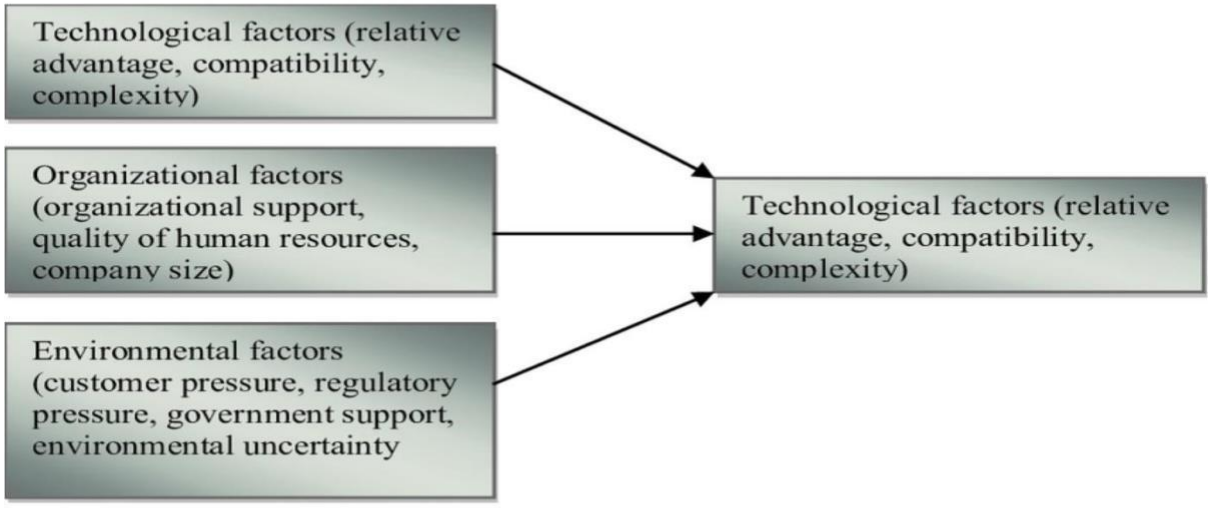


FACTORS AFFECTING GREEN LOGISTICS FROM A WIDER PERSPECTIVE

The four factors affecting green logistics – company, customers, politics, and society. From the given below figure, it can be concluded that each of the factors may affect green solutions. From the consumers point of view they have their own requirements for green products and services. Customers especially with high environmental awareness may require products delivered with clean vehicles or in such manner that the emissions are minimized, forcing suppliers to go to green solutions. This should be a key drive for companies that are taking measures in green logistics. By understanding the consumer's important role in green logistics it can be beneficial for the company. Perhaps the biggest affect from customers may be home delivery, as they are the direct users of this service.



There are various factors that influence a firm's adoption of environmental practices. Generally, we can distinguish external and internal factors of environmental practices. . Stakeholder pressure, environmental regulations, company size, industrial sector and geographical location, internationalization, position in the value chain, strategic attitude, managerial attitudes and motivations, manager's characteristics and human resources are relevant environmental and organizational variables frequently appearing. Among many factors there are some which can be the barriers to green practices. The six types of barriers are negatively related to environmental behaviour: 1) lack of know-how and skills, 2) lack of professional advice, 3) uncertainty of outcome, 4) participation of certifiers/verifiers, 5) lack of resources and 6) implementation and maintenance costs. Although organizational and environmental factors have been taken into account in several studies on green issues, these factors have been considered very rare in the studies of environmental management in the logistics industry.



THE DRIVERS OF GREEN LOGISTICS

Green logistics is quickly gaining prominence throughout the logistics and supply chain industry as protection of the environment has appeared as one of the rated objectives among the governing bodies all over the world. The following features play an important role to drive green logistics

1. **Increasing energy costs:**
   Mounting power and fuel costs along with the cost of related raw materials required for operating have brought into focus the need for a more cost-effective green alternative. Low power consuming IT solutions, substitute energy sources and recycling can have a positive impact in developing the bottom line in a business financial sheet.

2. **Global alarm over greenhouse Gas emission:**
   Corporate policies are concentrating more on identifying and lowering the carbon footprints caused by their IT equipment, infrastructure, and people.

3. **Climate change:**

Global warming is impacting the weather, ice caps, and glaciers in both the northern and southern hemisphere in a negative way. The rise in the sea level due to the reduction in the ice caps and glaciers cover is turning out to be a primary cause of concern for the environmentalists all over the world.

4. **Government and Environmental Protection Agency regulations:**
   An organization needs to follow certain specifications to obtain energy star rating and other environmental certifications. Penalization by policing agencies to implement carbon credit obedience is another inspiring factor for Green IT initiatives.

5. **Improved environmental awareness among the community:**
   Vendor selection based on Green IT practices, sharing of best practices in companies across the supply chain, an end to end obedience along the supply chain are the instrumental factors behind a successful and flourishing Green

FRAMEWORK OF GREEN LOGISTICS

- **Green Office**:

Green Office Program in the year 2010 received the Green Office Certification in the year 2013, contravention broken up in the industry. Green Office, a program which provides savings and improvement in office, is eminent as part of the strategic method which WWF introduced to reduce human pressure on natural resources and reduce the "Ecological Footprint". The Green Off ice program strategically evaluates the participating offices' resources to identify areas for relative savings and supports them to develop their own environmental management system consequently.

- **Green warehouse**:

Layout optimizations minimize the program and increase a firm's productivity in terms of reducing cost and increases profit. Green equipment will result in the high charge for customers and save energy will automatically save cost.

- **Green Management System**:

Top management commitment to carry out an environmental sustainability strategy and transport everyone on board improvement active. The employees' morale to exercise it and create the job

relaxed, practicing eco-friendly stationery enhance, electric saving air conditioner results in successfully save cost for electricity that is also one of the benefits to the organization in reducing costs.

- **Green Packaging:**

• Reduce environmentally problem.
• Reduces greenhouse effects.
• Reduces layers of packaging.
• Recyclable content.
• Use of minimal materials to reduce packaging cost.

- **Green Transportation:**

• Route optimizations utilize fuel usage and reduce mileages, capacity, and wastage that results in improved transportation cost.
• Intention to replace the use of alternative fuel like natural gas to replace petrol and diesel in future reduces the transportation cost.
• Save cost, increase competitiveness (increase speed/ shorten transport time).
• Reduce pollution.
• Increase security of workers, increase comfort level

REWARDS OF GOING GREEN

The benefits of a trade going green are immense. When a business can make a concerted determination to decrease its negative environmental impact that is going green. It can take attractive measures to reduce utility costs, in starting recycling and reusing procedural programs, to obtaining green products and services in the service of the company.

1. Legal Compliance:

Many states and countries have adopted various laws that obligate environmental compliance in a number of ways and forms, to varying in degrees. Every year more laws are voted for on local, state, and federal levels to go green in Earth's ecology. Going green means getting into the future of the curve — if certain green laws aren't on the books it gives a company a leg up to begin as soon as possible. The World Environmental Protection Agency launched its 2020

action agenda and it is a truly mind-bogglingly comprehensive plan to decrease carbon emissions while promoting sustainability and obligates actionable consequences, as well as incentives for being in advance of the green curve.

2. Saves Money:

Increasing the vitality of efficiency protects on a value of costs. Reusing existing material in inventive techniques means that fewer dollars are spent purchasing new stock to create products. Streamlining transportation of employees or shipping saves the earth as well as an extensive amount of money. Although there is often a bit of money to be spent creating green business procedures, it saves a lot of money over time. Purchasing low-carbon, renewable fuel by many airlines is price- competitive with tradition fuel and allows Airlines to reduce costs completely.

3. Green Marketing Awareness:

A trade going green makes customers feel that it is a trustworthy business. Going green fosters a sense of community and a positive impress of the business. Word-of- mouth is the greatest invaluable form of promoting and green businesses can't buy that kind of public relations. This not only supports a company's existing market base but extends its people who may never have heard of that company may pay attention to one that believes in being eco-friendly.

4. Employee Morale:

Going green isn't only foster positive approaches from customers. Employees feel safer in work for green businesses. Including workers in company-wide green creativities increases morale. Employees feel that their health is to be concerned for and they aren't simply consumable commodities. This is also a good way to reduce takings because employees don't want to leave a place that creates them to feel as they are a part of a work community that cares.

5. Establishing Status:

As more and more across many countries known companies go green, the idea of going green becomes much more tantalizing. In fact, it's becoming a status symbol to be an environmentally friendly business. The computer company Dell launched a recycling program that enables customers to return notoriously difficult-to-recycle electronics for free.

BENEFITS OF BUSINESS BY GETTING INTO GREEN LOGISTICS

- **Reduction in CO2 emissions**

1. To contribute to the prevention of global warming as well as to improve transportation efficiency while reducing costs.

2. Focusing on the introduction of low-emission vehicles and biodiesel fuel, reduction in transportation distance, and improvement in load factor.
3. Our global CO2 emission from logistics activities came to 0.82 million tons across the world.

- **Product Differentiation and Competitive advantage**

It helps an organization to position itself and its products as environmentally friendly in the customers' perception. Besides attracting new profitable customers for organizations, it will give a competitive edge over the competitors in the marketplace. It will also strengthen the brand image and reputation in the marketplace.

- **Adapting to Regulations and Reducing Risk**

Organisations adopting Green business practices can reduce the risk of being prosecuted for anti-environmental and unethical practices. A demonstrated effort towards creating an effective Green business through the sustained dedication of resources, activity, measurement and management protocol, will be highly regarded in the event that any question arises.

- **Improved quality and products**

Organisations that produce products which are technologically advanced and the environment-friendly will find this will enhance the brand image and brand reputation in customers mind.

- **Shipping and transport**

1. The least expensive shipping modes often also have the lowest environmental impact.

However, it's important to balance the economic and ecologic advantages of bulk shipping with the impacts of larger order sizes and carrying more inventories.

2. Revisit route optimization frequently. Changes in market conditions, fuel costs, traffic patterns, and road construction can impact delivery times, costs, and emission. The regular analysis is necessary to refine and validate.

- **Boosted business performances**

Green business will help in reduction in CO2, improve quality and products transportations, Product Differentiation, Competitive advantage, and it will help in reducing wastages. By getting into a green business they can get so many benefits and also they can improve their performance by having the environmental support.

CHALLENGES OF GREEN LOGISTICS

Obstacles that prevent the implementation of green issues within the logistics enterprises are mainly related to economy, environment and society. These barriers can affect enterprises from internal or external sources. Internal barriers to initiate green issues could be high investment or implication costs, lack of financial or human resources, and lack of knowledge or skills in-house. External ones involve limited access to technology that reduces environmental impact, lack of interest or support of customer or transport/logistics suppliers/partners, lack of government support system, market competition and uncertainty. Furthermore, societies should play a vital role toward green logistics beside enterprises. Unawareness of customers presents one of the barriers that should pay greater attention from governments and enterprises. With regard to logistics, it is necessary to encourage more people to use public transport like buses

or trains rather than private once like cars. This action leads to reduce the harmful effect of transport in term of CO2 emission and other adverse environmental impacts. To realize this idea, obstacles such as bad infrastructure, poor schedules, lack of comfort and high prices must be eliminated

Implementing of Green Logistics is still a narrow mounting concept and business organisation faces some challenges to its implementation. Some of the challenges that Consumer Goods Organizations could face are as follows:

- Lack of information about the green supply chain practises
- Lack of infrastructure
- Lack of tools to optimize the supply chain with environmental management
- Timing is a critical component of any logistics system
- Another contradictory issue involves reliability
- Lack of proper technology.
- Last Mile Deliveries' impact on urban traffic ○ Invisibility of green logistics for consumer **THE CONCEPTUAL MODEL OF GREEN LOGISTICS**

The general character of the green logistics system is employing advanced technology and equipment to minimize environmental damage and increase the utilization of the resources. Reserve logistics is covering transportation, warehousing, and value added services in the context of redistribution of end-of life products and residuals along with their collection, product inspection, dismantling and separation, reprocessing of secondary materials and products, and distribution into productive processes.

Practises	**Sources which impact the sustainability**	**Practises for removing the negative impact**
GREEN TRANSPORT	The construction of transport network The operations of transport vehicles The disposal of transportation vehicles	Modal choice Freight consolidation Clean vehicles/fuel efficiency Reuse of pallets and containers Standardization of truck sizes

GREEN WAREHOUSING	Layout, design and capacity of the warehouse may impact the sustainability	Clean material handling equipment Process optimization Automatic warehouse systems Inventory minimization programs and Just-In-Time system Product disposition On-site recycling
GREEN PACKAGING	The elements of the packaging which have an impact on warehouse and transport costs are size, shape and materials	To sort out the packaging issues, innovative packaging technologies and environmental certification can be introduced.
GREEN PROCUREMENT	Lack in quality raw material	Quality check monitoring tools
WASTE MANAGEMENT	Different kind of waste generate during the logistics like waste from expired product or due to packaging etc.	Waste contractor Trade waste recycling

MYTHS AND REALITY OF GREEN LOGISTICS

Green Logistics is made up of two words 'green' and 'logistics' and they are often opposite to each other. Logistics are used to manage its different activities strategically through cost minimization but its cost minimization comes at the expense of the environment. And thus, there are various myths prevailing in the market.

DIMENSIONS	**MYTH**	**REALITY**
COST	Environmental costs are often much higher than cost of packaging.	Reduce costs by improving packaging and minimizing waste.
TIME/AVAILABILTY	Increased production, higher sales and distribution system needs more space, more energy and increases CO2 emissions.	Creation of integrated supply chains and JIT provide efficient distribution system.
NETWORK	Concentration of environment at impacts next to major homes and along corridors, impact on local communities.	Increasing the efficiency of the system due to changes in network.

RELIABILITY	Trucks and planes put a negative impact on the environment.	Effective and punctual transport system.
STORAGE	Continuous use of roads, causing increased congestion on the roads.	Reducing the demand for private warehouses.
E-COMMERCE	Changes in the physical distribution cause increased energy consumption.	Changes in the physical distribution cause increased energy consumption.

CONTRIBUTION OF GREEN LOGISTICS TO THE CREATION OF SOCIAL AND ECONOMIC VALUE

ECONOMIC	**SOCIAL**
Improved customer satisfaction	Reduced environmental effect (CO2 emissions, noise levels)
Good relations with stakeholders	Better utilization of natural resources
Green Image	Development in harmony with culture and available resources.
Higher delivery reliability through optimized route planning and less truck downtime	Reduced social cost (e.g. Heath problems in the communities)
Higher productivity through higher motivation of employees	Access to clean water and clean energy
Reduced liability risk	Creation of jobs
Reduced taxes, Improved financial performance	Enhanced quality of life

DIMENSIONS OF SUSTAINABLE DEVELOPMENT

The term "sustainability" has been defined in various disciplines, such as engineering science, operations management and social science. It is Defined that sustainability as "using resources to meet the needs of the present without compromising the ability of future generations to meet their own needs." From a corporate perspective, this definition suggests that focus should be on economic aspects of one's business, as well as the sustainability of natural resources and the people the companies serve. This fundamental requirement was the starting point to develop concepts for the implementation of sustainability initiatives. The concept of the 3BL was introduced in the mid-1990 s, when a management think that focused on accountability and began using the term in its work. the 3 BL in its simple form as corporations not just focuses on the economic value that they add, but also on the environmental and social value that they add or destroy. Figure1 shows the three dimensions of the 3BL-concept. It should be noted that some people use a different nomenclature, such as 3P's (profits, planet and people) and 3E's (economics, environment and equity) to reflect similar viewpoints to that of the 3BL. While the nuances of meaning of these other approaches are slightly different, the basic ingredients are consistent. While the traditional economic dimension of the 3BL is widely used in business and measurements are well understood and developed, the new environmental and social dimensions are less prevalent and much more difficult to measure. most companies are experiencing an increased variety of internal and external pressures to improve their social and environmental activities but due to this pressure economic performance does not get affected. Organizations can engage in environmental and social activities that not only positively affect the natural environment and society, but also provide long-term economic benefits and a competitive advantage for the company.

ENVIORNMENT:

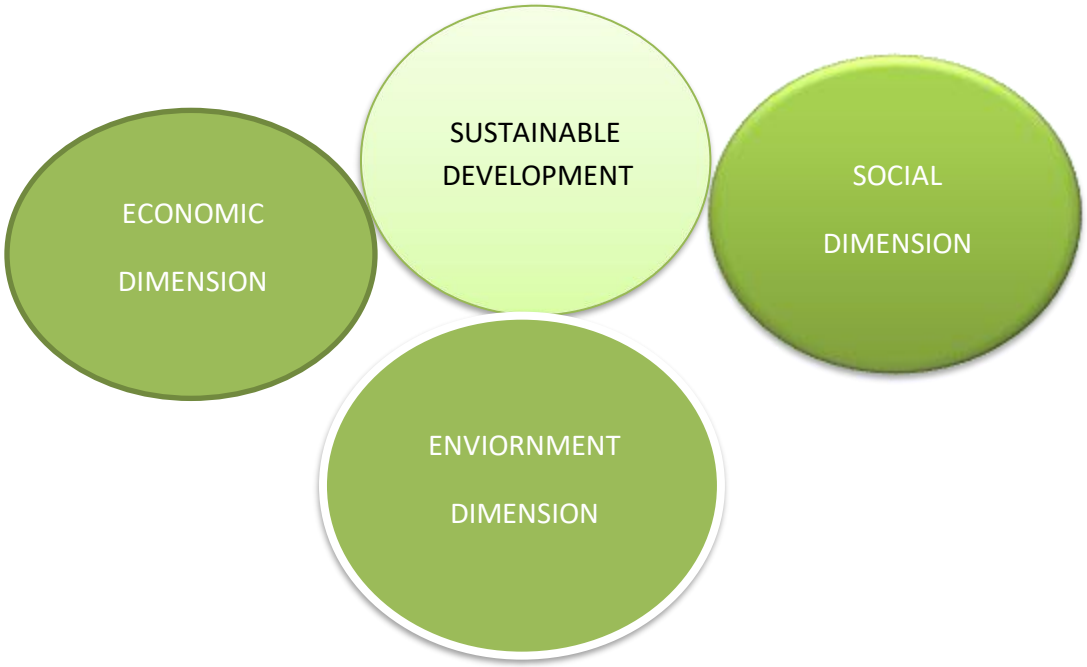
promote greater environmental responsibility and encourage the development and diffusion The environmental dimension includes the set of objectives, plans and mechanisms that of environmentally friendly technologies and most of the sustainability research has focused on this dimension.

SOCIAL:

The social aspect is two dimensional; it refers both to individuals and organizational levels. The concrete material circumstances lie at the basis of the social dimension while the social phenomena themselves are immaterial and therefore difficult to analyse. It emphasize that the social dimension of sustainable development is emerging as the key challenge in sustainable development, due to the fact that companies have to involve a wide range of stakeholders with different goals, demands, and opinions that may interpret the same situation differently.

ECONOMIC:

The long-term success and competitive advantage of a company depend on the economic dimension. The economic dimension is principally quantitative in nature which is in contrast to environment and social dimension and is focused toward the efficient use of resources and achieving a return on investment. Thus it is very difficult to measure these three dimensions through the same analytical framework. Conflicts may arise within one dimension (e.g. individual vs collective interests within the social dimension) and between the dimensions (e.g. between the environmental and economic dimension relating to cost aspects). The findings indicate that the organizational practices that lead to a more sustainable supply chains are a mixture of best practices in traditional SCM and also new proactive behaviours towards sustainable practices. But being proactive and committed can only be effective if the business model and the environmental and social elements of sustainability are adequately aligned. Thus, it is absolutely essential to take the dynamic interactions between the dimensions into account. Changing one parameter could affect several others and may affect the complete system. The key challenges are synergies and trade-offs of sustainability in the context of Green Logistics which emerge at the interfaces between the three dimensions. These three dimensions, research on the environmental dimension has been more pronounced these days than the social but less attention has been paid to the linkages between dimensions.



THE THREE PILLARS OF SUSTAINABLE DEVELOPMENT MAJOR SECTORS OF GREEN LOGISTICS

TRANSPORTATION:

As one of the major contributors to environmental degradation, the transport sector alone contributes to about a quarter of global CO2 emissions. In India, the CO2 emission from fossil fuels has also grown at CAGR of 4.5%, as compared to the 1.16% growth in developed countries. Apart from CO2 emission, transportation also contributes to 30% of particulate matter in the air in metros, leading to air pollution, noise pollution, and degradation of green cover and open spaces due to the heavy infrastructure development in building wider roads and expressways. Adoption of ***Green Transportation*** can help the replacement of fossil fuel based technology with bio-fuel based one or with alternatives like CNG, hybrid, battery-operated vehicles, and equipment, etc. Additionally, taking into account details like fuel efficiency, payload management, routing, and driving techniques can go a long way in making 'green transportation' more cost-effective and sustainable. Consolidation of shipment and preference to railways or waterways as a preferred mode for transportation can also make a considerable impact on the environment while also saving cost and time.

WAREHOUSING:

Traditional warehouses, as concrete structures, consume a large amount of energy, especially for lighting, and HVAC systems required for managing a temperature-controlled storage. They also lack optimum space utilization or planning, contributing to further wastage of energy and other utilities, while generating a lot of heat in the surroundings. Traditional structures, made

of concrete, are massive and absorb a lot of heat, demanding extra energy to keep them cool. Further, they are seldom strategically located, thus contributing to additional transport and distribution efforts, which in turn add to the carbon footprint of the Supply Chain. *Green Warehousing* is adopting technology empowered management systems (WMS) and Warehouse Identification to optimize operations and reduce waste. Further, the use of pre-engineered steel structures and LEED-certified green buildings instead of the traditional concrete buildings helps optimize energy consumption and creates a smarter layout for easy operations. Adopting alternative energy sources like solar panels for lighting or the energy-efficient lighting sources, recycling water and installation of automated systems that check energy utilization, are all helping modern logistic providers to go 'green' and create costeffective and sustainable warehousing operations.

PACKAGING AND RECYCLING WASTE:

Although a significant part of Warehousing processes, packaging, in itself, has been a major contributor to environmental hazards, especially with the rise in e-commerce. Traditional packaging material made of synthetic plastic can wreak havoc with the ecology as it takes hundreds of years to breakdown, choking up landfills and oceans in the process. Further, irresponsible waste disposal at warehouse levels is a major contributor to environmental degradation. *Green Packaging and Waste Recycling* can contribute manifolds in creating a Green Supply Chain. By implementing efficient packaging that is optimal, weighs less and thus is easier to transport, can be the first step. Replacing the plastic packaging with a bio-degradable material like paper and cardboard can be the next vital transition. Further, when discarding waste, it is beneficial to set up a recycling system to effectively process the large amounts of waste, mostly from packaging, before sending it away to landfills.

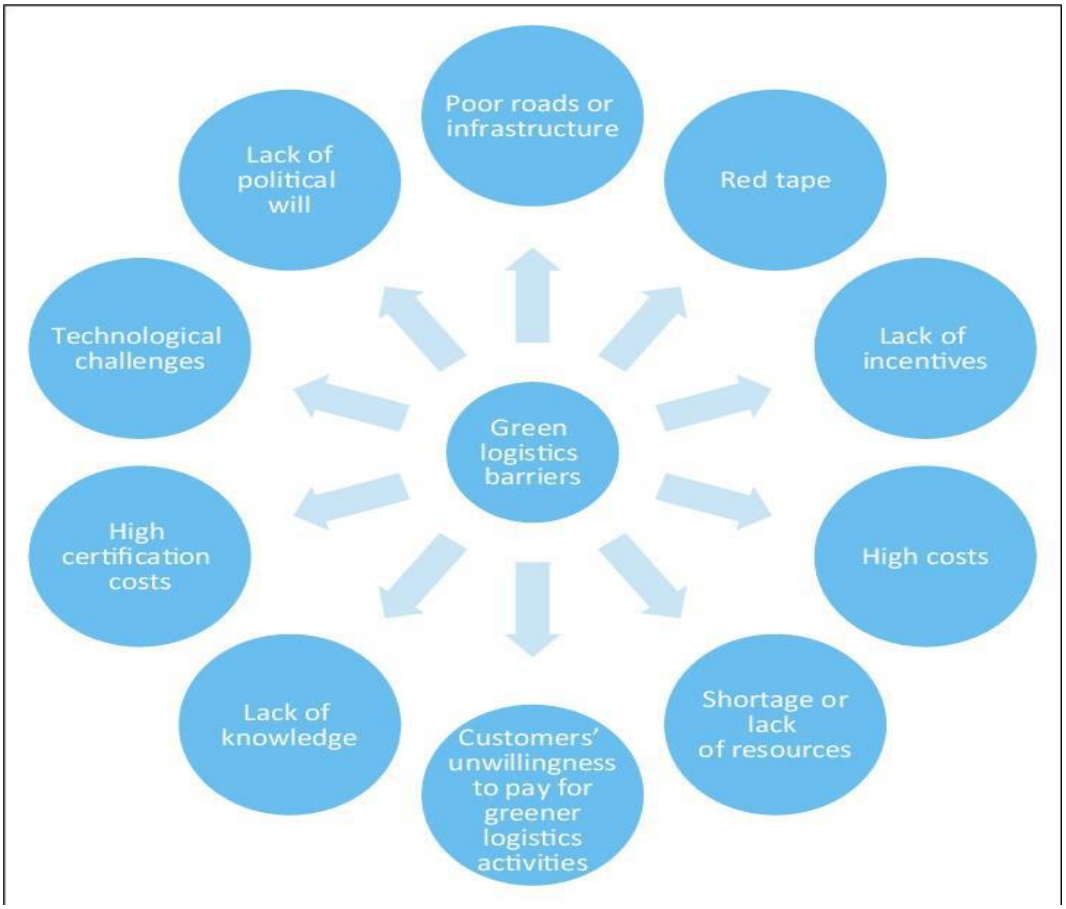
REVERSE LOGISTICS:

This is a process that takes care of recovery/ retrieval of parts, recycling of products and disposal of packaging waste. Although negligible in India, Reverse Logistics plays a key role in the GSCM and has been steadily growing, thanks to a substantial rise in the e-commerce sector, contributing to massive packaging needs, as well as a rise in doorstep deliveries, and collection of returned goods. In terms of IT components and hardware which form a major chunk of e-commerce, disposal and ewaste management has been a real challenge. Reverse logistics has been playing a key role in facilitating optimum e-waste management by offering a structured process of collecting and redistributing defective IT hardware to e-waste units. Apart from effective disposal and recycling of products, reverse logistics has also helped optimize costs, reduced packaging waste and helped spread awareness among end consumers about ecological and safe disposal of products, thus promoting a greener and cleaner 'circular economy'.

BARRIERS OF GREEN LOGISTICS

Integrating the sustainability approach with green logistics is a complicated process. As small to medium enterprises (SMEs) seek to become more environmentally sustainable, they encounter a variety of barriers that, when compared to the large corporate arena, are either insignificant or may be non-existent. There are several barriers during maintaining the supplier relationship in the perspective of environmental consideration. Many of the researchers found that the role of the public is less in the development of sustainability. Similarly, few researchers found low "eco-literacy" and the lack of understanding or expertise about laws, environmental management, as barriers. Lack of knowledge and information regarding the issue of sustainability is an important barrier. Lack of sharing information creates more gaps to executing green logistics.

The incentives should be aimed at decreasing the barriers that industry face; such incentives can be split into three main categories: financial, ease of implementation, and recognition suggests a range of issues that limit the supplier's ability to respond to the buyer's requirements for sustainability. Lack of willingness or ability to engage means that the opportunity is not always demoralized. Secondly, human barriers which include resistance to change, lack of qualified staff and training programs, lack of understanding, and the inability to plan are also considered significant barriers for implementing. Mentioned that IT companies often have a lack of support from middle management within the organization, and this lack of transparency creates a negative impact while seeking to implement the green concept. The most understandable barrier to environmental sustainable development of industries is the fact that many. Common barriers are summarized as given below:



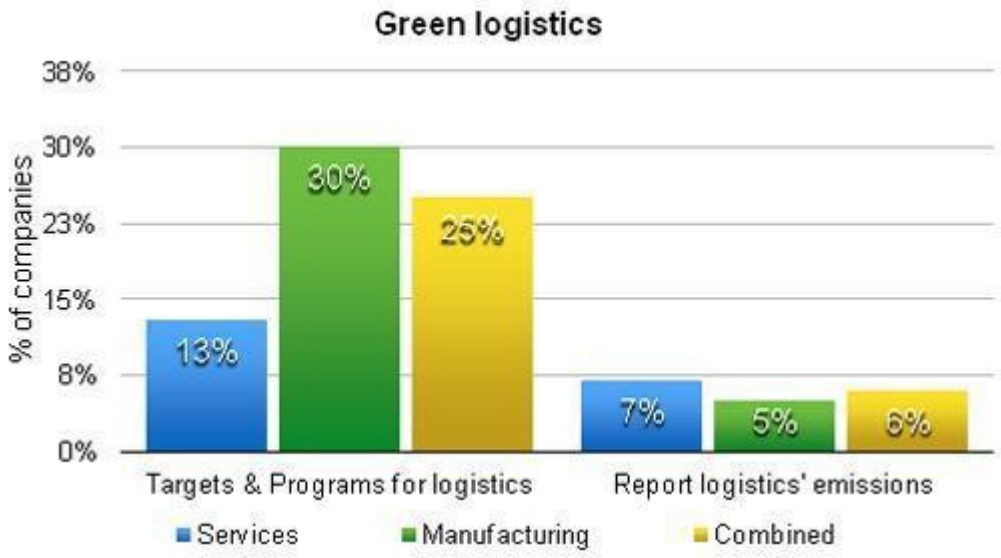
SR.NO	**Barrier to Implement**	**DESCRIPTION**
1.	Lack of integration of IT system	It uses various computer based applications programs and various IT enabled procedures and software which may be zero utility during the various data and information exchange process
2.	Lack of acceptance of advancement in new technology	It emphasis on adoption of various advancement in technology to the older established technology in existing organization.
3.	Poor organizational culture	It directs towards the participation of top level management in motivating the employee.
4.	Lack of skilled human resource professionals in sustainability	It reflects the lack of skills in human resource department of the organization with special context to their recruitment policies and trainings
5.	Uncertainty and competition in Market	Market competition and uncertainty is high due to global competitiveness and varying customer's requirements.
6.	Lack of government initiatives system for green logistics practitioner	It means government not making industry friendly policies toward GL and not giving special benefits to those organizations implementing GL.
7.	Poor implementation of green practices within a supply chain	Lack of consideration of green practices like hazardous solid waste disposal, energy conservation, reusing and recycling materials etc.
8.	Lack of top level management Commitment	It means top level management resisting towards implementation of green practices.

9.	Cost of implementation	It reflects to the high initial cost investment required to implement various green Methodologies such as green design, green manufacturing, green labelling of packing etc.
10.	Supplier's flexibility to change	This means suppliers unwillingness to be involved in design process and technology, which affects overall performance of whole chain.
11.	Customer's unawareness towards green products and services.	This reflects customers do not know about green products and their benefits
12.	Lack of knowledge and Experience	Lack of knowledge and experience among the supply chain stakeholders in executing green logistics
13.	Lack of green architects, consultants, green developers, contractors in the region	Lack of green practitioners available in the region for an organization
14.	Lack of training	This reflects lack of training given to the employee of the organization, thus resisting enhancement of overall performance of supply chain and green practices in it
15.	Lack of internal sustainability audits within the organization	It reflects integration of all internal departmental issues related to the coordination for the supply chain
16.	Lack of external sustainability audits for suppliers and contactor	It reflects integration of all external departmental issues related to the coordination for the supply chain
17.	Lack of sustainability certification like ISO 1400	It refers to authenticity of quality of products and services as per pre-established norms
18.	Lack of professional treatment and long term contracts for adopting GL from government	It shows poor government regulations and support to the GL practitioners.

19.	Lack of management initiatives for transport and logistics	It shows poor managerial management of logistics in the organization
20.	Lack of energy management and waste management of the organization	Lack of energy management and waste management of the organization

GREEN LOGISTICS: FIGHTING TO FIND A PLACE

Greening a companies' transportation systems provides one of the best opportunities to reduce GHG emissions. A sustainable transportation and logistics strategy includes an analysis and monitoring of both owned and third-party operated fleet & logistics, as well as the type of fuel used. 25% of India's top companies have these parameters as part of their sustainability reporting, though only 6% of the companies studied disclose information related to emissions from logistics.



Greening the supply chain is not just about reducing emissions in the current supply chain but also developing new products and services that are environmentally sustainable. We find that a significant per cent of the companies have programmes to promote sustainable offerings. The questions is how many of these will actually reach the market

India needs achieve its nationally determined emission cuts of 33-35% . Given the rather low key performance of Indian companies on the supply chain front there is an urgent need for action. The long term objective would be to develop closed loop supply chains. Closed loop

supply chains are designed to and managed to explicitly consider the reverse and forward supply chain activities over the entire life cycle of the product. This involves:

- **Product returns management including reverse logistics**
- **Repair, remanufacture and recycle**
- **Remarking and Reuse**

Achieving closed loop systems is not exactly easy. It may take several years to achieve it and some industries may never really manage it .However, some immediate steps could include:

1. **Choosing the right suppliers:**
   This requires that companies choose the most environmentally responsible suppliers. This also implies that existing suppliers be trained into becoming environmentally responsible.

2. **Apply the 80/20 rule:**
   Choose suppliers that contribute most to environmental degradation. Focus attention here to ensure that significant improvements are achieved in the shortest time.

3. **Collaborate to conquer:**
   Many companies engage their suppliers in the greening process. Companies can collaborate with their suppliers to come up with environmental guidelines and innovative approaches to combat environmental challenges.

4. **Bell the compliance cat:**
   Compliance and execution are at the heart of all change efforts

NEED FOR GREEN LOGISTICS: OPPORTUNITY FOR ORGANIZATIONS.

India, an elite member of the trillion dollar club, has already evolved to become one of the largest economies in the world. The unprecedented growth in rural as well as in urban sector will continue to touch newer heights. In this scenario the rise in consumption and demand for energy, increase in greenhouse emissions, and constraints on critical natural resources such as land, water and oil have hit the ecology and environment hard. These issues need to be addressed on priority and right away. There is a growing curiosity among the consumers in India regarding the protection of the environment. Consumers in today's age of technology are actively involved and informed on ecological issues and are thus changing their behaviour pattern so as to accommodate a socially responsible lifestyle. Companies that are going green will not only generate profits in the long term but will also help in conserving the ecology and reduce environmental impact. Moreover the media also creates a valuable publicity for the companies who implement green initiatives. Positive publicity for going green can do a world of good for the company's corporate image. Hence companies that are proactively involved in going green will gain visibility and earn credibility.

Implementing a green initiative program also ensures companies to meet current and future environmental regulations or legislation. Green Logistics is thus gaining significance due to diminishing raw materials, deterioration of environment, swarming waste lands and ever-increasing levels of pollution. In today's competitive world, it is not only about being having better business sense and profits but also about environment friendliness.

Green logistics can help organisations in the following ways:

- **Savings:**

There are long term savings opportunities through green movement. Companies need to show some long term appetite by holding into the green logistics investment. At least in the short term they could reach a stage of a revenue neutral level. The corporate should not expect huge benefits upon implementing Green Logistics immediately but it can definitely proclaim to become a competitive advantage for firms marketing goods with environmental characteristics.

- **Lower risk:**

By buying greener products or services, organisations can avoid risks which often translate into financial costs or losses. There are large numbers of cases propping up wherein the suppliers and vendors of a company are using illegal means to supply/ extract raw materials thus hitting the corporate image. In fact some of the supplier communities have very poor environmental track records. These risks can be side-lined by using and adhering to environmentally friendly practices.

- **Increase in revenue:**

Companies are competing to improve efficiency of their business processes and reduce energy and material consumption by utilizing instruments like green supply-chain management. Industry has been the prime investor in energy efficiency, renewable energy and green building projects thus satisfying stakeholder demands, enhance brand image, and improve customer loyalty.

- **Indirect yield:**

Being environmental-friendly, organisation can reduce considerable waste and protect the natural resources. It can enhance the brand image of the company and will indirectly benefit the motivational levels of the employees, suppliers and other stakeholders.

Implementation of green initiatives has emerged as one of the top trends in the Logistics worldwide. The uncertain economic conditions have urged the players of the supply chain industry to rethink their strategies and prioritize long term sustainability as the main focus area. The key drivers instigating this turn around being:

- Increase in supply chain efficiency
- Financial stability by securing greater return on investments
- Improved customer relations
- Time consuming yard checks
- Multiple moves due to ineffective communication
- Lack of information

Following green initiatives are must to practise:

1. Effective Transportation Management

Improved logistics strategies like efficient routing & scheduling of vehicles, ensuring full truck loads, changes to receiving policies and loading docks, can enable optimization of the logistics operation efficiency, thereby saving fuel and increasing profitability.

Implementation of a well-designed freight management software can not only help to cater to all these needs but also helps in effective utilization of the vehicles which leads to considerable amount of fuel saving thereby reducing greenhouse gas emission.

2. Technology Solutions

Implementation of efficient warehouse management systems, and freight management systems, coupled with technologies allows automation of the logistics processes. These advanced technologies offer data accuracy, reduction of paper work, and easy integration with other tools, thereby ensuring higher green benefits for logistics companies.

3. Reverse Logistics

Proper methodical management of returned goods is a key green initiative with significant financial returns. Damaged and unwanted products can be repaired and restored to their original form and placed back in the market to reduce waste and contribute to the environmental cause.

4. Reduced Packaging

Logistics and warehousing companies are becoming increasingly focused to reduce packaging material costs in their effort to make warehousing and distribution centre operations more cost effective. Usage of re-usable / recyclable plastic materials instead of card boards or wood help in reducing their carbon production count and make them more eco-friendly.

5. Preventive maintenance & Damage Analysis

Processes like periodical fleet maintenance and increased driver training improves the vehicles' cost effectiveness by increasing their fuel efficiency. At the same time a special watch on the demand forecast can help to reduce the number of unsalable products. This can be easily achieved by implementing an efficient warehouse management system which has integrated demand forecasting software. This not only impacts the economic scenario positively but also provides environmental benefits by reducing wastage. Also a wellmanaged and safe return of damaged products adds to the environmental security.

THE KEY SUCCESS AND BARRIERS OF IMPLEMENTING THE INITIATIVES

SUCCESS OF IMPLEMENTING THE INITIATIVES:

- Improved energy efficiency
- Usage of more efficient transport system
- Keeping track of emission scorecard
- Usage of green logistics providers by the 3PLs
- Fuel efficient vehicles
- Horizontal collaboration with companies
- Reduction of miles travelled through re-routing of vehicles

BARRIERS OF IMPLEMENTING THE INITIATIVES:

- Lack of knowledge of the best practices
- High cost
- Unwillingness of customers to pay more
- No short term positive impact on the bottom-line, mainly focused on the long term gains
- Data standardization required

LOGISTICS OF A COMPANY CAN BE ENVIORNMENTALLY FRIENDLY BY:

- **Eco-friendly packaging material**: By using reusable materials that could be returned after the transport is performed, the company can actually save money. A good example of this is using strong and sturdy pallets, to ensure a long-term use
- **Packing items more efficiently:** Packing the items in a way that more can fit in a single box
- **Giving back to the environment:** Many companies engage in eco-campaigns to balance the impact of their services. For example, planting trees to outweigh the amount of CO2 produced
- **Load Optimization** – One example of load optimization can be to send a truck only when it is fully loaded
- **Route Optimization** – Cutting down travel costs, time or distance. By choosing the best route, is it possible to save fuel and, consequently, reduce the amount of CO2 emissions
- **Choosing the eco-friendliest transportation method available** – Surprisingly, air freight is the transportation method that causes the most harm to the environment. Thus, whenever possible, it is important to choose more ecological options, like rail or road transportation.

CASE STUDIES OF GREEN LOGISTICS:

1. **Toyota Kirloskar Motor Private Limited (TKM)** is a joint venture between Toyota Motor Corporation and the Kirloskar Group, for the manufacture and sales of Toyota cars in India. TKM have employed environment friendly technologies such as water-borne paint, energy efficient equipment and water recycling facility at its Etios Plant at Bidadi, Karnataka. In automobile industry, along with the careful usage of precious oil supplies, trend is now towards developing hybrid technologies which will prove very essential in the upcoming era. Five Year Environment Action Plan of TKM: TKM has so far achieved 20% reduction in CO2 emissions at production by reducing the energy consumption such as usage of electricity, LPG etc.

Achievements of TKM:

Fuel Efficiency improvement, by monitoring driving speed, maintaining tyre pressure check sheet etc.

Volume Efficiency improvement, by changeover of trucks from double axel to triple axel leading to increase in capacity of goods transport by 3 tons from 23 tons bringing down CO2 emissions by 2.72%.

Further CO2 emission reductions by utilization of bio diesel as alternative fuel in forklift in a ratio of 1:9 with diesel. The above strategies have led to 6.26% reduction in CO2 emission as compared to targeted reduction of 4%.

2. **Boise**: Leveraging Rail Direct Service: Boise Inc. has launched two initiatives to improve its logistics operations and environmental performance. The Carload Direct Initiative is shifting product transport to rail, and the Three-Tier Pallet Initiative is increasing railcar utilization. Both initiatives have resulted in a combined 62-72% reduction in the company's CO2 emissions, as well as cost savings on those shipments.

3. **Caterpillar**: Light-Weighting and Inbound Consolidation: In this case study, the inbound shipping operations of Caterpillar's North American large mining truck facility to determine – based on weight, packaging, routing, and scheduling – opportunities to streamline shipping protocols, and thus reduce carbon emissions associated with the supply chain. When combined, the streamlined shipping and packaging efforts could reduce Caterpillar's overall carbon emissions by 340-730 tonnes of CO2 per year.

4. **Ocean Spray**: Leveraging Distribution Network Redesign: This case study presents two Ocean Spray initiatives – distribution network redesign and intermodal shift from road to rail – that in combination led to a 20% reduction in transportation CO2 emissions, while achieving comparable cost savings across the transportation network.

5. **DHL and Blue Dart**: DHL and Blue Dart Steer India's Logistics a New Direction with the Launch of Smart Truck Bangalore, India. Adapts successful innovations from the corporate unit DHL Solutions & Innovations to improve service quality, cut costs, reduce time and CO2 emissions in emerging market conditions. DHL, the world's leading logistics company, and Blue Dart, part of the DHL Group, are piloting Smart Truck technology in Bangalore, India, the first deployment of this successful logistics innovation outside Germany. Created by DHL Solutions & Innovations (DSI), the DHL Smart Truck is an "intelligent" pick-up and delivery vehicle that combines a number of innovative technologies including a route planner. Launched in Germany in 2010, DHL Smart Truck reduced number of miles travelled by 15 per cent and length of average route by 8 per cent during its pilot stage, reducing both fuel consumption and CO2 emissions.

6. **HCL Info systems Limited**: HCL always focused on developing a sustainable future through environment- friendly ICT products and services. With regard to various initiatives, HCL has been recognized as one of the greenest companies among Indian ICT manufacturing companies. The company launched 'HCL Eco Safe' program which ensures that all HCL products are matching standards and compliances. This led to the introduction of Green desktops, equipped with the unique Dynamic Energy Saver (DES) technology, that cut overall power consumption by 20-35%. It also developed desktops, servers and laptops and enjoys being a leader in Green Integrated Circuit Technology (GICT) manufacturers.

INDIAN MARKET AND WORLDWIDE IMPLEMENTATION

The largest retail giant in the world launched an extensive business sustainability strategy in 2005. Wal-Mart, a behemoth in retail industry had a huge problem relating to waste through packaging. It came to an understanding that if there is a 5% reduction in packaging it could save around 6.5 metric tons of carbon dioxide from entering the atmosphere and around $10 billion dollar of savings as well. The company decided to implement the strategy and benefited from it. Many MNCs are trying to target for "zero waste for disposal". This Swiss multinational food and beverage company is striving for the same goal. Nestlé the company under discussion tries to address the concerns related to rural communities, safety of soil, water and air through efficient use of water disposal techniques. Due to their sustainability efforts around 35+ factories of Nestle have generated zero waste for disposal in 2012.

Heineken has implemented a program named "Aware of Energy".

Through this program the company creates awareness related to energy among its employees. The company focuses on conserving waste heat, use of renewable energy etc. The company has saved 17 percent of energy per hectolitre of beer. It is also aiming to reduce 50 percent carbon footprint by 2020 on its installed fridge base. Talking about the neighbouring country China, which is the third largest economy in the world is facing a big challenge in terms of tons of solid waste. The country has taken a major step in waste to energy capacity (WTE). From 2 million tons to 14 million tons of WTE capacity, China has become the fourth largest user of WTE. According to estimates there were 66 WTE plants in 2007 which is now increased to 100+. Through this China has been able to generate $30 per MWH of electricity. Little far off in the heart of Abu Dhabi the city has been chosen to be the headquarters of International Renewable Energy Agency (IRENA). An investment of $22 billion has been made to develop Masdar city which will be powered entirely by renewable energy. More than 1500 companies will be part of the city. Their main focus will be to fund the research and development activities and help in creating new and sustainable technologies. A carbon neutral zero waste cities will come into existence where no automobiles will be allowed to run and solar powered desalination plant will help in providing the water supply to the whole city. Also due to large open areas land and its exposure to direct sunlight Saudi Arabia is poised to become the largest exporter of solar energy in the world. A lot of emphasis has been given to sustainability and the issue has become part of boardroom discussions. Due to growing population and usage of energy global warming has become a growing concern. To create an eco-friendly environment the companies have started branding their internal initiatives (e.g. P&G, PepsiCo, Cadbury, CocaCola) Some of the Indian organisations are taking a leaf out of the foreign enterprises in implementing Green logistics and supply chain.

BRANDING OF DIFFERENT COUNTRIES

PROGRESS IN INDIA IN TERMS OF ENVIORNMENT AND SUSTAINABILITY.

ITC:

ITC is a much diversified business house, ranging from FMCG to hotels, paper and packaging to agribusiness and so on. With an annual turnover of about $8 billion it is a part of the famed Forbes 2000 list. The company is leading by example in many green initiatives some of being the use ECF (Elemental Chlorine Free) technology, Ozone bleaching, energy and water management techniques and recently incepted the green boiler mechanism.By implementing the mentioned green techniques the company is able to reduce its dependence on fossil fuels like coal by over 100000 tons per annum. The recycling of waste materials has helped ITC to manufacture paperboards for packaging purposes. Through the use of echoupals, ITC has built a significant advantage in raw material sustainability and thus is reaping benefits out of it. The company has therefore become a frontrunner in Green management initiatives and is committed to reduce carbon footprints.

DR.REDDY'S:

Pharmaceutical industry in India is facing a lot of heat from consumers as well as from regulators to reduce the environmental impact of its actions. In this scenario the supply chain of pharmaceutical companies has come under a lot of scanner. Dr. Reddy's is one such company that gives emphasis on sustainable sourcing. They have initiated a process of interaction with all the business partners known as "mentoring" in which all the stakeholders are guided about following good sustainable practices. The company also focuses on periodical training on quality to all its vendors especially for those who have recently become business partners. These kinds of half-yearly activities help the company to convey to all its partners their business processes and culture.

L&T:

Larsen & Toubro Limited (L&T) is an engineering and construction company with an annual turnover of about $14 billion. The company is massively involved in construction, hydrocarbon, heavy engineering, power, InfoTech etc. It is the first company in India to start reporting about sustainability. The company in its various initiatives has implemented 3R principle i.e. Reduce, Recycle and Reuse. Due to this L&T is able to harvest more than 23 million litres of rainwater. There is an overall reduction of 6% in water consumption and 16 campuses have witnessed zero wastewater discharge. In terms of infrastructure they have built energy efficient offices and extensive usage of renewable energies like wind and solar power across its facilities. The company uses recycled materials like fl y ash, crush sand etc. as an input to its raw material requirements. In fact the company is regularly involved in stakeholder (internal and external) engagement to identify key material issues. The organisation also encourages usage of video conferencing for internal meetings so that traveling of the employees. It can be reduced and indirectly minimize the usage of automobiles.

TCS:

Tata Consultancy Services (TCS) is committed to use environment friendly components in all its processes. Starting from the infrastructure, TCS has increased the usage of renewable energy in its offices. As of 2012-13 data the solar water capacity is around 86,600 litres per day which is an increase of 55% from the previous year's figures. The company is also focusing on green procurement from its suppliers. It has given emphasis on procuring energy star rated equipment. The company has initiated various drives and internal communications among its employees regarding energy saving benefits. Some of the fundamental things like switching off the computers at the end of the day, minimizing the usage of lights to more technical like installing variable frequency drives. With the implementation of rain water harvesting, sewage treatment plants and other water management techniques TCS is able to reduce the use of fresh water by over 13% as compared to 2008 figures. A major challenge for all the IT majors is the issue of

e-waste. The defunct/ obsolete computers are being legally disposed-off through government authorized recyclers. Promotion of video conferencing is done in all the TCS facilities to reduce the travelling of employees to client locations through automobiles, thus reducing the greenhouse gas emission.

STATE BANK OF INDIA (SBI):

"Green channel counter", a first of its kind initiative by SBI bank, has given a new dimension to paperless banking. An account holder can transfer fund, withdraw money and even deposit money to another account without filling any physical forms. A mere swipe of card can do all these transactions. The bank has also launched solar powered ATM machines in remote areas which not only help in extending their customer base but reduces the power consumption by 1000 watts as compared to the conventional ATM machines.

ONGC:

India’s largest oil producer, ONGC has partnered with Mokshda Paryavaran Evam Van Suraksha Samiti to develop an energy-efficient green crematorium. This will change the traditional system of burning. The new invention will help in reducing the wood consumption by60% and will also significantly minimize the air and water pollution

Green Logistics in Application

IKEA

IKEA is a global furniture store that provides “cheap furniture that as many as possible can afford”. Ikeas company view of green logistics is firstly to remove the wooden pallets from the entire supply chain. Instead of wooden pallets they are using Paper/cardboard pallets and so called ledges. Underneath these ledges there are a plastic leg underneath the goods. Because of this approach they are dramatically decreasing transportation, Co2 emissions, PP/LL can be packed with less space than with normal wooden pallets. Also IKEAs Iway monitoring system steer transport partners to use low Co2 equipments. The Iway monitoring system is IKEAS own measuring system. The goals for IKEA within green logistics are as the following:

- 2012 60% total flow integrated to non-wooden pallets
- 2014 100% of total flow integrated to non-wooden pallets
- 2015 all transport partners are fulfilling the Iway standards

DHL – Go Green Solutions

- DHL Global Forwarding solutions provide a reliable way of accounting for and managing your supply chain CO2 emissions, with best-in-class carbon reporting and all-inclusive carbon offsetting services.

- DHL Global Forwarding has developed a carbon reporting methodology with precision and reliability in mind. Over a number of years, our experience in carbon reporting has provided us with the expertise to produce accurate CO2 calculations for our customers

- By considering each individual shipment, actual operational data (mode, fleet, age, trade lane, weight/volume, actual distance travelled) and credible sources for emission factors, DHL is able to give the best-in-class CO2 calculation

- Their methodology follows the principles of the Greenhouse Gas Protocol and the World Economic Forum (WEF) Guideline for Consignment-level Carbon Report

- They will create a carbon report that provides you with the confidence to design your own carbon reduction strategy

Organized retail sector is growing over the last couple of years in the Indian market and trying to establish themselves. Many corporate entities such as Reliance group, Aditya Birla Group, Future Group, Raheja Group, TATA's, RPG Group , etc., have made inroads into this sector and trying to edge out the un-organised retail outlets. Bengaluru is the fastest growing metropolis city that offers an ideal market place for the organised retail sector and is considered as the hub of retail revolution. Bengaluru being a cosmopolitan city, the consumer taste and behaviour as seen in the city closely represents the pan India pattern of consumer behaviour as the city hosts people with different region, background, culture, tradition etc. Organized retail companies who have established their brand and have business units in Bengaluru as well as in other Indian cities were approached for assessment of level of adoption of Green Logistics practices. The basic search of these organizations in terms of corporate policy with regard to environmental concerns, social responsibility etc. revealed the corporate culture and the environment protection strategies adopted by these organizations and it is summarized below; Future group as part of their sustainability efforts have integrated sustainable development into their business.

Activities and are promoting sustainable economic development. Through innovations and investments, the group aims to embrace practices that promote greener ways of doing business and are fully conscious about the impact of their business activities on the surroundings and the environment. The group have taken certain environmental sustainable initiatives such as optimize energy consumption in its stores, promoting green products and using packages that are environmentally friendly and reinforcing environmental considerations in Logistics. The Chief Sustainability Officer of Aditya Birla Group (ABG) engaging in retail business states that there are directions to manage the operations in the most sustainable manner through better water, energy and waste management and developing strategic business plans that will embed sustainability trends. The group has framed policies for various aspects of business such as transportation policy in which it states that the group shall endeavour to minimize the environmental impacts in ABG transport fleet and logistics services. Their Supply chain and procurement policy directs their suppliers to adopt the ABG sustainability framework policies and standards. The group environmental policy calls for monitoring, measuring and reporting the progress and performance of environmental management initiatives. Efficient use of energy resources and reducing carbon footprint in operation activities are some of the initiatives which are driving the group in an effort towards sustainability. Plastic packaging materials are not used at most of the reliance retail outlets and the corporate policy drives the company to reduce the environmental impacts. Many other corporate groups have put in place the intentions towards sustainability in the form of statements or policy and are yet to fully implement the same in letter at the ground level.

'Green' has been a handy catchphrase for businesses and policy wonks, signalling their commitment towards preserving environment, by prefixing it with almost everything. But who is not eco-friendly nowadays, and logistics sector is no exception to this; after all, it is one of the major contributors to environmental despoliation. Around a quarter of global CO2 emissions are due to fossil fuel combustion in transport sector alone, according to International Energy Association.

While Europe and the developed world have taken concrete actions to reduce Green House Gas (GHG) emissions from logistics and transportation sector, the developing nations have barely moved beyond paying lip service. As witnessed in the developed world, increase in emission is in lockstep with economic growth; for instance, the CAGR in Indian CO2 emissions from transport sector due to fossil fuel combustion has been around 4.5 % compared to 1.16 % in OECD countries and 1.04 % in North America in the previous decade. No wonder, environment and growth are often couched in mutually antagonistic terms, especially in India, which is in a great hurry to catch up on growth.

However, any discussion on green logistics remains confined to transportation—though it is a major sub-sector of logistics—whereas logistics includes facilities like warehousing, transport terminals, packaging, distribution, material handling and even disposal. If we avoid the fallacy of equating logistics with transportation, then only we can understand the negative externalities of logistics activities. In a curious paradox, the logistics service providers, from their business

perspective, try to keep the logistics—i.e., transportation—cost as low as possible, while the true cost to environment, society and economy increases as the GDP grows.

In fact, even as logistics moves goods within supply chains, the environmental impact is much beyond the oft-maligned GHG emissions from freight and passenger transport: warehouses pose a threat to safety of the neighbourhood, more so, if stocked with hazardous goods; terminals at ports, airports and stations add to noise pollution as vehicles and cranes move; discarded packaging sullies the landscape; improper waste disposal contaminates land and water.

For resuscitating and implementing green logistics in India, we need to address the issue at three levels: public policy, business and individual—these three tiers interact with and influence one another. But no cut-and-dried or easy solutions are in sight. In any case, government intervention for right pricing, incentivising, laying down regulations and enforcing them is imperative.

Over the years, the share of rail transport has decreased drastically by more than two-thirds from 89 % in 1951, while the share of road transport has increased seven-fold from 10 % within the same period. Restoring rail as a primary mode of transport, in particular for freight, would be essential, as rail emissions (per tonne km) are at least five times lesser than road emissions. Although Indian roads, despite being in bad shape, will still retain a major share of transportation as they alone can provide door-to-door delivery, until we move on to intermodal transport with roads providing only the last-mile delivery.

Building bypass roads for managing congestion, adding capacity at specific chokepoints and speeding up traffic are obvious solutions, as despite increase in travelling distances CO2 emissions are lesser due to optimal speed. Yet, we have not been able to do this in New Delhi; almost 80,000 trucks pass through the capital every night for want of bypass roads.
Replacement of fossil fuel based technology with bio-fuel based one or even with alternatives like CNG, hybrid, battery-operated vehicles and equipment is improbable in the short to midterm.

Nor any in-house innovations in India are likely. Commercially viable and efficient alternatives are not available and high capital investment costs deter the fragmented, smallscale Indian logistics sector from importing these eco-friendly technologies.

On the other hand, players in the Indian logistics industry are yet to appreciate that green logistics is compatible with their bottom-line. Fuel efficiency, payload management, routing and driving techniques matter a lot in saving costs. For small trucking companies masquerading as logistics operators, performance metrics for monitoring these aspects are alien practices. Going green and being greener than your competitors is still not an advantage in Indian logistics industry due to consumer apathy.

Reverse logistics industry that takes care of recovery—retrieval of parts, recycling of products and disposal of packaging waste—is almost non-existent in India. With the rise of ecommerce, there is a concomitant rise in packaging waste. Though many e-retailers no longer provide paper receipts to enhance their green-image, they still do not provide consumers with the option of disposing of packaging material, even at a nominal cost. Mandatory legislation regarding

these aspects like in the E. U. would prod both consumers and businesses in the right direction and push towards a 'circular economy', while contributing to the Swachh Bahrat Abhiyan as well.

With logistics driving growth, it need not be dichotomous with ecological concerns; for instance, Germany reduced its CO2 emissions even as its road freight grew, before the economic crisis of 2008-09. Though Indian conditions are different, green logistics has met a premature death due to neglect. Catchphrases may not be important but black logistics has high societal and economic costs and cannot sustain supply chains for too long.

A DRAFT ON NATIONAL LOGISTICS POLICY

MINISTRY OF COMMERCE

GOVERNMENT OF INDIA

Introduction

An effective and efficient logistics ecosystem can be a key contributor to robust economic growth in the country, with the potential to facilitate domestic and foreign trade, promote global competitiveness, enhance incomes, drive the 'Make in India' initiative and reduce economic disparities across geographies. The sector is one of the most important accelerators of trade in the country. Specifically, an efficient supply chain network has the potential to increase farmers' income manifold, which can lead to a domino effect on the overall economy. A reliable, efficient and cost-effective logistics infrastructure for commercial goods is hence critical to India's continued inclusive and rapid economic growth.

An efficient and reliable logistics network coupled with a transparent and consistent cross border trade facilitation process is a key driver of export competitiveness in the country. It acts as an enabler for expanding the foreign markets for indigenous goods. An efficient logistics ecosystem will also encourage investments in the country, especially FDI and will in turn positively impact international trade.

Despite the recognition of logistics being a critical driver of economic development, logistics cost in India, estimated at 13-14% of GDP, is very high (USA 9-10%, Europe 10%, Japan 11%) compared with more efficient global environments, and the sector continues to be highly unorganized. India also has a skewed modal transportation mix, with 60% of freight moving on roads, which is significantly larger than in key developed economies.

Different parts of the logistics value chain currently are being managed by many ministries including Road Transport and Highways, Shipping, Railways, Civil Aviation, D/o Posts, Commerce and Industry, Finance and Home Affairs. In addition, a large number of government agencies including Central Drug Standard Control Organization, Food Safety and Standards

Authority of India, Plant and Animal Quarantine Certification Service provide relevant trade clearances and impact the value chain.

Globally, leading countries that have achieved efficiency in logistics, like Germany, South Korea, Japan and Malaysia among others, follow a completely integrated approach towards logistics, and the government provides a coordinated oversight to the entire logistics value chain. In some countries, a Special Committee Chaired by the Prime Minister reviews progress of the National Integrated Logistics Action Plan. In line with the above, there is significant potential for India to integrate and optimize the various elements of its logistics value chain, to ensure seamless, multi modal growth of an efficient logistics sector.
Government of India has also recognized the importance of the sector to propel the future growth of the country and a Logistics Wing has been created consequent to an amendment to the second schedule of the Government of India (Allocation of Business) Rules, 1961, on 7th July 2017, allocating the task of "Integrated development of Logistics sector" to the Department of Commerce and Industry. Some of the activities like cold chains, multi-modal logistics parks etc. in the logistics sector have also been included in the Harmonized Master List of Infrastructure sub-sectors' and has been granted infrastructure status in November 2017 which will enable the sector to avail infrastructure lending at easier terms with enhanced limits, access to larger volume of funds as External Commercial Borrowings (ECB) and access to longer tenure funds from insurance companies.

In the above context, the primary aim of the National Logistics Policy 2018 is to enable integrated development of the logistics sector in the country. It aims to inform, clarify, strengthen and prioritize the key objectives, focus areas and the governance framework for Logistics in India. It also clarifies the role of the various stakeholders including central ministries, state governments and other key regulatory bodies.

Vision and Objectives for Logistics in India

To drive economic growth and trade competitiveness of the country through a truly integrated, seamless, efficient, reliable and cost effective logistics network, leveraging best in class technology, processes and skilled manpower.
Key objectives of the national logistics policy: Given the pivotal role of the logistics sector in the development of the economy and the need to incorporate learnings from global best practices, the policy outlines an ambitious set of objectives. The following are some of the key objectives for logistics in India, to be achieved in the next five years:

- Creating a single point of reference for all logistics and trade facilitation matters in the country which will also function as a knowledge and information sharing platform

- Driving logistics cost as a % of GDP down from estimated current levels of 1314% to 10% in line with best-in-class global standards1 and incentivize the sector to become more efficient by promoting integrated development of logistics.

- Optimizing the current modal mix(road-60%,rail-31%,water-9%) in line with international benchmarks(25-30% share of road, 50-55% share of railways,

2025% share of waterways) 2 and promote development of multi modal infrastructure 2.2.2.2 Improving first mile and last mile connectivity to expand market access of farmers, MSMEs and small businesses.

- Enhancing efficiency across the logistics value chain through increased digitization and technology adoption.

Ensuring standardization in logistics (warehousing, packaging, 3PL players, freight forwarders)

- Creating a National Logistics e-marketplace as a one stop marketplace. It will involve simplification of documentation for exports/imports and drive transparency through digitization of processes involving Customs, PGAs etc in regulatory, certification and compliance services.
- Creating a data and analytics center to drive transparency and continuous monitoring of key logistics metrics 1 USA: 10% , Germany : 9%
- Encouraging industry, academia and government to come together to create a logistics Centre of Excellence, and drive innovation in the logistic sector.
- Creating and managing on an on-going basis, an Integrated National Logistics Action Plan which will serve as a master plan for all logistics related development. Also, there will be support for states for development of respective state logistics plans aligned with the national and state priorities. An annual execution plan to continuously monitor progress against the set objectives will also be created.

- Providing an impetus to trade and hence economic growth by driving competitiveness in exports.
- Doubling employment in the logistics sector by generating additional 10-15 million jobs and focus on enhancing skills in the sector and encouraging gender diversity.
- Improve India's ranking in the Logistics Performance Index to between 25 to 30
- Strengthening the warehousing sector in India by improving the quality of storage infrastructure including specialized warehouses across the country.
- Reducing losses due to agri-wastage to less than 5%4 through effective agrilogistics involving access to cold chain, packaging and other post-harvest management techniques and thereby enhance agriculture price realization and farmer income
- Providing impetus to MSME sector in the country through a cost-effective logistics network.
- Promoting cross regional trade on e-commerce platforms by enabling a seamless flow of goods.

- Encouraging adoption of green logistics in the country

Promoting Green & Sustainable Logistics

Understanding, measuring, and reducing supply chain carbon footprint is a priority today. It is thus crucial to promote green and sustainable logistics in India by enabling the modal shift to rail, coastal shipping and inland waterways, improving vehicle utilization, raising energy efficiency and switching to greener fuels.

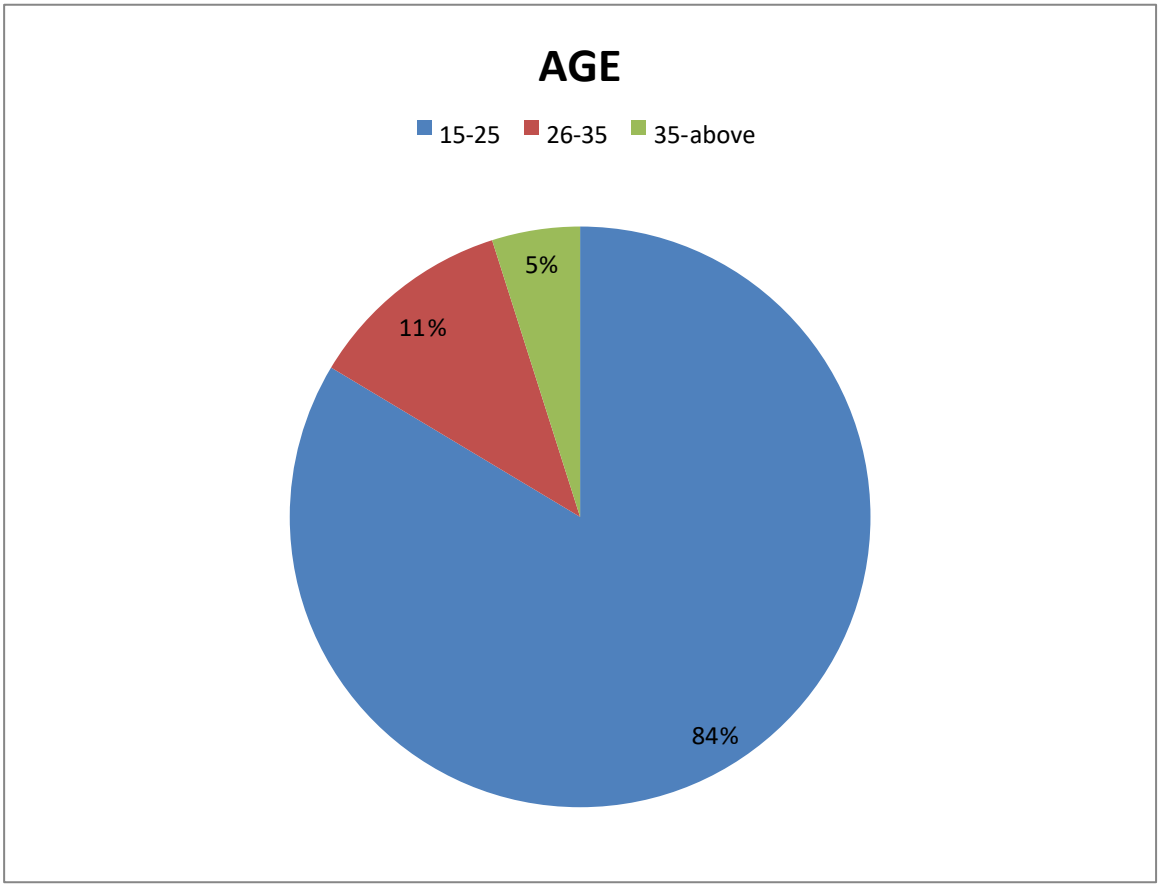
Policy measures such as regulations relating to vehicular, noise, affluent emissions and wastage and duty rationalization on alternative fuels will further reduce the carbon footprint. Focus will also be needed to improve vehicle design, promote road telematics and expedite infrastructure investment in alternative modes of transport (e.g. slurry pipelines). It will also be important to encourage best practices in the industry and help players in the logistics sector advance supply chain sustainability by measuring, benchmarking and improving freight transportation efficiency. Globally, there have been various instances of governments promoting green and sustainable logistics. For example, United States launched a voluntary public-private program – 'SmartWay' to promote advances in sustainable transportation supply chain. It provides players a comprehensive system for tracking, documenting and sharing information about fuel use and freight emissions across supply chains.

In the warehousing space, players will be encouraged to adopt 'Green Principles', including recycling of water, rain water harvesting, use of bio-methanation for treatment of bio waste and for generation of cooking gas, use of solar electricity etc. Also focus will be placed on the 3R – Reduce, Reuse and Recycle in packaging, to promote green and sustainable logistics operations in India

CHAPTER 4: DATA ANALYSIS

AGE OF THE RESPONDENTS

AGE	RESPONSES	PERCENTAGE (%)
15-25	33	83.6%
26-35	19	11.5%
36- above	8	4.9%

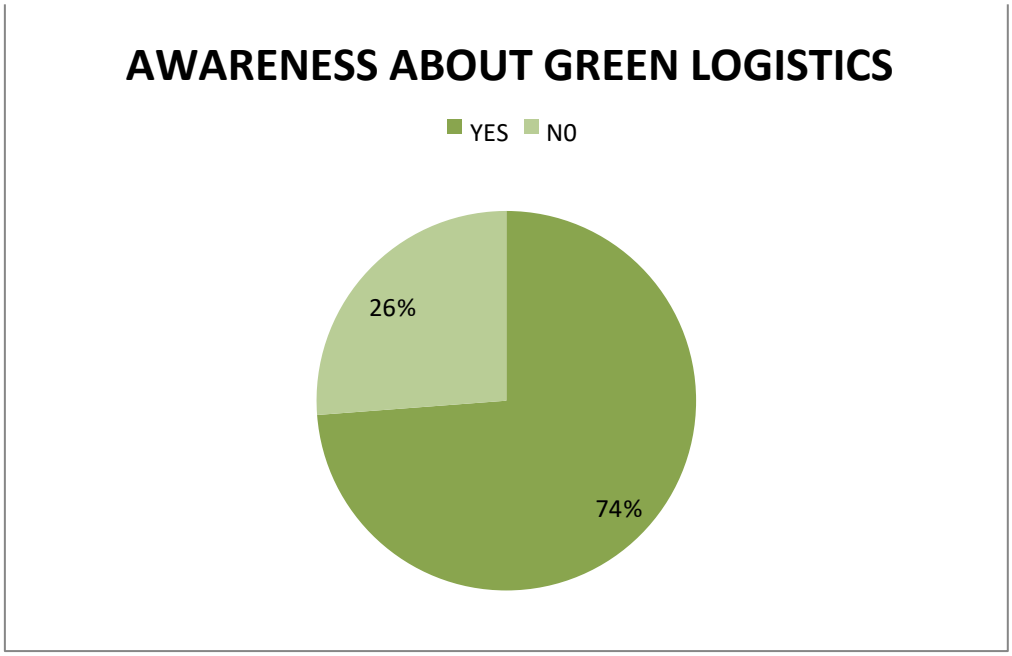


INTERPRETATION:

It has been observed that most of the respondents belong to the age group of 15-25 and the age group of 36-above is the least.

AWARENESS OF GREEN LOGISTICS

RESPONSES	PERCENTAGE
YES	73.8%
NO	26.2%
TOTAL	100%

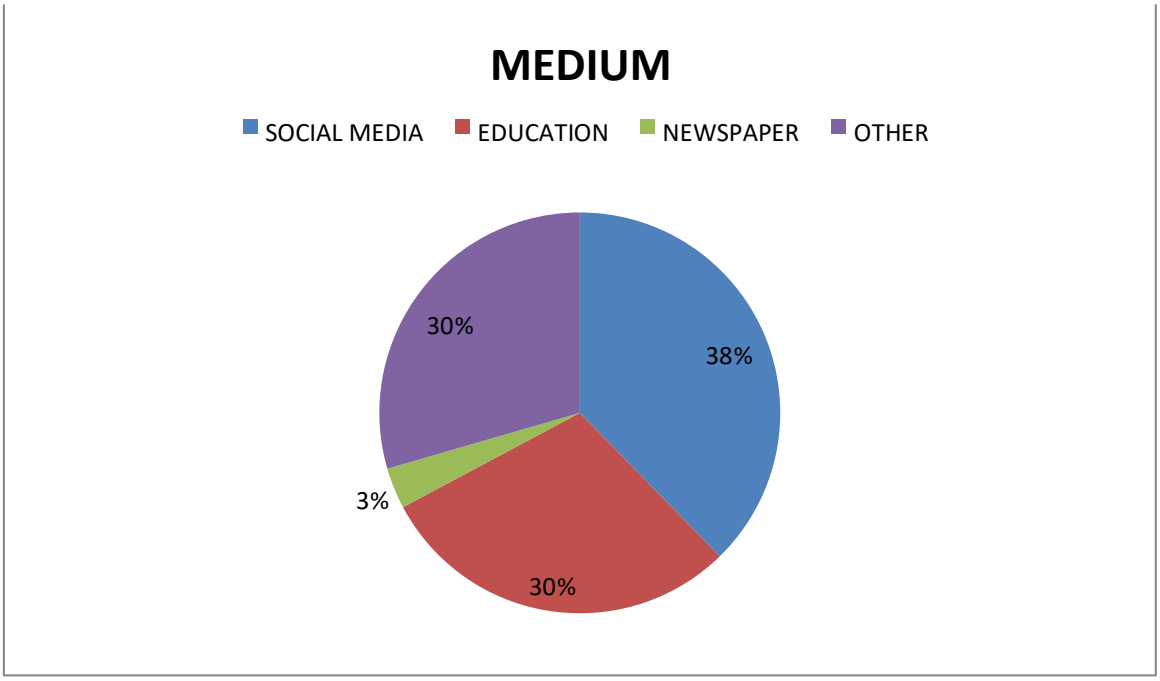


INTERPRETATION:

- 46 respondents are aware about green logistics.
- 14 respondents are not aware about green logistics.

THE MEDIUM THROUGHWHICH PEOPLE KNOW ABOUT GREEN LOGISTICS

MEDIUM	PERCENTAGE
SOCIAL MEDIA	37.7%
EDUCATION	29.5%
NEWSPAPER	3.3%
OTHER	29.5%

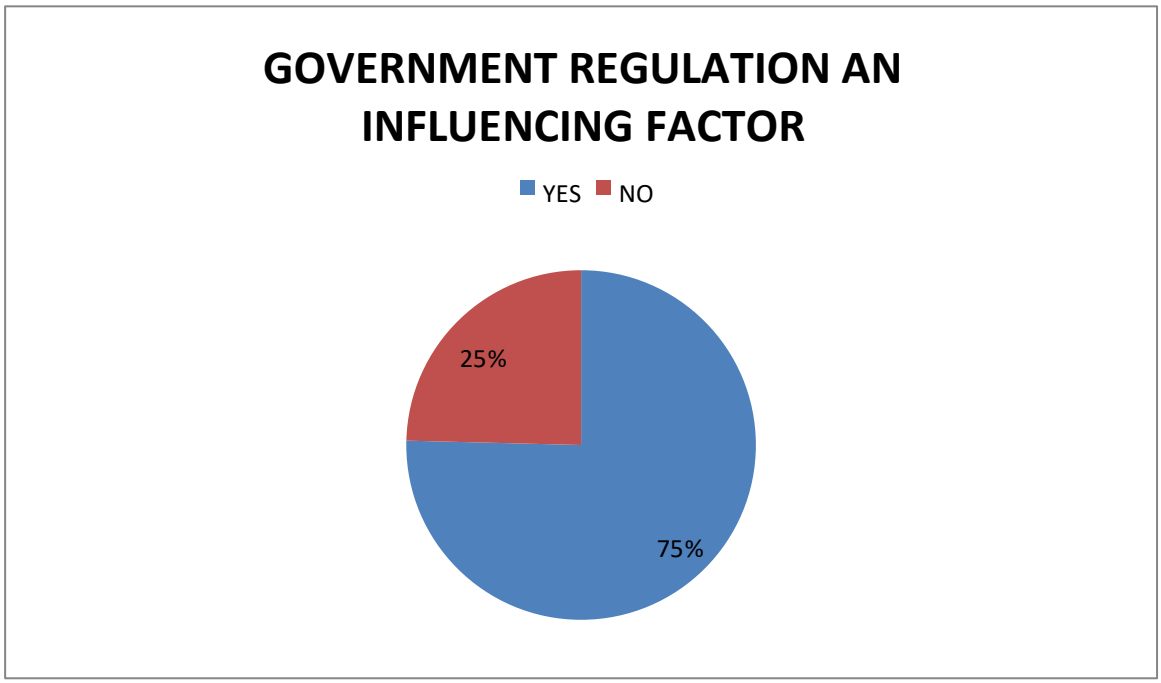


INTERPRETATION:

- The above data shows that the maximum numbers of respondents i.e. 38% are aware about green logistics through social media.
- Followed by social media, Education and other medium has equal number of respondents i.e. 30% each
- Only 3% of the respondents know about green logistics through newspaper.

ROLE OF GOVERNMENT REGULATION IN ADOPTION OF GREEN LOGISTICS

RESPONSE	PERCENTAGE (%)
YES	75.4%
NO	24.6%

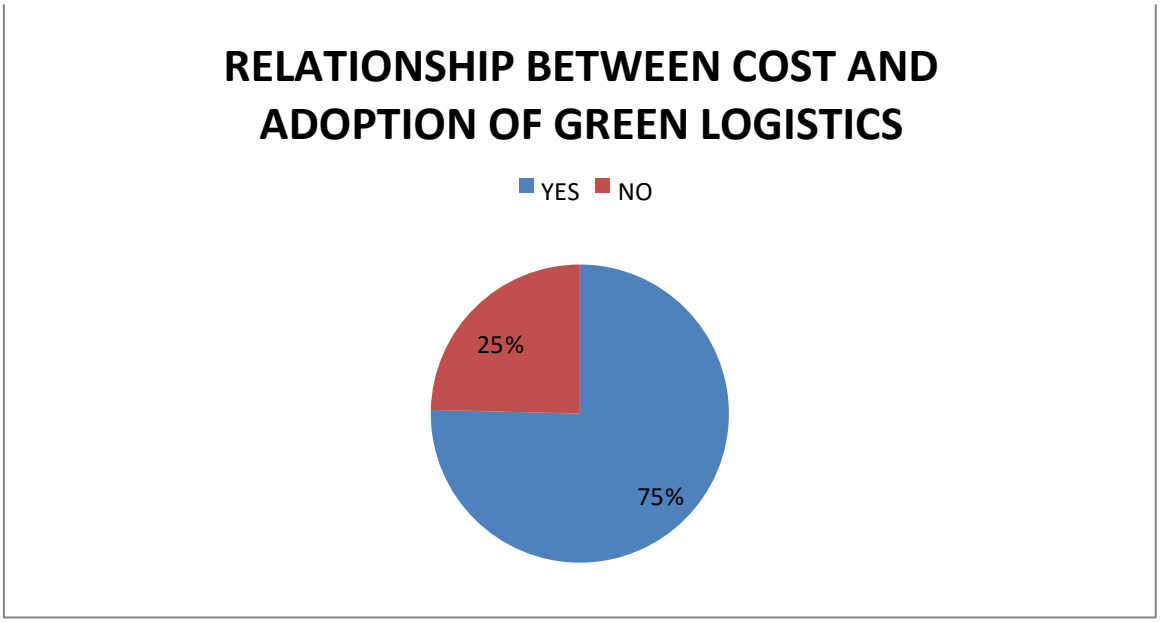


INTEPRETATION:

According to the above data it shows that 75% respondents believe that government regulations influence the adoption of green logistics among the organisations. Whereas, 25% of respondents believe that it doesn't play a major role.

RELATIONSHIP BETWEENCOST AND ADOPTION OF GREEN LOGISTICS

RESPONSE	PERCENTAGE (%)
YES	75.4%
NO	24.6%

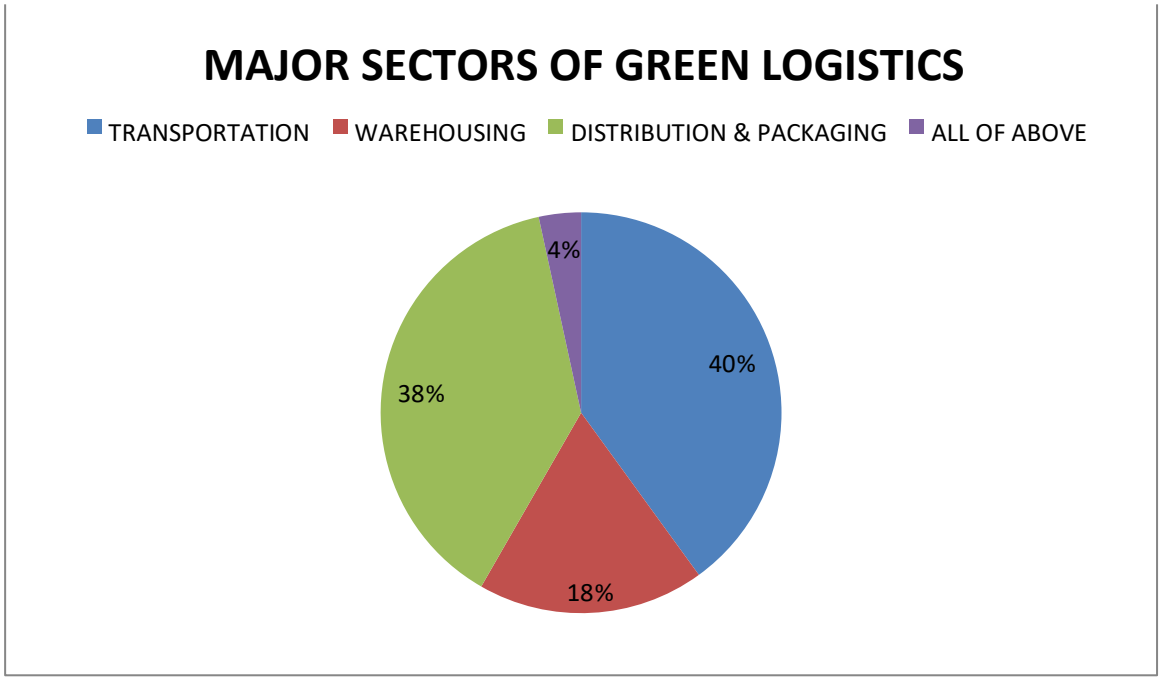


INTERPRETATION:

According to the above data it shows that 75% respondents believe that there is relationship between the cost and adoption of green logistics. Whereas, 25% of respondents do not believe that there is a relationship between cost and adoption of green logistics.

THE IMPORTANT SECTOR OF GREEN LOGISTICS

SECTORS	PERCENTAGE (%)
TRANSPORTATION	40%
WAREHOUSING	18.3%
DISTRIBUTION AND PACKAGING	38.3%
ALL OF ABOVE	3.4%

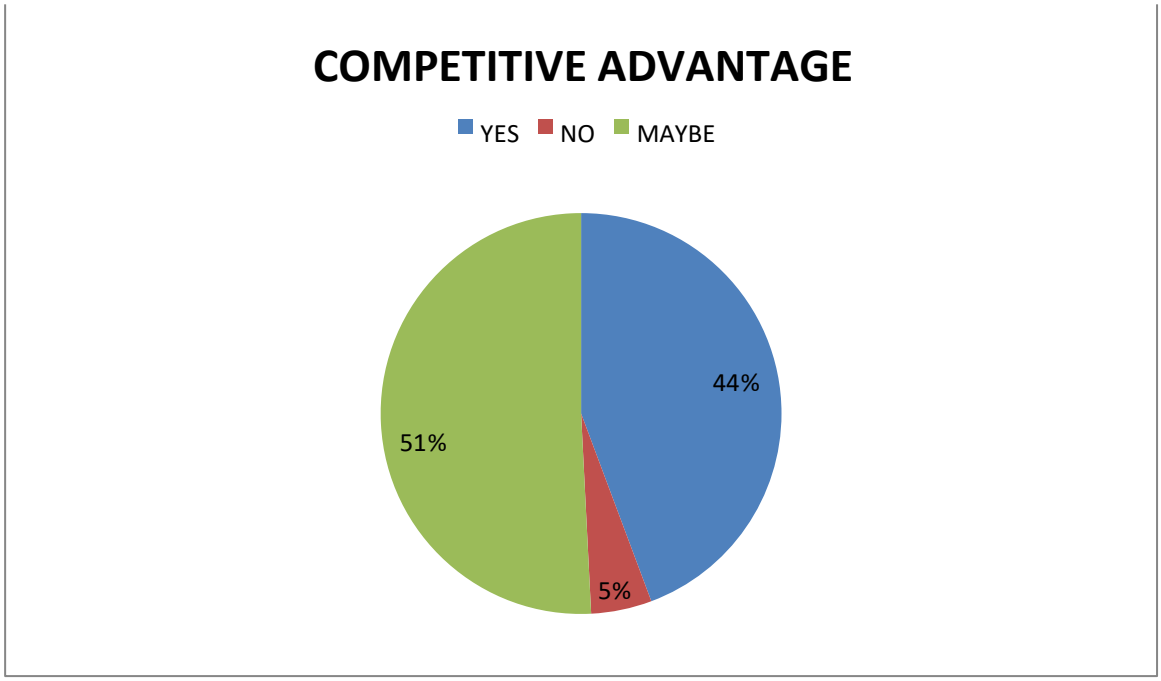


INTERPRETATION:

- According to the respondents, transportation is the most important sector of green logistics.
- 38% of respondents believe that distribution and packaging is important sector of green logistics
- Whereas, 18.3% of respondents believe that warehousing is important
- Only 3.4% of respondents believe that all the sectors are important in green logistics.

GREEN LOGISTICS HELPS TO GAIN COMPETITIVE ADVANTAGE AND DIFFERENTIATION AMONG THE COMPETITORS.

RESPONSE	PERCENTAGE (%)
YES	44.3%
NO	4.9%
MAYBE	50.8%

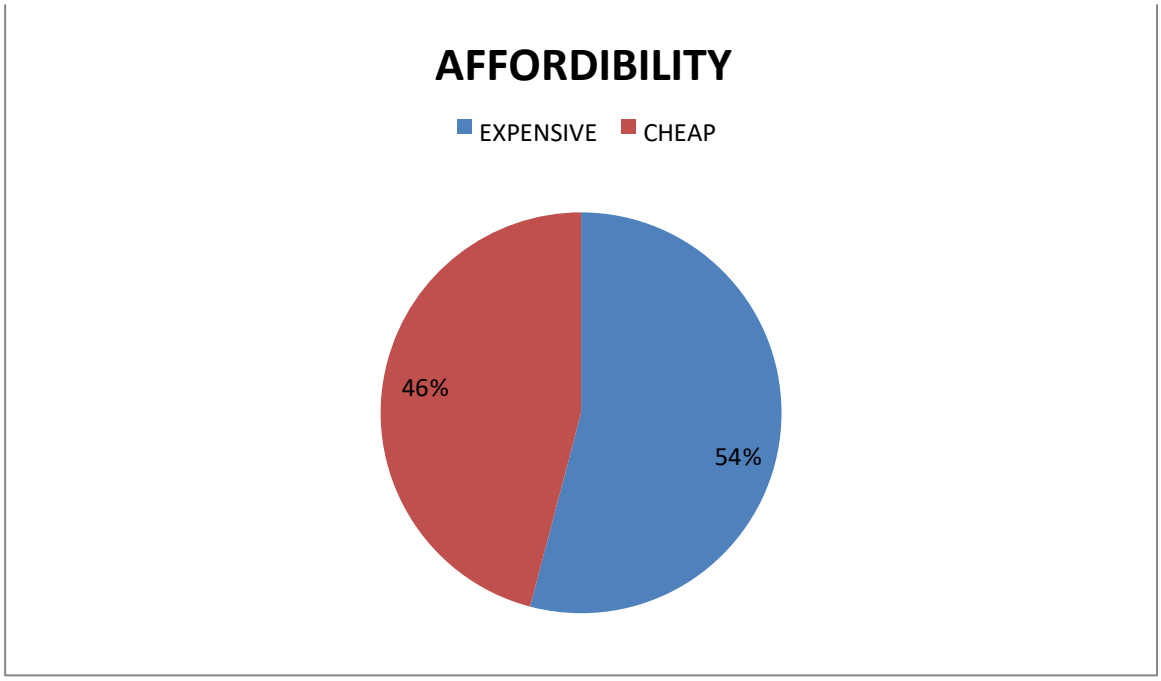


INTEPRETATION:

- 51% of the respondents are not sure whether green logistics helps to gain competitive advantage and differentiation among the competitors.
- 44.3% respondents believe that green logistics help to gain competitive advantage and differentiation among the competitors.
- 5% respondents do not think that it helps to gain competitive advantage.

ADOPTION OF GREEN LOGISTICS

RESPONSE	PERCENTAGE (%)
EXPENSIVE	54.1%
CHEAP	45.9%

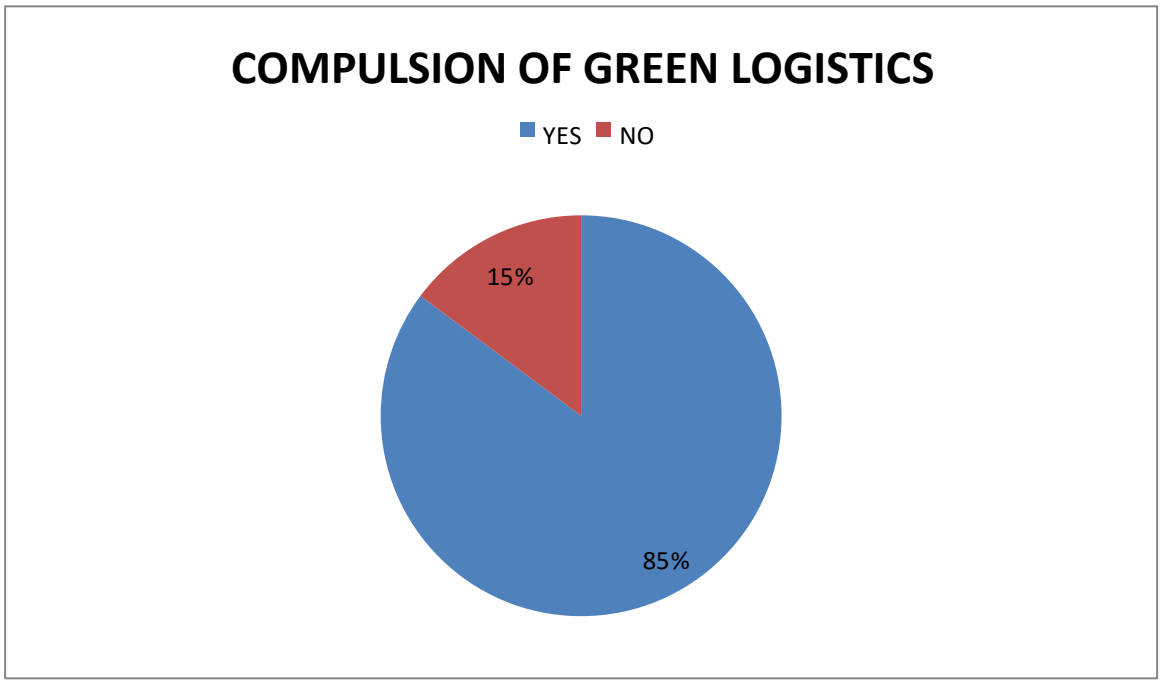


INTEPRETATION:

The above data shows that 54% believe that adoption of green logistics is expensive and remaining 46% believe that it is cheap.

GREEN LOGISTICS SHOULD BE PRACTISED BY EVERY ORGANISATION IRRESPECTIVE OF THEIR SIZE.

RESPONSE	PERCENTAGE (%)
YES	85.2%
NO	14.8%

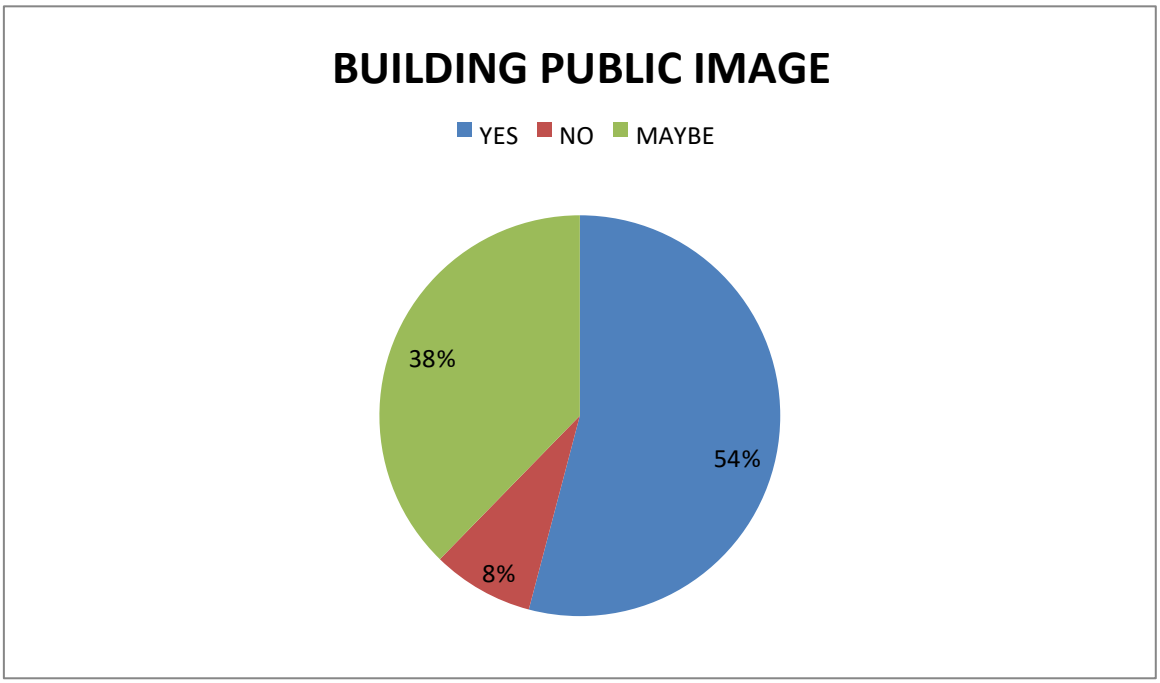


INTEPRETATION:

- 85% of the respondents believe that adoption of green logistics should be done by each and every organization irrespective of their size.
- 15% believe it should not be practised by every organization.

GREEN LOGISTICS HELPS TO BUILD PUBLIC IMAGE AND CUSTOMER PERCEPTION ABOUT THE COMPANY

RESPONSE	PERCENTAGE (%)
YES	54.1%
NO	8.2%
MAYBE	37.7%

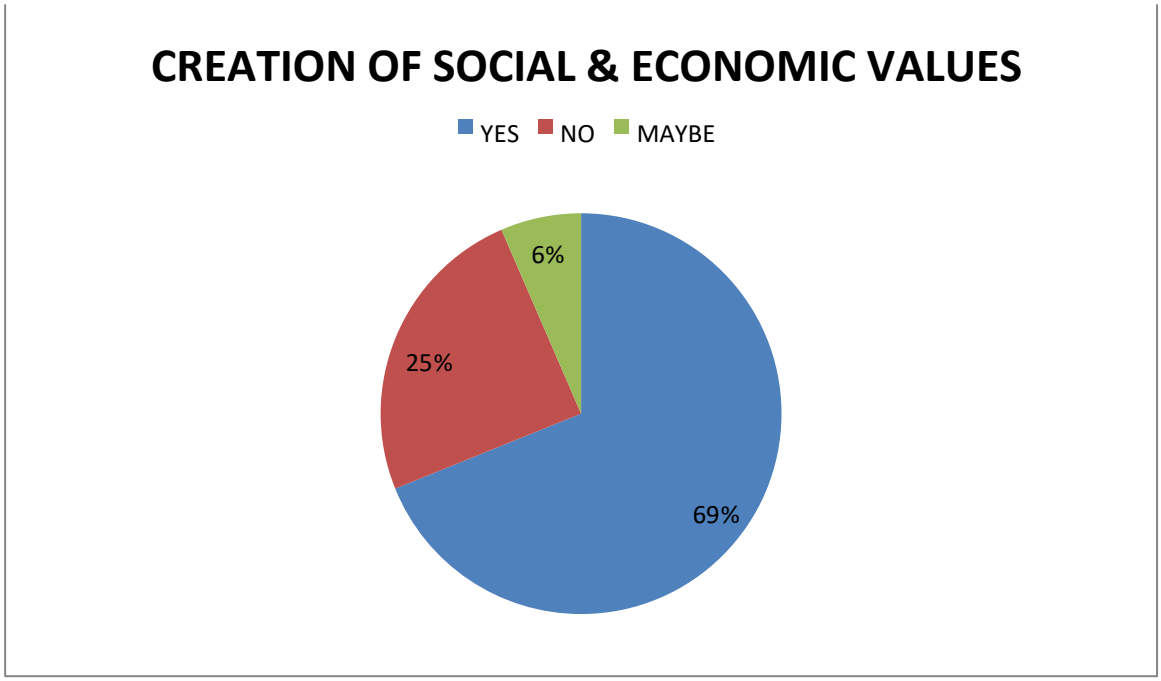


INTERPRETATION:

54% of the respondents believe that green logistics helps to build public image and customer perception about the company. Whereas, 38% respondents are not sure whether it helps in building image. And 8% believe that that it does not help in image building.

GREEN LOGISTICS HELPS IN CREATING SOCIAL AND ECONOMIC VALUE

RESPONSE	PERCENTAGE (%)
YES	68.9%
NO	24.6%
MAYBE	6.5%



INTERPRETATION:

- 69% respondents believe that green logistics create social and economic values.
- 25% respondents believe that it does not create social economic values • 6% are not sure whether it creates or does not create social economic values.

GREEN LOGISTICS ACCORDING TO THE RESPONDENTS

- Sustainable use and consumption with maximum ecological balance.
- Less pollution.
- Maybe a better way of transporting and delivering goods by minimising or eliminating any harm to the environment or ecosystem during the process.
- It is the aim to create a sustainable company value using a balance of economy and environment efficiency.
- The quality and the lifecycle of a product due to which it minimises the damage to the environment.
- A practise to minimise ecological imbalance caused by the logistic activities
- It is an ecological logistics

- Green logistics is the process of minimizing damage to the environment due to the logistics operations of the organizations.
- The management required to move product through the supply chain to the customer in a eco-friendly way at minimum cost
- Green supply chain management and green logistics are the same
- Efforts to minimise impact of logistics activities on ecology
- It's a sustainable way from production to delivery of the product. It has minimal impact to the environment. It's not efficient and maybe expensive to execute.
- Green logistics can reduce ecological impact of logistics activities. It can help in balancing economic efficiency.
- Implementation of logistics in an eco-friendly way
- Balance of ecology
- Green logistics describes all attempts to measure and minimise the ecological impact of logistics activities.

CHAPTER 5: FINDINGS

- It is found that not many individuals are not aware about green logistics and its importance
- Also, there are no major rules and regulations on green logistics which is to be followed by the organisations.
- During the research, I also noticed that premium importance is given only to transportation sector while practising green logistics in our country. Though in the survey, many respondents also believed that packaging and distribution is also important.
- Disposal is yet a concept in Indian green logistics and very few companies follow it.
- People also think that practising green logistics is expensive.
- Green logistics is at introduction stage in India.
- People do not know the difference between logistics and supply chain management.

- Renowned firms are coming and have started practising green logistics as they believe that consumers are now seeking a brand which is environment friendly.

- It is also seen that green logistics create social and economic values in the society.

CHAPTER 6: CONCLUSION

The adoption of green logistics makes it possible to reduce costs and reduce the use of fossil fuels by looking for more efficient modes and using clean energy forms. Green purchases and green logistics working in tune allow the company to gain more competitiveness in the market. The governments concerned with environmental issues create increasingly strict standards to mitigate the negative externalities caused by the organizations. The latter must readjust quickly the new demands, because they are inserted into a dynamic and competitive market environment, where it is necessary to pick up new strategies, and innovate always, so that they can persist over the years. The logistics of supply chain management is a very important part as it is used within the entire production chain both inside of organizations, outside and are a source of emission of carbon dioxide. Focusing on eco-efficiency, we inserted green logistics in the context of green supply chain management. It is important to stress that the contribution portion of the Green logistics throughout the Green supply chain management consists in reducing carbon dioxide emissions by replacing fossil fuel use by less polluting alternative fuels, reducing operational costs through the optimization of processes and improvement of internal communication systems, investment in staff training to the adoption of sustainable practices. Complementing the Green logistics practices, ISO 20400 presents a set of guidelines for sustainable purchasing, which contributes more to the Green supply chain management. In this sense, we observe that the aim of this work was reached, since it was possible to show the contributions of green logistics.

Green logistics is practised at a low rate in India and people are not aware about it. Organisations should also themselves try to educate their employees about green logistics.

CHAPTER 7: SUGGESTION

1. **Bio mimicry**

   The emerging field of bio mimicry (or biomimetic) has given rise to new technologies created from biologically inspired engineering at both the macro

scale and Nano scale levels. Companies need to explore this avenue for better performance and sustainability as well.

2. **Environment**

Friendly product and package Companies should use environmentally-safe product components and finished goods. Usage of biodegradable material for packaging can reduce the harmful effect on the environment.

3. **Adoption of clean technologies**

With the abundance of young engineering talent and low cost of manufacturing products, India is well balanced to create a hub of clean technology products. The open areas of land can be aptly utilized for tapping solar energy. It can also take a lead in investing in LED lighting, electric automobiles and smart grids technology etc.

4. **Green Stakeholders**

It should become a necessary clause that the companies should do an audit of their suppliers and suppliers should do the same to their suppliers. A guideline regarding GSCM should be devised so that all the stakeholders comply with it.

5. **Waste Management**

Waste generated by the companies during operations should be used as an input material in some other operations after treatment. Hazardous wastes which cannot be reused should be disposed of securely. Proper mechanism should be devised so that waste is segregated at the source to avoid contamination of non-hazardous waste with hazardous waste.

6. **Reverse logistics**

Lot of regulations and laws has been designed of late to prevent the companies from disposing waste arbitrarily. Companies are generally concerned only about the quality of the product produced but does not show the same interest in harnessing the post end of the life of the product. Therefore the time has come for the reverse logistics to take shape. The supply chain of the company should now start accepting and accommodating the products being returned for recycling or disposal. Thus there will be a closed ended loop of the supply chain starting from sourcing, making, manufacturing and recycling / disposing of the product.

7. **E-waste**

As India is becoming a leader in the IT sector, e-waste forms an important part of all the IT companies. All obsolete computers, peripherals, batteries, cartridges etc. should be returned to e-waste vendors or to the suppliers who are authorized to dispose them appropriately. Driver not a barrier Companies have to recognize the Green concept as a driver rather than a barrier for innovation. This will enable them to see opportunities and growth areas where others apprehend risks and increased costs.

8. 3 I and 2 C approach → Incorporate

Green Logistics should become a part of corporate strategy and business goal. → In Toto –The implementation and initiative should focus the entire cycle from the start till the finish (designing to recycling) → Intensive – Green Logistics should be intensive and no comprise should be made on behalf of the upcoming opportunities. → Continuous –Creating benchmark and publishing new innovations, ideas and impact of GL initiative. Proliferation of the findings to other divisions of the company. → Computable – Success should be measured in numbers, thus defining a parameter metrics to quantify the success.

9. Education

Green logistics should be introduced in the syllabus of each and every branch of education irrespective of the streams. Because it helps to build and maintain are environment. A better environment means a healthy living.

10. Awareness

Awareness should be created among all individuals about green logistics, its importance and benefits.

8: ANNEXURE

QUESTIONNAIRE

Survey on study of green logistics in India.

1. Age?

- 15-25 ○ 26-35
- 36-above

7. Do you know what exactly Green Logistics means?

- Yes
- No

8. How do you know about it?

- Social media ○ Education ○ Newspaper
- Other

9. Do you think government regulation is a significant influencing factor for adoption of green logistics?

    - Yes
    - No

10. Do you think there is a relationship between cost and adoption of green logistics practises?

    - Yes
    - No

11. According to you, which is the most important sector of green logistics?

    - Transportation ○ Warehousing ○ Distribution and packaging ○ All of above

12. Do you think green logistics helps to gain competitive advantage and differentiation among the competitors?

    - Yes ○ No
    - Maybe

13. According to you, adoption of green logistics is ?

    - Expensive
    - Cheap

14. Does green logistics help to build public image and customer perception about the country?

    - Yes ○ No
    - Maybe

15. Do you think green logistics should be practised by every organisation, irrespective of their sizes?

    - Yes
    - No

16. Do you think green logistics create social and economic values?

    - Yes ○ No
    - Maybe

17. What according to you is Green Logistics?

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PROJECT REPORT ON
STUDY OF CUSTOMER BEHAVIOUR ON E COMMERCE

SUBMITTED BY
KHUSHBU ASHOK SAMPAT

T.Y.B.M.S. SEMESTER - VI
2020-21

PROJECT GUIDE
PROF. CHITRA MORE

SUBMITTED TO
UNIVERSITY OF MUMBAI

VIDYALANKAR SCHOOL OF INFORMATION TECHNOLOGY
(AFFILIATED TO UNIVERSITY OF MUMBAI)
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(Affiliated to Mumbai University)

Certificate

This is to certify that

Ms Khusbhu Ashok Sampat of B.M.S Semester VI has undertaken & completed the project work titled Study on Consumer Behaviour on E-Commerce during the academic year 2020-21 under the guidance of Prof. Chitra More submitted to this college in fulfillment of the curriculum of Bachelor of Management Studies, University of Mumbai.

This is a bonafide project work & the information presented is True & original to the best of our knowledge and belief.

PROJECT GUIDE	COURSE CO-ORDINATOR	EXTERNAL EXAMINER	PRINCIPAL

DECLARATION

Vidyalankar School of Information Technology
(Affiliated to University of Mumbai)
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I Khushbu Ashok Sampat of Vidyalankar School of Information Technology, Semester VI hereby declare that I have completed the project on Study of Customer behavior on E- Commerce in academic year 2020-21.

The information submitted is true and original to the best of my knowledge

Signature of the Student,

Khushbu Ashok Sampat

ACKNOWLEDGMENT

I hereby acknowledge all those who directly or indirectly helped me to draft the project report. It would not have been possible for me to complete the task without their help and guidance

First of all I would like to thank the principal Dr. Rohini Kelkar and the coordinator Prof. Chitra More who gave me the opportunity to do this project work. They also conveyed the important instructions from the university from time to time. Secondly, I am very much obliged of Prof. Chitra More for giving guidance for completing the project.

Last but not the least, I am thankful to the University of Mumbai for offering the project in the syllabus. I must mention my hearty gratitude towards my family, other faculties and friends who supported me to go ahead with the project.

INTRODUCTION TO THE STUDY

Aim of doing the project:

To understand the behaviour of customer on e-commerce and to do the analysis of the same.

Objective of doing the project:

1. To study the advantages and disadvantages of e-commerce.
2. To understand more about digital payments.
3. To make readers aware about the role played by e-commerce in big organisations.

Limitation of doing the project:

1. E-commerce has its benefits and limitations the opportunities are larger then the threats.
2. People still find it difficult and unsecured to make online payments.
3. No touch and feel experience and unresolved legal issues.
4. Perception that e-commerce is expensive.
5. Customer resistance to change from a traditional to virtual store.

Methodology of data collection:

- Previous Research paper
- Blogs
- Websites

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Chapter 1 – Introduction to E-Commerce

Defined As - “Electronic commerce, commonly written as E-Commerce, is the trading in products or services using computer networks, Such as the Internet. Electronic commerce draws on technologies such as mobile commerce, electronic funds transfer, supply chain management, Internet marketing, online transaction processing, electronic data interchange (EDI), inventory management systems, and automated data collection systems.

Modern electronic commerce typically uses the World Wide Web for at least one part of the transaction’s life cycle, although it may also use other technologies such as E-Mail.”

E-commerce has a significant impact on business costs and productivity. E-Commerce has a chance to be widely adopted due to its simple applications. Thus it has a large economic impact.

Electronic Commerce provides the capability of buying and selling products and information on the internet and other on-line service. Electronic commerce or e- commerce refers to a wide range of online business activities for products and services. Electronic commerce is transforming the marketplace by changing firms’ business models, by shaping relations among market actors, and by contributing to changes in market structure.

It is difficult to single out the impact of electronic commerce. Some businesses addresses three themes associated with electronic commerce and the organizational changes it entails: changes in business models, changes in market structure and opportunities for economic growth created by organizational change.

Electronic commerce creates the possibility of new models for organizing production and transacting business, by offering inters modality and complementarily–not only substitution – in business models.

E-commerce is buying and selling goods and services over the Internet .E-commerce is part of e-business. E- business is a structure that includes not only those transactions that center on buying and selling goods and services to generate revenue, but also those transactions that support revenue generation. These activities include generating demand for goods and services, offering sales support and customer service, or facilitating communications between business partners. By the help of the flexibility offered by computer networks and the availability of the Internet, E-commerce develops on traditional commerce. E-commerce creates new opportunities for performing profitable activities online. It promotes easier cooperation between different groups: businesses sharing information to improve customer relations; companies working together to design and build new products /services; or multinational company sharing information for a major marketing campaign E-Commerce plays an important role in the economic growth and development of nation. It is a purposeful activity includes in planning, controlling, promotion and also

distribution of various goods and services. It also pertains to any form of business transaction in which the parties interact electronically rather than by physical exchanges or direct physical contact.

E-commerce is usually associated with buying and selling over the Internet or conducting any transaction in evolving the transfer of owners hippo rights to use goods or services through a computer-mediated network.

Though popular, this definitions not comprehensive enough to capture recent developments in this new and revolutionary business phenomenon. A more complete definition is: E-commerce is the use of electronic communications and digital information processing technology in business transactions to create, transform, and redefine relationships for value creation between or among organizations, and between organizations and individuals.

While some use ecommerce and e-business interchangeably, they are distinct concepts .In-commerce, information and communications technology(ICT) is used in inter-business or inter-organizational transactions (transactions between among business organizations) and in business-to-consumer transactions (transactions between business organizations and also individuals).

E-commerce is a way of conducting business over the Internet. Though it is a relatively new concept, it has the potential to alter the traditional form of economic activities.

Already it affects such large sectors as communications, service, finance, retail trade And holds promises in areas such as education,heath,tansport and government. The largest effects may be associated not with many of the impacts that command the most attention but with less visible, but potentially more effects on routine business activities.

E-commerce presents opportunities to accelerate business processes, reduce costs, reach new customers and develop new business models and markets in the business organization. The general agreement is that electronic markets and digitalization of products will impact material flows.

A clear identification of the extent and direction of effects, however, has not yet been achieved, and the issue remains controversial. Increased resource productivity is discussed as one of the major potential ecological advantages of e-commerce. Potential exists, above all, in the fields of demand and supply chain management and mass customization. 6Potentials to increase resource productivity appear in outline particularly in the business-to-business(B2B) field, where there may be, for instance, reduction in quantities procured or stored, surplus production, and error rates between supplier and manufacturer.

According to the editor-in-chief of International Journal of Electronic Commerce,

Vladimir Swiss, ‘Electronic commerce is sharing business information, maintaining

business relationships and conducting business transactions by means of tele communications networks'

With the advent of the Internet, the term e-commerce began to include:

1.Electronic trading of physical goods and of intangibles such as information.

2. All the steps involved in trade, such a son – line marketing, ordering payment and support for delivery.

3. The electronic provision of services such as after sales support or on-line legal advice.

4. Electronic support for collaboration between companies such as collaborative on-line design and engineering or virtual business consultancy teams.

THE TERM – "E-BUSINESS"

As with e-commerce, e-business (electronic business) also has a number of different definitions and is used in a number of different contexts. One of the first to use the term was IBM, in October 1997, when it launched a campaign built around e- business. Today, major corporations are rethinking their businesses in terms of the Internet and its new culture and capabilities and this is what some see as E-business. E-business is the conduct of business on the Internet, not only buying and selling but also servicing customers and collaborating with business partners'-business includes customer service (e-service) and intra-business tasks.

AN E-DISTINCTION

For the purpose of clarity ,the distinction between e-commerce and e-business in this book is based on the respective terms commerce and business. Commerce is defined as embracing the concept of trade

,'exchange of merchandise on alarge scale between different countries'.11 By association, e-commerce can be seen to include the electronic medium. for this exchange. Thus electronic commerce can be broadly defined as the exchange of merchandise (whether tangible or intangible) on a large scale between different countries using an electronic medium – namely the Internet.

The implications of this are that e-commerce incorporates a whole socio economic, telecommunications technology and commercial infrastructure at the macro- environment al level. All these elements interact together provide the fundamentals of e- commerce.

Business, on the other hand, is defined as 'a commercial enterprise as a going concern'.

E-business can broadly be defined as the processes or areas involved in the running and operation of an organization that are electronic or digital in nature. These include direct business activities such as marketing, sales and human resource management but also indirect activities such as business process re-engineering and change management, which impact on the improvement in efficiency and integration of business processes and activities.

The terms e-business and e-commerce are often used interchangeably. When

electronic medium is used in all the day-to-day activities, then it may be termed as e-business. When a commercial transaction takes place over electronic network, then it is termed as-commerce.

E-business is a very broad concept that involves a business organization to use electronic medium to carry out all specialized or overall business activities. In e- business, information and computing technologies are used to enhance one's business. It includes any process that abusiness organization conducts over electronic and computer enabled network.

E-business deals with recruiting, training employees and sharing any internal Information oenhance business process. In e- commerce, information and computing

Technologies are used in interbusiness and intra- business transactions and inbusiness to c

Figure 1.1 illustrates the major differences in e-commerce and e- business, where e- commerce has a broader definition referring more to the macro-environment, e- business relates more to the micro-level of the firm.

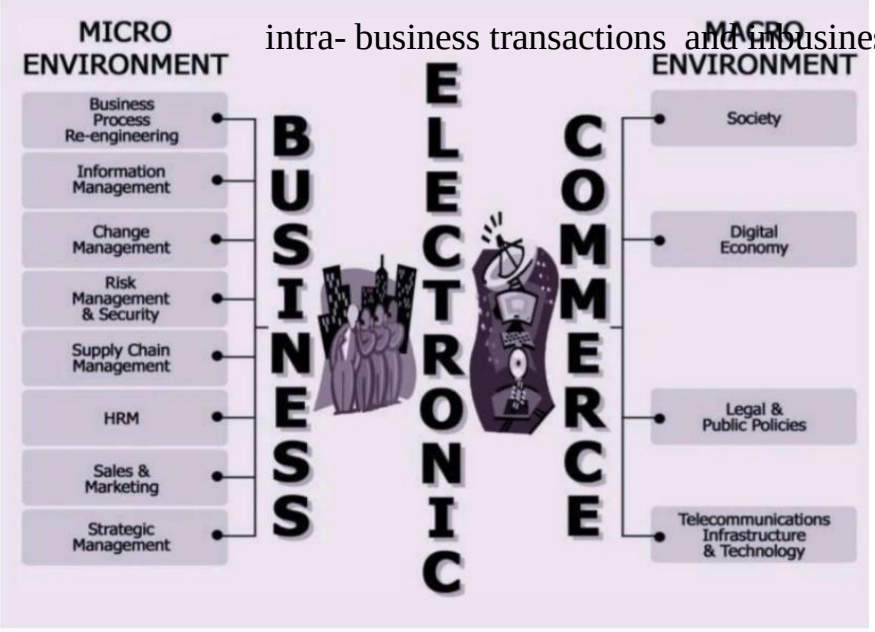


Fig 1.1

COMPARING TRADITIONAL COMMERCE & E-COMMERCE

In e-commerce there may be no physical store, and in most cases the buyer and seller do not see each other. The Web and telecommunications technologies play a major role, in e-commerce. Although the goals and objectives of both e-

commerce and traditional commerce are the same—selling products and services to generate profits—they do it quite differently.

Traditional commerce presents product information by using magazines, flyers. On the other hand, e- commerce presents by using web sites and online catalogs. Traditional commerce communicates by regular mail, phone yet e-commerce by e- mail. Traditional commerce checks product availability by phone, fax and letter.

However, e-commerce checks by e-mail, web sites, and internal networks. Traditional commerce generates orders and invoices by printed forms but e-commerce by e-mail, and web sites. Traditional commerce gets product acknowledgments by phone and fax. On the other hand, e-commerce gets bye-mail, web sites, and EDI.

The Internet has changed the nature and structure of competition. In the past, most businesses had to compete within a single industry (such as groceries) and often within a specific geographic area, but the Internet is blurring those boundaries. An example is Amazon.com. The company began as an online bookstore but quickly expanded into new products and markets such as music, videos, home improvement supplies, shops (used music, books, etc.), and even

the auction business. Through the Internet, customers can purchase products from virtually anywhere in the world. Most consumers do not seem to realize their credit card numbers are vulnerable every time they hand their cards to waiters ,place orders by phone, or to scout receipts. The encryption of card numbers for online transactions protects both the consumer and the business from credit card fraud.

Finally, the Internet is revolutionizing competition in the area of pricing. At any point, a business may choose to simply give away a service, free of charge, that others sell. One example was when Microsoft began to include a "free browser" with Windows software. Such businesses generate income through other means, such as by selling ads or products and services related to the give-away item. Such strategies can help business attract customers. In addition, when "products" do not require manufacturing and packaging, as is the case with software downloaded via the Internet by a user, the reduction in business costs can be passed on to customers.

COMMERCE & VALUECHAIN

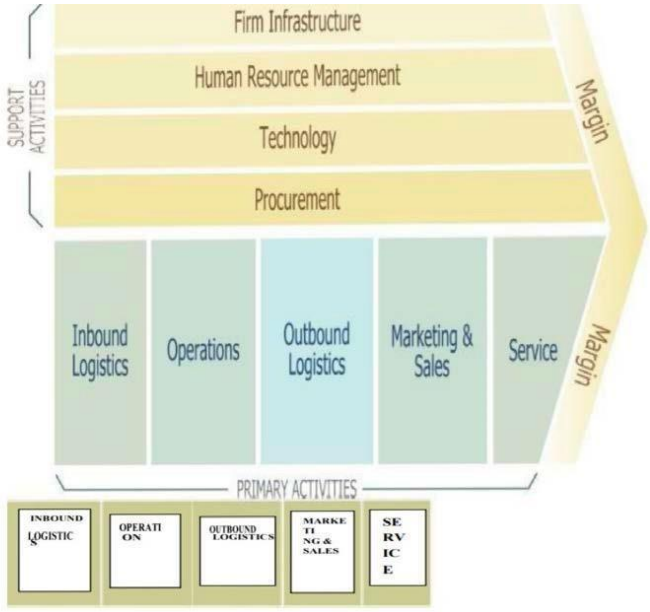
Typical business organizations (or parts within a business organization) design, produce ,market, deliver and support its product(s)/service(s). Each of these activities adds cost and value to the product/service that is eventually distributed to the customer. The value-chain consists of a series of activities designed to satisfy a business need by adding value (or cost) in each phase of the process. In addition to these primary activities that result in a final product/service, supporting activities in this process also should be included:

- Managing company infrastructure

- Managing human resources
- Obtaining various inputs for each primary activity
- Developing technology to keep the business competitive

The value chain, also known as value chain analysis, is a concept from business management that was first described and popularized by Michael Porter. A value chain is a chain of activities for a firm operating in a specific industry. The business unit is the appropriate level for construction of a value chain, not the divisional level or corporate level.

PORTER'S VALUE CHAIN MODEL



Porter distinguishes between primary activities and support activities. Primary activities are directly concerned with the creation or delivery of a product or service. They can be grouped into five main areas : Inbound logistics, operations, outbound logistics, marketing and sales, and service. Each of these primary activities is linked to support activities, which help to improve their effectiveness or efficiency.

There are four main areas of support activities: Procurement, technology development (including R & D), human resource management, and infrastructure (systems for planning, finance, quality, information management etc.). The chain consists of a series of activities that create and build value.

The goal of these activities is to create value that exceeds the cost of providing The product or service, thus generating a profit margin.

Inbound logistics

Include the receiving, warehousing, and inventory control of input materials.

Operations

Are the value-creating activities that transform the inputs into the final product.

Outbound logistics

Are the activities required to get the finished product to the customer, including warehousing, order fulfillment, etc.

Marketing & Sales

Are those activities associated with getting buyers to purchase the product, including channel selection, advertising, pricing, etc.

Service

Activities are those that maintain and enhance the product's value including customer support, repair services, etc.

Any or all of these primary activities may be vital in developing a competitive advantage. For example, logistics activities are critical for a provider of distribution services, and service activities may be the key focus for a firm offering on-site maintenance contracts for office equipment. These five categories are generic and portrayed her e in a general manner. Each generic activity includes specific activities that vary by industry.

Support Activities

The primary value chain activities described above are facilitated by support

activities. Porter identified four generic categories of support activities, the details of which are industry-specific.

Procurement

The function of purchasing the raw materials and other inputs used in the value creating activities.

Technology Development

Includes research and development , process automation, and other technology development used to support the value-chain activities.

Human Resource Management

The activities as associated with recruiting, development, and compensation of employees.

Firm Infrastructure

Includes activities such as finance, legal, quality management, etc. Support activities often are viewed as "overhead", but some firms successfully have used them to develop a competitive advantage, for

example, to develop a cost advantage through innovative management of information system. The Internet can increase the speed and accuracy of communications between suppliers, distributors, and customers.

Furthermore, the Internet's low cost allows companies of any size to be able to take advantage of value-chain integration.

E-commerce may improve value chain by identifying new opportunities for cost reduction.

E-COMMERCE WITH THE “5-C MODEL”

It defines E-Commerce by five activity domains whose denominations start with the letter “C”:

COMMERCE

In the electronic marketplaces there is a matching of customers and suppliers, an establishing of the transaction terms, and the facilitation of exchange transactions. With the broad move to the Web-enabled enterprise systems with relatively uniform capabilities as compared to the legacy systems, a universal supply-chain linkage has been created.

Social e-commerce platforms are definitely increasing. Integration of payment features on social media platforms minimizes hurdles to buy, and creates more impulsive purchases. A few mobile payment solutions have already launched in the past few months and more are coming soon. Shopping via social media will be just a click away.

COLLABORATION

Web is a vast nexus, or network, of relationships among firms and individuals.

MoreorlessformalcollaborationsarecreatedoremergeontheWebtobringtoget her individuals engaged in knowledge work in a manner that limits the constraints of space, time, national boundaries, and organizational affiliation.

COMMUNICATION

As an interactive medium, the Web has given rise to a multiplicity of media products. Its universal medium has become a forum for self- expression (as in blogs) and self- presentation (as, for an example, in Polypore: www.polyvore.com).

Rapidly growing M-Commerce (see below) enables connectivity in context, with location-sensitive products and advertising.

In the communications domain, the Web also serves as a distribution channel for digital products.

Social media platforms constantly bring about new functionalities for boosting Intimacy with fans.

CONNECTION

Common software development platforms, many of them in the open-source domain, enable a wide spectrum of firms to avail themselves of the benefits of the already developed software, which is, moreover, compatible with that of their trading and collaborating partners.

Internet, as a network of networks that is easy to join and out of which it is relatively easy to carve out virtual private networks, is the universal telecommunications network, now widely expanding in the mobile domain.

COMPUTATION

Internet infrastructure enables large-scale sharing of computational and storage resources, thus leading to the implementation of the decades-old idea of utility computing.

An area which is hugely benefitting from cloud computing is e-commerce. There are myriad of advantages e-commerce is drawing from cloud computing today. Cloud computing in e-commerce enables the business to look big virtually and operate extensively.

The facility of paying per use enables to consume the services according to your requirement.

As the business grows you don't need to invest in hardware or software infrastructure. With cloud computing, the costs of developing and maintaining IT infrastructure cuts down.

BUSINESS MODELS RELATED TO E-COMMERCE INTERNET BASED BUSINESS

Access provider

The access provider ensures(technical) access to the Internet. We should have in mind, that somebody has to pay the access provider so that we can get access to the Internet. Who pays? We or somebody else? In many (most?) areas of the world it is a totally privatized business, though sometimes in the political arena the access to the Internet is declared as a modern human right. Obviously, there is a similarity to telephone network(s). However, it (normally) works in this privatized form.

Traditional business models, which are somehow similar to the business of an access provider, are operators of a technical infrastructure, e.g. telephone networks, car highways, or railways.

Search engine

Search engines are the most used software in the Internet. They are the

starting step for many Internet-based activities, not only but, of course, also if somebody is looking for a business opportunity. Again, we must ask: Who pays? The one, who wants to find something or someone? Or the one, who wants to be found? A traditional and similar business model is given by the so-called “yellow pages”, where firms are listed and grouped according to branches and locations. Online shop

An online shop is a website, where you can buy products or services, e.g. books or office supplies.

Traditional and similar business models are direct mail selling (no shop facility, offering of goods via a printed catalogue, ordering by letters or telephone calls) and factory outlets (producer has own shop facility, does not sell his products via merchants).

Content provider

Content providers offer content, a completely digital good, e.g. information, news, documents, music. A specific variant of a content provider is the information broker, who is a trader of information.

Again, the following question has to be put: Who pays? the one, who wants to have access to an information? the one, who wants to provide an information?

Portal

A portal is a website, which provides a set of services to the user so that he/she sometimes thinks that he/she is using a single but very complex software system. Portals are often used in big organizations to control the access of employees to the different ICT systems; each employee gets a specific menu of “his”/ “her” applications. Also, content providers use portals, though in the narrow sense that they only deliver content and no application systems.

Online marketplace/electronic mall

An online market place is a website, where suppliers and potential customers can come together like on area l market place in a small town. An E-Mall is a set of online shops, which can be found on one website.

Examples of traditional and similar business models are shopping centers, omnibus orders (One person is customer of the shop and buys for a group of people), marketplaces and buying associations.

Virtual community

A virtual community is a platform for communication and exchange of experience. It is similar to a virtual club or association. We always should ask: Who is the owner? Who is the person or organization behind the platform? Who pays ? the members or the visitors? the community operator?

Information broker

An information broker collects, aggregates and provides information, e.g.

.information with respect to products, prices, availabilities or market data, economic data & technical information.

Here we have to ask: Can we trust the information? Is it neutral or just a product placement? Who pays? the visitor? Some providers? Financed through advertisements?

Traditional and similar business models are magazines running tests of computers, cars, consumer goods, restaurants. Transaction broker

A transaction broker is a person or an organization to execute sales transactions.

Sometimes those brokers are used to hide the real customer to the supplier. A transaction broker is an agent who is an expert in a specific area and can take over parts of a business.

Online service provider/cloud service provider (CSP)

An online service provider provides services, which can be run electronically, e.g. application software services or ICT infrastructure services like storage or backup services. If this organization uses so-called cloud technologies it is called a cloud service provider (ten Hamper et al 2015; Marks & Lozano2010).

The questions, which we have to put, are: Who pays? The service user? If not, who is the customer?

This list describes a great variety of Internet-based business models. However, it will not be a complete compilation because with new and innovative technologies new business ideas will come up and lead to new and

additional offerings.

BUSINESS NET TYPES

A more abstract categorization of digital businesses has been given by Tapscott(Meier & Stormier 2008, pp. 34–46). He discussed the following business net types:

Business Web Agora

Objective: To run a marketplace for goods and values.

Attributes: Market information available, negotiation processes established, dynamic pricing through negotiations between market participants.

Role of the customer: Market participant.

Benefits: Negotiable products and services. Examples: eBay, auctions. Yahoo.

Business Web Aggregator

Objective: To run a digital super market.

Attributes: Presentation of a great variety of products, fixed prices and no negotiation between supplier and customer, simple fulfillment from the customer's point of view.

Role of the customer: Customer.

Benefits: Convenient selection and fulfillment from the customer's point of view. Examples: trade, Amazon.

Business Web Integrator

Objective: To establish an optimized value creation chain.

Attributes: Systematic supplier selection, process optimization for the total value chain, product integration along the value chain.

Role of the customer: Value driver.

Benefits: Creation and delivery of customer-specific products. Examples: Cisco, Dell.

Business Web Alliance

Objective: To establish a self-org2a7 nixing value creation space. Attributes: Innovation in products and processes, trust building between different actors, abstinence of hierarchical supervision.

Role of the customer: Contributor.

Benefits: Creative and collaborative solutions. Examples: Linux, music. Download.

Business Web distributor

Objective: Exchange of information, goods and services. Attributes: Net optimization, unlimited usage, logistics processes. Role of the customer: Recipient.

Benefits: In-time delivery. Examples: UPS, AT & T, Telekom.

WEB 2.0

Web 2.0 (Chen & Virgo 2014) describes World Wide Web sites that emphasize user- generated content, usability, and interoperability.

Although Web 2.0 suggests a new version of the

World Wide Web, it does not refer to an update of any technical specification, but rather to cumulative changes in the way Web pages are made and used.

Characteristic application types of Web 2.0 are : Blogs:

A blog (a truncation of the expression weblog) is a discussion or

informational site published on the World Wide Web and consisting of discrete entries("posts")typically displayed in reverse chronological order (the most recent post appears first).

We normally see "multi-author blogs" (MABs) with posts written by large numbers of authors and professionally edited. MABs from newspapers, other media outlets, universities, think tanks, advocacy groups and similar institutions account for an increasing quantity of blog traffic. The rise of Twitter and other "micro-blogging" systems helps integrate MABs and single-author blogs into societal news streams.

Social networking services:

A social networking service(also social networking site or SNS)is a platform to build social networks or social relations among people who share similar interests, activities, backgrounds or real-life connections. A SNS consists of are presentation of each user (often a profile), his or her social links, and a variety of additional services such as career services. SNS's are Web- based services that allow individuals to create a public profile, create a list of users with whom to share connections, and view and cross the connections within the system.

Most SNS's provide means for users to interact over the Internet, such as E-Mail and instant messaging. SNS's incorporate new information and communication tools such as mobile connectivity, photo/video/sharing and blogging.

Online communities:

An online community is a virtual community whose members interact with

each other primarily via the Internet. Those who wish to be a part of an online community usually have to become a member via a specific site and necessarily need an Internet connection. An online community can act as an information system where members can post, comment on discussions, give advice or collaborate. Commonly, people communicate through SNS's, chat rooms, forums-Mail lists and discussion boards. People may also join online communities through video games, blogs and virtual Worlds.

Content aggregators :

An aggregator is a website or computer software that aggregates a specific type of information from multiple online sources.

If business wants to benefit from Web 2.0 then it has to proceed in a specific way which in many aspects differs from the traditional Web based business. The differences and conformities between the Web 1.0 ("old") and the Web 2.0 world ("new") are listed in table below.

Area	Old web (1.0)	New web (2.0)
Business philosophy	IT enabled relationship marketing	IT enabled relationship marketing
Technology base	Web 1.0 technology (static pages, file system, communicate on via E-Mail separated from website)	Web 2.0 technology/ Social technology (user-generated content, usability, interoperability)
Digital part of business processes	Transaction based: one-to-one interaction	interaction based: dynamic, many-to-many interaction

Interaction place	Defined channels: E-Mail, phone calls, websites, stores, etc.	Dynamic customer-driven touch- points realized in social media.
Segmentation of users and Participants.	Traditional demographics.	Dynamic, flexible and temporary segmentation if at all.
Data analysis	Subject-oriented analysis	Network analysis.
Customer loyalty	Static, repeated patronage.	Dynamic, e WoM (electronic Word of Mouth), advocacy.

Some of the major players in the e-commerce industry ,such as Amazon, Ali baba, and eBay, are well known by the public and own a large

proportion of the market share. These companies sell products of various brands, while other companies, such as Calando and ASOS, also offer products of their own brands. Driving Forces Behind the E-commerce Evolution

The evolution of e-commerce since the turn of the century has dramatically impacted the daily lives of consumers and altered the standard operating structure of many businesses. This evolution is mainly driven by forces in four categories: Demographics

In developing countries such as China, urbanization has taken place in many areas, with people demanding better living conditions and driving higher consumer spending. Another major marketplace trend is that of millennial becoming more dependent on mobile devices and the Internet to fulfill their

entertainment and shopping needs.

Consumption

Changing consumption habits are a huge factor in the rise of e-commerce. People put an increasingly high value on convenience, customization/personalization, and simplification in their online shopping experience. They discover new products, sources of information, and different ways to access products and services to make their lives easier. One trend is increasingly efficient delivery services, such as Amazon offering two- day free delivery of orders, including weekend deliveries(offered with its Prime membership) – a service that has recently been copied by Wal-Mart.

Structural Shifts

There are structural shifts in the e-commerce industry as a result of changing consumptionhabits.Moreandmorecompaniesarefocusingonpromotingandse lling products or services directly to their target consumers on e-commerce platforms, through carefully tailored individual marketing programs. Many consolidations have taken place among businesses in order to achieve economies of scale.

Technology

Portable devices such as mobile phones and tablets have become more widely used by consumers – both individuals and business consumers – to perform various functions such as browsing and interacting on social media platforms and searching for new Information. Technologies such as advanced customer analytics help e- commerce companies improve their business operations and better understand consumer behavior and preferences.

Key Terms in E-commerce

Site traffic: The number of visitors to a site

Conversion rate: The percentage of customers who place an order relative to the total number of site traffic

Bounce rate: The percentage of visitors who enter the site, but then leave("bounce") rather than going on to view other pages

Order: A single checkout transaction, which may consist of multiple items

Churn: The annual percentage of customers who stop shopping at the site

Organic search: Traffic from search engines that is not paid for Paid search: Traffic from search engines that is paid for Affiliates: Paid traffic from other sites.

Key valuation metrics :

Below is a list of customer and financial metrics that e-commerce businesses use frequently in their financial models and valuation.

Customer Metrics:

Active customers: Number of customers who have ordered in the last 12 months

Churn: Percentage of customers who are no longer active at the end of 12 months

E-Commerce involves the use of Information and Communication Technology (ICT) and Electronic Funds Transfer (EFT) in making commerce between consumers and organizations, organization and organization or consumer and consumer. With the growing use of internet worldwide, Electronic Data Interchange (EDI) has also increased in humungous amounts

and so has flourished e-commerce with the prolific virtual internet bazaar inside the digital world which is righty termed as e- malls. We now have access to almost every knick-knack of our daily lives at competitive prices on the internet. No matter one is educated or illiterate, an urbane or a country man ,in India or in U.K ;all you need is an nternet connection and a green bank account. With e-commerce then, you can buy almost anything you wish for without actually touching the product physically and in quirking the sales man number of times before placing the final order. Here is a beautiful picture depicting how has human life evolved to adapt to the digital world and hence trading over the internet. As seen, from pizza and potted plant to pair of shoes, we have everything on sale on the internet available in tempting offers..!!

Snapdeal.com, Amazon, eBay, Naaptol, Myntra, etc are some of the most popular e-commerce websites.

CHAPTER 2 – RESEARCH METHODOLOGY

Electronic commerce over the Internet is a new and fast-growing way of conducting business. Though only a few years old, it is rapidly developing into a major economic activity, and links up several companies with the global market in a way that geographical boundaries and location no longer pose hindrances to business transactions.

The potential of this fast-growing form of transaction has become the focus of many governments, national statistical agencies, and international organizations and, in particular, business people who need to make well-informed decisions for their policies and investments on Electronic Commerce.

In fact, Electronic Commerce is not something new but has existed for decades. Earlier forms of Electronic Commerce have been conducted through closed networks, e.g. internal networks (intranet), exclusive networks for use between a company and its business partners (extranets), mainly in the form of electronic data interchange (EDI) and electronic fund transfer (EFT) as well as private procurement networks.

These networks allow for a high degree of security and reliability of business-to- business transactions. However, the high costs of development and maintenance of such networks have put them out of reach to many firms, in particular, small and medium- sized enterprises (SMEs).

With the rapid developments in Internet, recent attention has been focused on Electronic Commerce conducted over the internet, and in particular, the extent of adoption of Electronic Commerce by SMEs and new companies made possible by the internet. This has given rise to the need for various

measurement and methodological research issues.

The more need for research can be seen from the history of evolution of e-commerce as we seen that different stages have shown its importance that it took only four years to reach fifty million users.

Further the three pillars of Electronic Commerce i.e., Electronic Information, Electronic Relationship, Electronic Transactions where research can be done. Apart from this there are other benefits like lowering purchasing cost, Reduced inventory, lower cycle times, customer service, new sales opportunities, marketing costs, marketing communication, supplier and customer benefits, the reare barriers like access to use and infrastructure, network convergence, local loop, security, certification, protection of privacy and personal data, consumer protection, taxation, paying electronically, there are different views and trust which can be customer-orientedview,organisationalorientedview,therearedifferentapplicationmodel sand types of Electronic Commerce which help organizations in so many ways that needs research.

The three broad areas for indicators are: E-commerce Readiness

Included here are issues of preparing the technical, commercial and social infrastructures that are necessary to support e-commerce. It is essential for each country to be able to construct a statistical picture of the state of readiness of each infrastructure element to engage with e-commerce.

E-commerce Intensity

These issues relate to the state of e-commerce usage, volume, value and nature of the transactions. The statistical requirement is to profile who is exploiting e-commerce possibilities and who is not, and to identify leading sectors and applications.

E- commerce Impact

These issues relate to additionality (i.e. e-commerce goes beyond substitution effects and creates new value added) and multiplier effects. Statistics are needed to evaluate whether and to what extent e-commerce makes some kind of difference in terms of efficiency and/or the creation of new sources of wealth.

Statement of The Research Problem

Introduction of Internet and World Wide Web has bought new methods for carrying out business transactions. Electronic commerce is powerful application of World Wide Web. All the computers are connected to each other by World Wide Web. In today's electronically connected world, growing and life is Package in which are very rapidly moving and the transmission of packets is the same as sending and receiving data from audio and video files to buying and selling goods. Electronic commerce refers to the process of buying, selling, transferring or exchanging products, services or information via computer networks including the Internet.

Electronic commerce can also be defined from this perspective

- Communication: In terms of communications, electronic commerce is the means to deliver the goods, services, information or payments over computer networks or any other computer device.
- Business: The business perspective, electronic commerce offers to buy and sell products, services and information on the Internet and through other online services.
- Service: a service perspective, EC is a tool that has been in operation for the purposes of governments, institutions, consumers and managers, Reduce service costs and at the same time, increased quality and customer service and helps accelerate the delivery time.
- Education: The educational perspective and e-commerce may be made

online learning helps to teach in schools, universities and other organizations including commercial entities.

• Participation: Participation of view is an electronic commerce frame work for cooperation with in the organization and among different organizations.

• According to the Commission Europe 1997: E-commerce is based on processing and transmitting electronic data including text, audio and video. Electronic commerce encompasses a variety of activities such as electronic funds transactions, electronic stock exchange, an electronic bill of lading, commercial projects, government purchases, direct marketing and after sales service.

If the Reconsider it as phenomenon of the identified components .miller knows the components of ecommerce in three parts:

1. Organization is responsible for supporting to produce goods and services and provide the necessary financial resources.
2. Bank: Bank supports the process and pay the deposit and Will facilitate the electronic payment systems.
3. Marketing: Marketing, collect information about markets and customers and to record the purchase and sale contracts.

Conceptual Background of the Research Study

Today's world is a world of IT, BT and Beauty. In the age of Globalization, tremendous progress in science and technology has brought changes in to the world of trade, commerce, banking & marketing. Electronic commerce expands the marketplace to national and international markets.

It decreases the cost of creating processing, distributing and retrieving paper-based information.

The Importance of E-Commerce is very wide because it reduces the transaction cost.

Reduced transaction cost leads to consumer empowerment.

In short E-Commerce is bringing about a very big change in commerce and marketing. E- Commerce is the process of buying and selling or exchanging of product, services and information via computer networks including the internet. It is the application of technology toward the automation of business transaction and work flow. It is the delivery of information; Products, Services, or payments over telephone lines, computer network, or any other electronic means. It is a tool that addresses that desire of firms, consumers and management to cut service costs while improving the speed of service delivery.

Electronic commerce (e-commerce) remains a relatively new, emerging and constantly changing area of business management and information technology. There has been and continues to be much publicity and discussion about-commerce. For the purpose of clarity, the distinction between e-commerce and e-business in this research paper is based on respective terms commerce and business. Commerce is defined as embracing the concept of trade, 'exchange of merchandise on a large scale between country.

Research Methodology :

For the said present research study is based on the secondary data. Such secondary data is collected from various reference books on E-Commerce, E-Business, Marketing Management, Marketing Research, Mobile Commerce,

Internet Marketing, Electronic Advertising, Economics, Commerce, Management, Banking etc.

For the said research study the secondary data is also collected from the various National and International Research Books and Journals which are related to E- Commerce ,Internet, Commerce, Banking, Management and Information Technology.

The present research study the data pertaining to the following objectives was collected by the review of the literature on the subject concerned. The literature was thus collected by visiting various concerned websites.

Objectives of the Research Study

Many E-Commerce business activities present different objectives. These may be specific and immediately measurable objectives as well as more general and complex.

The most commonly cited objectives of the impact of electronic commerce on business are:

To study the theoretical concept of E-Commerce. To study the E-Commerce Models of Business.

To study the impact of E-Commerce on Business.

To study the benefits of E-Commerce to Organizations, Consumers and Society.

To study the barriers to E-Commerce.

To study the lower penetration of E-Commerce

To study various forms of E-Commerce and related quality issues.

Hypothesis of the Research Study Electronic Commerce (EC) Is where business transactions take place via telecommunications networks, especially

the Internet. Electronic commerce describes the buying and selling of products, services and information via computer networks including the Internet.

It is defined as the conduct of a financial transaction by electronic means. The present said research study was carried out with following hypothesis in view:

Hypothesis 1

E-Commerce reduces the time between the outlay of capital and the receipt of products and services.

Hypothesis 2

The use of internet for business marketing the goods and services are increasing day by day.

Hypothesis 3

The impact of E -Commerce is positively affecting on business marketing.

Hypothesis 4

E-commerce enhances the processes of marketing & sales and speeds up the processes of the industry.

Manual & paper-based systems are replaced with e-commerce systems for purpose of cost benefits.

Significance of Research Study on E-commerce

E-commerce or Electronic commerce is the buzzword of the modern day. In simple terms, it's just buying and selling of product and services through internet. But in a broad sense, it includes the entire online process of developing, marketing, selling, delivering, servicing and paying for products and services. With the widespread usage of internet, the sphere of ecommerce

has widened dramatically.

Today Ecommerce is an integral part of business because of various reasons like:

Ease of use

Accessibility all across the globe

Great variety & easy compassion of products from different vendors Trusted payment channels

Shopping can be done sitting in the convenience of home shopping, hence it is less time consuming.

So, whether you have an existing business or launching a brand new business, whether the volume of your business is large or small, you can always generate profit bydemonstrating your products or services online, thereby acquiring a large amount of viewer exposure. In concise, buying and selling will result in profits and returns.

There are so many factors which makes e-commerce to come to the fore front in today's world. Saving precious time involved in business transactions is really a prominent factor.

Like for instance, net banking makes it easy to carry out money and baking transactions in a break neck speed as compared to the real banking scenario. This asserts the fact that Ecommerce is beneficial to both business and consumer wise as payment and documentations can be completed with greater efficiency and reliability.

Another important factor determining the flow of whole business is connectivity. Connectivity is very important for both consumers and business

.Ecommerce provides better connectivity for all the potential candidates all over the globe, thus helping in enhancing the business without any

geographical barriers. From the view point of the customer, Ecommerce is a good platform for hassle free shopping by sitting in your home. The customer can browse through all the products and services available and can review and compare the prices of the similar products available in the online space.

In global market scenario, the emergence of Ecommerce as a forerunner has opened up various windows of opportunities for a variety of online companies and investors. More and more resources are being directed into electronic securities, internet facilities, business plans and new technologies due to the boom in the space of E- commerce.

As a result, various new markets have emerged from Ecommerce itself giving boost to the global market.

Limitation on Research Study of E-Commerce

E-commerce has its benefits and limitations. But the limitations are much smaller than the benefits. The opportunities are larger than the threats. This makes it worth giving a try and worth taking a risk to invest. The limitations can be divided into two broader groups' namely technological and non technological limitations. Technological Limitations.

The technological limitations of e-commerce are discussed below.

First of all other than having business management skills; e-commerce calls for advanced knowledge and high level of technical skills to understand the mechanism and to operate profitably. Since, the business has virtual presence; coordinating and channelizing things, it requires continuous monitoring and human intervention from time to time.

Insufficient infrastructure to enrich e-commerce penetration to bottom of the

society: The ICT infrastructure of India is still very poor. Though computer literacy, internet penetration and use are increasing over the years but still it is concentrated around a few cities.

Insufficient bandwidth, inconsistent power supply and lack of infrastructure are the major concerns for ecommerce to succeed in a country like India.

Difficulties in integrating the internet and Ecommerce applications with some of the existing applications and databases. It also calls for special web servers in addition to the network servers. The availability specific hardware and software is also limited to few places.

Increasing threats from hackers and online stalkers. Increasing virus attacks and increasing concerns for privacy, secrecy and identity theft. It is also not very secure to share bank account or credit card details online.

Non-technological Limitations

The non-technological limitations of e-commerce are discussed below. Perception that e-commerce is expensive and unsecured.

No touch and feel experience.

Customer resistance to change from a traditional to a virtual store. People do not yet sufficiently trust paperless and faceless transactions. Many sellers and buyers are adopting a wait and watch policy till the e-

commerce industry stabilizes before they take part.

Lack of common international regulations and universal industry standards for quality, security and reliability.

Unresolved legal issues.

Lack of mature methodologies for measuring benefits and justifying the success of ecommerce.

Techniques and tools used for the Research Google Trends:

Google Trends can help to analyze search volumes and trends for different regions and periods of time. Simply choose the keywords that you want to analyze and enter them into the search field. The horizontal axis of the graph indicates time ,while the vertical axis indicates how frequently the word has been searched for globally.

Google Trends provides statistics from 2004 through to the present date.

Google Key Word Planner

The objective of this tool is to help us to identify the most frequently used key words and establish their search volume. We can also filter the search area and language. This tool can help in finding new ideas for the key words of your business, website, etc.

Serums

This is one of our favorite online tools because it allows us to research the keywords used by our competitors, as well as who is using Google Ad Words and the links that redirect to their website. Apart from researching key words it also performs domain analysis.

Keywordtool.io

This is an alternative tool to Google's key word planner. It is a Fermium tool that helps to discover long-tail key words.

Monitoring tools

There are many monitoring tools that allow you to gather information about the key words that we have selected. This includes, for example, the brand, the competitor's brand, the key words for a market sector, etc.

CHAPTER 3 – REVIEW OF LITERATURE INTRODUCTION

The cutting edge for business today is e-commerce. E-Commerce stands for electronic commerce. It means dealing in goods and services through the electronic media and internet.

On the internet, it relates to a website of the vendor, who sells products or services directly to the customer from the portal using a digital shopping cart or digital shopping basket system and allows payment through credit card, debit card or EFT (Electronic fund transfer) payments.

E-commerce or E-business in evolves carrying on a business with the help of the internet and 0by using the information technology like Electronic Data Interchange (EDI). More simply put, E- Commerce is the movement of business onto the World Wide Web.

E-Commerce has almost overnight become the dominant online activity. There is no single definition of E-Commerce, it means only commercial activity which is performed or linked to or supported by Electronic Communication.

The effects of e- commerce a real ready appearing in all areas of business, from customer service to new product design.

It facilitates new types of information-based business processes for reaching and interacting with customers like online advertising and marketing, online order taking and online customer service. In now days E-commerce uses the WWW at least some point in transaction lifecycle. It can also reduce costs in managing orders and interacting with a wide range of suppliers and trading partners, areas that typically add significant

overheads to the cost of products and services. For developing countries like India, e-commerce offers considerable opportunity.

In India it is still in nascent stage, but even the most-pessimistic projections indicate boom. There has been arise in the number of companies' taking up e- commerce in the recent past.

Major Indian portal sites have also shifted towards e-commerce instead of depending on advertising revenue. Many sites are now selling a diverse range of products and services from flowers, greeting cards, and movie tickets to groceries, electronic gadgets, and computers, etc. With stock exchanges coming online the time for true e- commerce in India has finally arrived.

LITERATURE REVIEW

The following studies are reviewed in the following section.

Arvind Panagariya (2000) reported that access to e-commerce, which in the WTO parlance often means access to e-exports, has two components that must be distinguished sharply.

Access to Internet services and access to services that can be traded electronically. The former deals with to access to Internet infrastructure while the latter relates to specific commitments in electronically tradable services. Ecommerce offers unprecedented opportunities to both

developing and developed countries. In the short run, the gain are likely to be concentrated in developed countries have more to benefit. This is because, in the short run, developing countries lack the infrastructure necessary to take full advantage of Internet.

For many countries, especially developing ones in these countries, most

consumers do not have computers or Internet access. A likely scenario, therefore, is one in which ah and full of independent entrepreneurs will receive the product by Internet, convert it into physical form such as CDs and sell the latter to consumers. But this activity may itself be costly using up real resources. Buy in the long run.

They can Leap frog, skipping some of the stages in the development of Information.

Technology

Through which developed countries have had to pass.

Elizabeth Goldsmith and Sue L.T. McGregor (2000) analyzed the impact of e-commerce on consumers, public policy, business and education. A discussion of public policy initiatives, research questions and ideas for future research are given. Diana Obligor (2001) reported that one is that education and continuous learning have become so vital in all societies that the demands for distance and open learning will increase.

As the availability of the Internet expands as computing devices become more affordable and a energy requirements and form factors shrink, eLearning will become more popular. In addition to the importance of lifelong learning, distance education and e-learning will grow in popularity because convenience and flexibility are more important decision criteria than ever before.

E- learning will become widely accepted because exposure to the Internet and e- learning often begins in the primary grades, thus making more students familiar and comfortable with online learning.

In fact, for many countries, distance education has been the most viable

solution for providing education to hundreds of thousands of students. Jackie Gilbert Bette Ann Stead (2001) reviewed the incredible growth of electronic commerce (e-commerce) and presented ethical issues that have emerged.

Security concerns, spamming, websites that do not carry an “advertising” label, cyber squatters, online marketing to children, conflicts of interest, manufacturers competing with intermediaries online and “dinosaurs” were discussed.

Patric Barwise (2001) reported that probability 99 % of e-commerce today is done using PCs either desktops or Laptops.

For B2B e-commerce this is unlikely to change for B2C e-commerce however, things will be more complex, there will be wider range of relevant media including interactive digital TV and a range of mobile and wireless service there will be huge difference between different consumers ownership of equipment and access technology.

Some will have broadband access and others have no digital communication at all. Current and Future B2C digital media: Digital media able to support consumer e- commerce can be grouped under five main headings within the home PCs, IDTV and within next five years arrange of other online device such as games, computers, utility meters etc. in summary, the online PC is well established while the other B2C digital media are still emerging.

Farooq Ahmed (2001) reported that some of the multifaceted issues raised are summarized in following manner

Formation of e-contracts

Contracts by e-data interchange & Cyber contracts Validity of e-transactions.

Dichotomy of offer and invitation to treat. Communication of offer and acceptance.

Mistake in e-commerce a) Mutual mistake b) Unilateral mistake Jurisdiction: Cyber space transaction know no national and international boundaries and are not analogous to 3 dimensional world in which common Law Principles Involved.

Identity of Parties- The issues of Jurisdiction, applicable Law and enforcement of the Judgments are not confined to only national boundaries. The problems raised are global in nature and need global resolution.

Andrew D. Mitchell (2001) examined the key issues that electronic commerce poses for Global trade, using as a starting point the General Agreement on trade in services (GATS), the World Trade Organization (WTO) agreement most relevant to e- commerce.

Nir B. Kshetri (2001) This paper attempts to identified and synthesized the available evidence on predictors of magnitude, global distribution and forms of e-commerce. The analysis indicated that the twin forces of globalization and major revolutions in ICT are fuelling the rapid growth of global e-commerce. PrithvirajDasgupta and KasturiSengupta (2002) reported that the recent growth of Internet Infrastructure and Introduction of economic reforms in the Insurance sector have opened up the

monopolistic Indian Insurance market to competition from foreign alliances.

Although the focus of e-commerce has been mainly on business to consumer (B2C) applications the emphasis is now shifting towards business to business (B2B)applications.

The Insurance Industry provides an appropriate model that combines both B2C and B2B applications.

James Christopher (2004) examined all the best elements of ecommerce does not guarantee consumers will visit or remain loyal.

But looking at what they want and their satisfaction levels of other well established e- tailors such as Amazon and eBay who have already invested significant resources to understand what consumer's needs, wants and desires.

Perhaps it would be useful to emulate these established pure players since they have been and continue to be highly successful as retain high marks for customer satisfaction.

Werther H and Ricci F.(2004) Reported that e-commerce in travel and tourism industries are continuously increasing despite of tough economic problems.

This industry is adopting application of B2B and B2C.

This industry has changed the ways of do business for traditional ways to modern way i.e. e-commerce via web and other online transaction software. Web is changing the behavior of consumers are well as they are becoming less loyal, take less time for choosing and consuming the tourism products.

As this industry is service oriented business industry, companies are implementing various new techniques to satisfy consumer needs and providing information to them through web and different value generating strategies like value extraction, value capture, value addition value creation.

Due to adoption of e-commerce in travel and tourism industry consumers are becoming more powerful players as they can choose their destination and sites in few minutes whereas travel agents, travel websites etc see diminishing power in sales however they are providing new market functionality using new technologies to attract more consumers.

Many tour operator, travel agents online travel agents are using these strategies to attract more consumers however using more high-tech technologies needs huge investments need more high skill human resource etc.

Kim (2004) examined there are main two factors for conducting successful e- commerce strategy which are security of the e-commerce system and user- friendly web interface.

Security means not only securing own system but also providing security assurance to users who are using the sites or online software user friendly web interface give consumer trust and it's easy to convenience for customers

Beside these factors other factors are also essential to succeed which are top management support, IT infrastructure and customer acceptance.

Top management support plays vital role as per Kim as they are the decision makers and their support and decision will direct the company to

use the strategy. Further he also explained that with-out proper IT structure and skilled human resources, e-commerce strategy will fail.

One of the factors he explained is customer acceptance; customer acceptance means the way customer accepts the web or online software of the company

and it should have very rich contents and very easy tousle these factors will decide whether business will get more customers.

YoungJanChoi1, Chung Suk Suh(2005) reported that the economic consequences of the death of geographical distance due to the emergence of e-marketplaces. It has shown that overcoming spatial barriers by means of e- marketplaces lowers the price level.

Since e- marketplaces achieve economies of scale by aggregating dispersed demands, they allow the company to have more varieties that did not exist before their emergence. Zabihollah Rezaee, Kenneth R. Lambert and W. Ken Harmon (2006) reported that the rationale for infusion of e-commerce education into all business courses is that technological developments are significantly affecting all aspects of today's business. An Ecommerce dimension can be added to the business curriculum by integrating e- commerce topics into existing upper-level business courses.

Students would be introduced to ecommerce education and topics covered a variety of business courses in different disciplines e.g. accounting, economics, finance, marketing, management, management information systems.

To help assure that all related business courses in all disciplines such as e.g. accounting, finance, economics, marketing, management, information

systems pay proper attention to the critical aspects of e-commerce, certain e-commerce topics should be integrated into existing business courses.

MauricioS.Featherman,JosephS.Valacich&JohnD.Wells(2006)reportedthat as companies oracle to digitize physical based service processes repackaging them as online e-services, it becomes increasingly important to understand how consumers perceive the digitized e-service alternative

E-service replacements may seem unfamiliar artificial and non-authentic in comparison to traditional service processing methods.

Consumers may believe that new Internet - based processing methods expose them to new potential risks the dangers of online fraud identity theft and phishing Swindles means schemes to steal confidential information using poof ed websites, have become common place and are likely to cause alarm and fear within consumers Law and Bai (2008) on their research paper mentioned there are two types of customers who use travel companies' websites, those are buyers and borrowers. Buyers are those people who actually intend to buy the services where as browsers are those who intend to surf and get information only.

Those browsers can be converted to buyers by improving the website contents making it attractive, provided very rich in contents and very user friendly to use. As more and more travel companies are applying these strategies, the increase in percentage of website buyers and browsers are also increasing day by day, this is due to adaption of e-commerce technology in travel and tourism industry. Shweta Sharma, Sugandha Mittal - examined a developing country can become industrialized and modernized if it can extensively apply IT to enhance productivity and

International competitiveness, develop e-commerce and e-governance applications. An Information based society or knowledge based society is composed of it products, IT applications in society and economy as a whole.

Many countries in Asia are taking advantage of e-commerce through opening of economies which is essential for promoting competition and diffusion of International technologies. Large enough to have a critical mass of 10 to 20 million users to be able to an impact one-commerce and-governance.

In the next 3 to 5 years, India will have 30 to 70 million Internet users which will equal, if not surpass, many of the developed countries. Internet economy will then become more meaningful in India.

The rapid expansion of internet ,e-commerce ,is set to play a very important role in the 21stcentury,the new opportunities that will be thrown open will be accessible to both large corporations and small companies.

Developing a Model of E-Commerce Success

Within the academic literature, several important variables have been noted to attract greater success with regards to e-commerce.

One of the variables that has been noted within the academic literature as being important for e- commerce success with regards to the use of social networking

technologiesisactuallyprovidinginformationandcontentthatisactuallyusefult oth e target audience (Yang, Kim and Dhalwani 9-10).

E-commerce must be focused on the ability to connect with potential customers based on their needs and desires as opposed to the needs and

desires of an e- commerce firm or organizations that are attempting to expand e-commerce in a particular country. Another important variable that has been addressed within the academic literature in relation to e-commerce expansion and success is the actual means by which information is disseminated to the target audience (Waters, Burnett, Lamm and Lucas 104).

While there are a variety of ways to communicate with people via the internet, such as a variety of social networking sites and services, a particular target audience may use a specific social networking service.

Using a social networking service, or even using an actual means of information distribution over the internet that does not allow for potential e- commerce customers to be reached will not result in success.

On a larger level, an important factor that is related to e-commerce development and success is the infrastructure that exists within a country to allow people to take part in e-commerce activities (Uzoka, Shemi and Seleka 11).

For the e-commerce industry, this may mean assisting countries with the reasons why a lack of communications and technology infrastructure exists.

Summary

The literature that has been reviewed with regards to e-commerce strategies and the trend of social networking have demonstrated that while the digital divide is decreasing, simply making products or services available over the internet is not enough to over come all of the barriers that exist with regards to accessing the internet in order to be able to

communicate with online companies and engage in e- commerce activities.

Countries around the world have different levels of e-readiness that is based largely on the desire of people to engage in e-commerce activities.

However, the desire to engage in e-commerce activities is not merely an indication of the desire of a country's leaders or people to have access to the internet or to make purchases on the internet.

Instead, the income and education of the people in a country, as well as the larger issues of war and poverty impact whether people are knowledgeable about the internet and their ability to take part in e-commerce.

Even more, the importance of day-to- day survival can mean that the importance of the internet is of much less concern, and certainly any desire or ability to engage in e-commerce activities may not be important at all.

In order for e-commerce ventures to be successful, several variables have been identified within the academic literature as being significant.

The variables that are important in relation to e- commerce venture success are specialization of the content and specific means of communication, working to improve the internet infrastructure of countries as much as possible, and working to obtain the trust of potential e-commerce customers.

By addressing these variables, success and growth in e-commerce is possible.

CHAPTER 4 – DATA ANALYSIS, INTERPRETATION & PRESENTATION

E-COMMERCE BUSINESS MODELS

E-Commerce or Electronics Commerce business models can generally categorized in following categories.

Business-to-consumer (B2C) Business-to-business (B2B) Consumer-to-consumer (C2C), Consumer-to-business (C2B)
Non-business and Government and Organizational (intra-business).
Business-to-consumer (B2C)

Business to Customer describes activities of business serving end consumers with products and/ or services. Individuals visit an organization's website before they buy the product.

They click on a shopping link which sends them directly to a list of hundreds of the top online merchants. The purchase is made as if they had gone to the merchant directly.

The purchase is sent to buyer and the referring organization gets a commission on every sale.

Business to Consumer E-commerce provides organizations with the system that allows them to deliver buyers to the merchants and gain from the commission rewards provided by the merchants.

In B2C e-commerce, businesses sell directly a diverse group of products and services to customer.

In addition to pure B2C e-commerce players such as Amazon.com, and hepsiburada.com other traditional businesses have entered the virtual marketplace by establishing comprehensive web sites and virtual storefronts.

In these cases, e-commerce supplements the traditional commerce by

offeringproducts and services through electronic channels.

Wal-Mart Stores, and the Gap are examples of companies that are very active in B2C e- commerce.

Some of the advantages of these e-commerce sites and companies include availability of physical space
(customers can physically visit the store), availability of returns (customers can return a purchased item to the physical store), and availability of customer service in these physical stores.Website following B2C business model sells its product directly to a customer. A customer can view products shown on the website of business organization.
The customer can choose a product and order the same. Website will send a notification to the business organization via email and organization will dispatch the product/goods to the customer.

There are five major activities involved in conducting B2C e-commerce.

Info sharing:

A B2C e-commerce may use some or all of the following applications and technologies to share information with customers: Online advertisements, e-mail, newsgroups/discussion groups, company web site, online catalogs, message board systems, bulletin board systems, multiparty conferencing.

Ordering:

A customer may use electronic-mail or forms available on the company's website to order a product from a B2C site. A mouse click sends the essential information relating to the requested piece(s) to theB2Csite.

Payment:

Creditcards,electronicchecks,anddigitalcashareamongthepopularoptionsthatthe customer has as options for paying for the goods or services.

Fulfillment. Ful fillment that is responsible for physically delivering the productor service from the merchant to the customer. Incase of physical

products (books,videos,CDs), the filled order can be sent to the customer using regular mail, MNG, Yurtiçi Cargo, FedEx, or UPS. As expected for faster delivery, the customer has to pay additional money.

In case of digital products (software, music, electronic documents), the e-business uses digital documentations to assure security, integrity, and privacy of the product.

It may also include delivery address verification and digital warehousing that stores digital products on a computer until they are delivered.

The e-business can handle its own fulfillment operations or out- source this function to third parties with moderate costs.

Service and support:

It is much cheaper to maintain current customers than to attract new customers. For this reason, e-businesses should do whatever that they can in order to provide timely, high-quality service and support to their customers.

As e-commerce companies lack a traditional physical presence and need other ways to maintain current customers, service and support are even more important in e- commerce than traditional businesses.

Thefollowingaresomeexamplesoftechnologiesandapplicationsusedforproviding service and support: (E-mail confirmation, periodic news flash, and online surveys may also be used as marketing tools.) E-mail confirmation:

In most cases, the e-mail confirmation provides the customer with a confirmation number that the customer can use to trace the product or service. E-mail confirmation promises the customer that a particular order has been processed and that the customer should receive the product/ service by a certain date.

Periodic news flash:

They used to give customers with the latest information on the company or on a particular product or offering.

Online Surveys: Their results can assist the e-commerce site to provide better services and support to its customers based on what has been collected in the survey, even though online surveys are mostly used as a marketing tool.

Help desks:

They provide answers to common problems or provide advice for using products or services. They are used for the same purpose as in traditional businesses.

Assured secure transactions & assured online auctions:

They guarantee customers that the e-commerce site covers all the security and privacy issues. As many customers still do not feel comfortable conducting online business, the security and privacy services are especially important.

Business-to-Business (B2B)

Business-to-business (B2B) describes commerce transactions between businesses, such as between a manufacturer and a wholesaler, or between a wholesaler and a retailer. B2B Ecommerce can save or make the company money. B2B is also used in the context of communication and collaboration. Many businesses are now using social media to connect with their consumers (B2C); however, they are now using similar tools within the business so employees can connect with one another.

When communication is taking place amongst employees, this can be referred to as B2B communication.

Much of the recent discussion of electronic commerce has focused on the

business to consumer segment activity.

This seems natural, as there are over 100 million customer households making the market attractive. But as recent behavior of professional investors shows, the opportunities in business to business may be much greater.

WebsitefollowingB2BbusinessmodelsellsitsproducttoanintermediatebuyerwhothensellstheproducttothefinalcustomerAsanexample,awholesalerplacesanorderfromacompany's website and after receiving the consignment, sells the end product to final customer who comes to buy the product at wholesaler's retail outlet.

Business-to-Business e-commerce holds electronic transactions among and between businesses.

TheInternetandrelianceofallbusinessesuponothercompaniesforsupplies,utilities, and services has enhanced the popularity of B2B e-commerce and made B2B the fastest growing segment within the e-commerce environment. In recent years extranets (more than one intranet) have been effectively used for B2Boperations. B2B e-commerce creates dynamic interaction among the business partners; this represents a fundamental shift in how business will be conducted in the 21st century. Oracle, People Soft, SAP, Broad vision, Commerce One, Heathen/WebMD, 12 Technologies,Inc.,Ariba,AspectDevelopment,Baan,BEASystems,InternetCapital Group, Vertical lNet, Vignetteare some of the major vendors of e-commerce and B2B solutions.

B2B e-commerce reduces cycle time, inventory, and prices and enables business partners to share relevant, accurate, and timely information.

Major models of business to business models are as follows :- Seller-controlled marketplace:

This is the most popular type of B2B model for both consumers and businesses. In this model the sellers who provide to fragmented markets such as chemicals, electronics, and auto components come together to generate a common trading place for the buyers.

While the sellers aggregate their market power, it simplifies the buyers search for alternative sources. Businesses and some time consumers use the seller's product catalog to order products and services online.

One popular application of this model is e-procurement, which significantly streamlines the traditional procurement process by using the Internet and web technologies.

E-procurement is radically changing the buying process by allowing employees throughout the organization to order and receive supplies/services from their desktop with just a few mouse clicks.

This results in major cost savings and improves the timeliness of procurement

Processes and the strategical liances between suppliers and participating organizations. E-procurement may qualify customers for volume discounts or special offers.

E-procurement software may make it possible to automate some buying and selling, resulting in reduced costs and improved processing speeds.

Theparticipatingcompaniesexpecttobeabletocontrolinventoriesmoreeffectively, reduce purchasing-agent overhead, and improve manufacturing cycles.

E-procurement is expected to be integrated into standard business systems with the trend toward computerized supply-chain management. Buyer-controlled marketplace: This model issued by large companies with significant buying

power or a consortium of several large companies.

The consortium among Ford, General Motors and Daimler Chrysler is a good example of this model. In this model a buyer or a group of buyers opens an electronic marketplace and invites sellers to bid on the announced products or RFQs(request for quotation).

Using this model the buyers are looking to efficiently manage the procurement process, lower administrative cost, and exercise uniform pricing.

Companies are making investments in a buyer- controlled marketplace with the goal of establishing new sales channels that increase market presence and lower the costof each sale. By participating in a buyer- controlled marketplace a seller could perform the following :

Get better understanding of buying behaviors. Carry out pre-sales marketing.

Carry out sales transactions Carry out post-sales analysis

Reduce order placement and delivery cycle time Offer an alternative sales channel

Automate the order management process

Automate the fulfillment process Third-party exchanges marketplace:

Athird-party-controlled market place modelis controlled by a third party not bysellers or buyers. A third-party- controlled marketplace model offers suppliers a direct channel of communication to buyers through online storefronts.

The interactive procedures within the marketplace contain features like product catalogs, request for information (RFI), rebates and promotions, broker contacts, and product sample requests.

The marketplace makes revenue from the fees generated by matching buyers

and sellers. These marketplaces are usually active either in a vertical or horizontal market.

A vertical market focuses on a specific industry or market. The following are some examples of this type: PaperExchange.com (supplies for publishers), PlasticsNet.com (raw materials and equipment), SciQuest.com (laboratory products), VerticalNet.com (Provide end-to-end e- commerce solutions that arc targeted at distinct business segments)

A horizontal market concentrates on a specific function or business process. They provide the same function or automate the same business process across different industries. The following are some examples: Employee.com (employee benefits administration), CtSpace.com (web-based collaboration, business process management and document management solutions) Trading partner agreements:

The main objectives of the trading partner agreements B2B e-commerce model are to automate the processes for negotiating and enforcing contracts between participating businesses. This relatively new model is gaining popularity.

This model is expected to become more common as extensible markup. Language (XML) and the e- business XML initiative (ebXML) become more accepted.

This worldwide project is attempting to standardize the exchange of e-business data via XML, including electronic contracts and trading partner agreements.

Using this model enables customers to submit electronic documents that previously required hard-copy signatures via the Internet.

As soon as act passed by the Turkish Government that gives digital signatures

the same legal validity as hand written signatures, this model will also be very popular in Turkey too.

The main advantage of XML (extensible markup language) over hypertext markup language (HTML) is that it can assign data type definitions to all the data included in a page.

This allows the Internet browser to select only the data requested in any given search, leading to ease of data transfer and readability because only the suitable data are transferred.

BUSINESS TO BUSINESS ECOMMERCE WEBSITESTYPES

B2B websites can differ from each other based on the functions that they perform. Below are some of the basic types of B2B ecommerce websites that you can select from:

Websites for Companies: In most cases, the target customers for B2B ecommerce companies are other companies.

For this reason, these suppliers set up company websites that allow them to exhibit their products or services.

These B2B Ecommerce sites may also include options for user registration, real-time inventory, and dealer/distributor locator and distributor logins.

E-procurement Sites:

E-procurement sites are business to business sites where the purchasing agents of companies can submit a request for proposal, bid for products and purchase products from the vendors.

These websites are typically custom built to serve a niche market or a particular industry.

Broker Sites:

These websites act as a broker between those who want to purchase a particular product and suppliers in the industry.

These websites bring together the suppliers and the buyers in the industry.

Industry Vertical Portals:

These websites can provide information about products in a particular industry,allow users to conduct discussions, provide product listings and serve a broader purpose compared to the other types of B2B procurement sites.

Consumer to Consumer E-Commerce (C2C)

Using C2C e-commerce, consumers sell directly too there consumers using the Internet and web technologies.

Individuals sell a wide variety of services/products on the We bor through auction sites such as eBay.com, and gittigidiyor.com through classified ads or by advertising. Figure below illustrates a general C2C e-commerce relationship.

Consumers are also able to advertise their products and services in organizational intranets and sell them to other employees.

For example, at the end of an auction, the C2C site notifies the buyer via e-mail that he or she has won.

The C2C site also e-mails the seller to report who won and at what price the auction finished. At that point it's up to the seller and buyer to finish the transaction independently of the C2C site.

C2Csitesmake money by charging fees to sellers. Although it's free to shop and place bids, sellers place fees to list items for sale, add on promotional features, and successfully complete transactions.

Many C2C sites have expanded and developed existing product categories by introducing category-specific bulletin boards and chat rooms, integrating category- specific content, advertising its service in targeted publications and participating in targeted trade shows.

eBay specifically has also broadened the range of products that it offers to facilitate trading on the site, including payment services, shipping services, authentication, appraisal, vehicle inspection and escrow services.

Specialty marketplaces have also been added to serve the specialized needs of buyers and sellers. For example, eBay Motors serves the automotive marketplace, including vehicles, parts and accessories; and Half.com (now closed) was focused on providing a fixed-price trading environment, initially for books music, videos and video games. Many online auction sites use a system called PayPal for sellers to receive online

Payments securely and quickly. A traditional credit card is not required to use this site because PayPal can be linked directly to your bank account.

There are various platforms that Consumer-to-consumer e-commerce is taking place on, such as social media (e.g. Face book), advertisement websites (e.g. Craigslist) and online auction sites (e.g. eBay).

ConsumertoConsumertransactionsofteninvolveproductssoldviaeitheraclassified or auction-like system.

Assuch,theproductsandservicesboughtandsoldareusuallyvariedintypeandhave a short development and sale cycle. Products sold may often be used or second-hand, since consumer to consumer sales are often facilitated through auction or classified sites. Examples of c2c E- Commerce Internet auctions

DespitethesuccessofeBay,numerousotheronlineauctionsiteshaveeithershutdown or consolidated with other similar sites. Creating an innovative and efficient business model is vital towards success. Online auctions can be categorized into five main models: C2C, B2C, B2B, B2G, and G2P. C2C refers to customer to customer, B2C signifies business to customer, B2B refers to business to business, B2G signifies business to government, and G2P refers to government to public. In recent years, online auctions have even appealed to major businesses. For instance, Sears has reportedsellingitemsathigherpricesontheseauctionswhencomparedtodiscountin g them in stores.

The success of an online auction site largely depends on six variables: interactivity, product offering, level of trust, rate of growth and adoption, networking, level of commitment, and payment options.

Interactions among users are crucial and thus, websites must be accessible and easily navigable. E-mails, community boards, and feedback all aid in increasing the interactivity. With thegrowing need for convenience, the variety of products offered can greatly attribute to the client basis.

Especially with the growing number of online frauds, trustises sentialin auction sites.

Users must be guaranteed that their personal information will remain secured and that they will receive their purchased product in a perfect condition and in a timely manner.

Internet classifieds

Internet classifieds are another example of customer to customer marketing. An example of an internet classified company, is Craigslist.Craigs list utilizes

the internet to attract a wide customer and buyer base which employs the website to list and sell items.

Since the customer to customer marketing strategy is strongly focused on serving the customer, the business model of Craigs list is simple: serve the customer first.Utilizing this model, Craigslist has developed into a prime example of a customer to customer driven 'machine', which focuses on the customer selling to the customer.

Revenues which support the company are derived through subsidiary channels, while maintaining the model and convenience of the site.Infact,Craigs list makes nomoney off the customer to customer interactions that occur on the classifieds of the website. All of the irrevenue is derived from portion of the website targeted at businesses. Thus, in other words, their revenue is derived solely from their business to customer model utilized by businesses to post jobs and hire networkers.

Internet classifieds sites such as OLX, Quikr, Loogga etc. are gaining prominence in emerging economies such as India, Brazil and Nigeria. OLX and Quikr recently enabled their users to sell cows and buffaloes in rural India.

Marketing

C2C marketing is of critical importance to retailers. When a shopper buys a product, if it can be shared with the shopper's friends, that drives significant traffic back to the customer site. Additionally, shoppers trust user generated recommendations much higher than recommendations pushed by the retailer. Retailers like café Press have implemented C2C marketing on their website and companies like Shop Socially are building C2C marketing platforms for

retailers. Recent trends by Face book and Wave spot that leverage free WIFI at a local business are indicative of C2C marketing's importance in SMB space.

Most companies think of C2C marketing as the use of social media channels such as Facebook and Twitter. However, in many cases, the messaging tends to be business to consumer.

In this model, a consumer approaches website showing multiple business organizations for a particular service. Consumer places an estimate of amount he/she wants to spend for a particular service. For example, comparison of interest rates of personal loan/ car loan provided by various banks via website. Business organization who fulfills the consumer's requirement within specified budget approaches the customer and provides its services.

Consumer-to-business (C2B) e-commerce that involves individuals selling to businesses may include a service/product that a consumer is willing to sell. Individual s offer certain prices for specific products/services.Companiessuchaspazaryerim.com and mobshop.com are examples of C2B.This is the exchange of products, informationn or services from individuals to business. A classic example of this would be individuals selling their services to businesses.

Non-Business and Government E-Commerce.

Political, social and not-for-profit organizations also use e-commerce applications for various activities, such as fundraising and political forums. These organizations also usee- commerce for customer service and for purchasing to decrease cost and get better speed. Universities are using e-commerce applications extensively for delivering their educational products and services on a global scale. The e-commerce applications in government and many non- business organizations are on the rise.

IMPACT OF E-COMMERCE ON BUSINESS ORGANISATION

Electronic commerce is transforming the marketplace by changing firms' business models, by shaping relations among market actors, and by contributing to changes in market structure. Given the dynamic nature of these processes and their firm-, sector-, and time- specificity, it is difficult to single out the impact of electronic commerce.Nevertheless, it is possible to see some emerging patterns, and some conclusions can be drawn from business case studies. This chapter addresses three themes associated with electronic commerce and the organizational changes it entails: changes in firms' business models, changes in market structure, and opportunities for economic growth created by organizational change.

Electronic commerce creates the possibility of new models for organizing production and transacting business, by offering intra modality and complementarily – not only substitution – in business models. This chapter begins by looking at the core characteristics of firms entering electronic

markets and offers some evidence on the extent to which business models are changing in various sectors.

One is the type of Web-based competition that will emerge in each electronic market.

Increasingly, new entrants compete to set standards and provide the interface, and Web- based alliances play a strategic role in determining the emerging standard. Online firms also compete to capture customer information, and virtual communities could play a role in striking the balance of market power between consumers and suppliers. Other factors that could counterbalance the pro- competitive effects of electronic markets (seeChapter2) are: first-mover advantages related to the presence of positive network externalities; national differences in the regulatory environment; and the degree to which the choice of the transaction structure (open or closed) is path- dependent and sector- specific.

The final section considers the ways in which organizational changes at the firm level associated with electronic commerce can translate into improved performance and growth at the economy- wide level and suggests a few areas for future research.

Becausethereisevidencethatsmallinnovativefirmsareanengineofgrowth,it would be valuable to know whether electronic commerce offers small innovative firms any special advantages for entering new or existing markets. Another issue is the nature of the innovation associated with electronic commerce. This point is not often stressed in the literature, but it is extremely important, given the direct and indirect impact of innovation processes on productivity and

growth through technology diffusion. Two novel aspects of organizational

change and electronic commerce are worth exploring: the role of inter-firm collaboration and networking for successful innovation and the role of customer-supplier relations as a source of technology transfer. The Economic and Social Impacts of Electronic Commerce 80 with electronic commerce favors high-performance work. There is evidence, in fact, that streamlined business processes, flat organizational hierarchies, and continuous learning and skills acquisition contribute to a favorable environment for innovation and improve performance.

Electronic commerce: a new business paradigm?

Advanced information and communication technologies, together with new networking capabilities, allow firms, from the very large to the very small, to communicate, transact and collaborate at lower cost and with greater ease and flexibility than ever before. This may stimulate noteworthy changes in models of organizational behavior and lead to the creation of “cyber-traders” and/or virtual enterprises

It is more likely, however, that incremental changes will be made as firms adopt and adapt new technologies to fit their way of doing business. After looking at the core characteristics of firms operating on electronic markets, this section discusses key drivers and enablers of business reorganization.

E- commerce involves linking consumers to e-marketplaces besides supporting hierarchical transactions within organizations electronically

Electronic Market Description Foundation of e-commerce Electronic marketplace (e-market system)

An inter-organizational information system operated by intermediary Facilitate transactions

Support the three phases of activities consisted in business process models

Pre-purchase determination

Purchase consummation

Post-purchase interaction.

Commerce and distribution network

Converge seller and customer activities into one place

- Makes the activities easier and convenient
- Reducing the costs
- Digitization of products
- Value chain costs reduced
- Inventory and packaging costs
- Distribution costs
- Minimized cycle time
- Improved customer satisfaction
- New intermediaries and costs may be added to value chain In many instances.
- the potential benefits outweigh these costs.
- Convenience &Easiness

Comprise Warranty Information:

No matter whether you are looking to choose including warranty information with product descriptions and datasheets or providing it from within an ecommerce shopping cart, you need to make sure that customers must be aware of important terms and conditions that are associated with their purchase.

Decreasing cost of inventory Management with e-commerce business, the suppliers can decrease the cost of managing their inventory of goods that they can automate the inventory management using web- based management system. Indirectly, they can save their operational costs. Keep Eye on Consumers' Buying Habit:

The best thing is e-commerce retailers can easily keep a constant eye on consumers' buying habits and interests to tailors their offer suit to consumers' requirements.

By satisfying their needs constantly, you can improve your ongoing relationship with them and build long-lasting relationships Competence:

For effective business transactions, e-commerce is an efficient and competence method.Setting-upcostisextremelylowascomparetoexpandingyourbusinesswith more brick and mortar locations. Very few licenses and permits are required to start- up an online business than physical store. You can save your lots of money by using fewer employees to perform operations like billing customers, managing inventory andmore.

Allow Happy Customers to Sell Your Products: With lots of customers' reviews and product ratings, you can easily increase your sells as new customers find that your products are good and effective. Make sure that you Mention your clients' testimonials, reviews and product ratings as such things can help your new customers to purchase your products.

Selling Products Across the World:

If you are running a physical store, it will be limited by the geographical area that you can service, but with an e-Commerce website, you can sell your products and services across the world. The entire world is your playground, where you can sell your complete range of products without any geographical limits. Moreover, the remaining limitation of geography has dissolved by m commerce that is also known as mobile commerce. Stay open 24*7/365:

One of the most important benefits that ecommerce merchants can enjoy is store timings are now 24/7/365 as they can run e-commerce websites all the

time. By this way, they can increase their sales by boosting their number of orders. However, it is also beneficial for customers as they can purchase products whenever they want no matter whether it is early morning or mid-night.

Economy:

Now, you don't have to invest your money in the physical store, insurance or infrastructure as all you need is a wonderful idea, unique products and well-designed website to reach your precious customers to sell your products and services. We can say that this makes an e-commerce a lot more economical and reasonable.

Expand Market for Niche Products:

It is difficult for buyers and sellers to find each other in the physical world, but it becomes very easy for them with the inception of e-store.

Customers can search their required products on the web and can purchase it from any corner of the world. No matter what kind of product customers are looking, they can find all types of products without any hassle.

Scalability

With effective ecommerce solution, you and your organization grow and scale easily to meet market demand as well as customer requirements by introducing different sales channels and reaching market segments.

Ability of Multi-site

With ecommerce platform, it becomes easy for businesses to launch channel specific and particular brand ecommerce website. This ability enables you to provide co- branded websites for your specific customers and allows for

websites catering to specific international spectators.

Exploitation of New Business Broadly speaking, electronic commerce emphasizes the generation and exploitation of new. Business opportunities and to use popular phrases:

“generate business value” or “do more with less”. Enabling the Customers

Electronic Commerce is enabling the customer to have an increasing say in what productsaremade, how products are made and how services are delivered (movement from a slow order fulfilment process with little understanding of what is taking place inside the firm, to a faster and rt1ore open process with customers having greater control.

Improvement of Business Transaction

Electronic Commerce endeavours to improve the execution of business transaction over various networks. Effective Performance It leads to more effective performance i.e. better-quality, greater customer satisfaction and better corporate decision making.

Greater Economic Efficiency

We may achieve greater economic efficiency (lower cost) and more rapid exchange (high speed, accelerated, or real-time interaction) with the help of electronic commerce.

Execution of Information

It enables the execution of information-laden transactions between two ore more parties using interconnected networks. These networks can be acombination of „plain old telephone system“ (POTS),

Cable TV, leased lines and wireless. Information based transactions are creating new ways of doing business and even new types of business.

Incorporating Transaction

Electronic Commerce also inco11'orates transaction management, which organizes, routes, processes and tracks transactions. It also includes consumers making electronic.

Employment & Work Culture

A very significant way in which organizations are impacted by E-business adoption is in the change in the way people work. Efficient and effective communications, access to a wealth of various types of information, and the automation of processes in evitable lead to work redesign and an increase in "virtual" (i.e., net centric) work. In fact, to fully exploit the capabilities of these technologies and processes ,an organization must redesign what tasks workers must perform, where and when they perform them, who does the work and what kinds of skills are needed. Some tasks are best done by people, but many others within the Ecommerce realm can be effectively done by computers. As more and more organizations adopt E-commerce and its functionality expands, more and more processes will be automated. Disintermediation efforts—for example, the replacement of telephone order clerks with web-based ordering — replace workers who once performed basic sales and customer service tasks (Kalakota and Robsinson, 2001) and introduce knowledge workers who need to be capable of collecting, analyzing, and integrating information. They handle the more complex transactions and queries that require more integrated complex skills and which cannot be easily automated. Where and when people work is also changing. Network based work is information and knowledge intensive and is less tied to restrictive time and place parameters. Although the wireless data communication industry has

had a rocky start, mobile E- business retains the potential to deliver real time information to remote locations and to enable many types of commercial transactions that can be executed outside the traditional work environment and work hours, thus supporting a more mobile work force. From the worker's point of view, there are several major negatives for workers. One is the worker stress that is an inevitable result of extending the work into leisure time and into homes and cars and other traditionally non- workspaces.The fast pace of change, the need to adopt new skills quickly, and independence in knowledge work, are also stress factors. Another concern to workers is the ease with which processes can be outsourced. Once an infrastructure for virtual work is established, work can be accomplished a broad as easily a sit can be done domestically.

While easier access to less costly human resources is a financial benefit to companies, "electronic immigration" can result in job losses.

Types of E-payment system Credit cards

A Credit card is a piece of plastic, 3-1/8inches by 2-1/8 inches in size, that carries information that allow you to make purchase now pay for the later. Credit cards from visa maser card or any other network allow you to pay for purchase or services by borrowing from the credit card company.

To purchase goods from merchant who accept credit card such as merchant has credit card reader to purchase the payment transaction to withdraw cash from ATM. You then repay by making monthly payment to ward the amount borrowed, that is you don't have to repay the whole borrowed amount in fill at one go.

Debit Card

Debit card is a prepaid card and also known as ATM card. An individual has to open an account with the issuing bank which gives debit card with a personal id number, when he makes a purchase he enter his pin number on shop pin pad.

When the card is slurped through the electronic terminal it dial the acquire a banking system either master card or visa card that validate the pin and finds out from the issuing bank whether to accept or decline the transaction the customer can never overspend because the system reject any transaction which exceeds the balance in his account the bank never faceade fault because the amounts pent is debited immediately from the customer account With almost every bank account you are issued a debit card.

Smartcard

Smart card was first introduced in Europe most of these methods are known as stored value card. A smart card is about the size of a credit card, made of a plastic with an embedded microprocessor chip that holds important financial and personal information.

The microprocessor chip is loaded with the relevant information and periodically recharged. In addition to these pieces of information, systems have been developed to store cash onto the chip. The money on the card is saved in an encrypted form and is protected by a password to ensure the security of the smart card solution. In order to pay via smart credit is necessary to introduce the card into a hardware terminal. The device requires a special key from the issuing bank to start a money transfer in either direction. Smart cards can be disposable or rechargeable.

Digital Wallet (Electronic wallet)

Electronic wallets being very useful for frequent online shoppers are commercially available for pocket, palm-sized, handheld, and desktop PCs. They offer a secure, convenient, and portable tool for online shopping. They store personal and financial information such as credit cards, passwords, PINs, and much more. To facilitate the credit-card order process, many companies are introducing electronic wallet services- wallets allow you to keep track of your billing and shipping information so that it can be entered with one click at participating merchants' sites. E- wallets can also store e checks, e-cash and your credit-card information for multiple cards.

Electronic Cheque

Electronic cheque is messages that contain all the information that is found on an ordinary Cheque but it uses digital signature for signing and endorsing and has digital certificate to authenticate bank account. There are many websites that accept Electronic Cheque. An electronic payment process that resembles the function of paper cheques but offers great security and more feature. Electronic checks are typically used in orders processed online and are governed by the same laws that apply to paper checks.

Electronic cash

Similar to regular cash, e-cash enables transactions between customers without the need for banks or other third parties. When used, e-cash is transferred directly and immediately to the participating merchants and vending machines. Electronic cashes a secure and convenient alternative to bills and coins. E-cash usually operates on a smartcard, which includes an embedded microprocessor chip. The microprocessor chip stores cash value and the security features that

make electronic transactions secure. When ecash created by one bank is accepted by other reconciliation must occur without any problem cash must be storable and receivable. Most E-cash is transferred directly from the customer's desktop to the merchant's site.

Therefore, e-cash transactions usually require no remote authorization or personal identification number (PIN) codes at the point of sale.

Impact on Various Business Organisations

E-commerce has been expanding and changing over the years and is becoming more and more the conventional means of doing business. The lines between ecommerce and traditional have been blurring over the years and soon will be indistinguishable (S1). We are going to analyze several industries in which e-commerce has had a significant effect on the traditional business model and have changed it forever.These industries will be The Stock Market, The Travel Industry, Retail, Entertainment Industry, and Education. All of these are industries that directly impact our lives owe felt they would be good to illustrate the impact of E-commerce.

Travel Industry

The development of e commerce ever since it was first introduced in 1991 has gradually had an increased influence on the travel industry in a number of ways. It’s changed the way travel services conduct their business.

Travel service providers such as airline companies, hotels and rental car companies have been granted the ability to restructure their sales strategies. Before online selling became possible the traditional travel agencies known as brick and mortar agencies handled the majority of sales for companies in the travel industry.

These traditional agencies have slowly been driven out of business.

The availability of online sale methods has been beneficial to the travel service provider companies and opened up opportunity for the online travel agencies. The travel suppliers such as the airlines, hotel and rental car companies had routine relied on traditional travel agencies to sell their services. The traditional travel agencies operate from small stores in shopping centres or along busy and popular city streets. These traditional travel agencies were retailers who acted as an agent on behalf of the supplier of the service. The supplier of the service typically had contracts with the agents that enabled the agencies to gain a fixed percentage from the entire amount of each sale.

Book Industry

The book industry before the book ecommerce industry emerged was constructed as typical retail company contained a supply chain, warehouse, store planning, inventory, customer relationship, employees, etc.

For example, when a customer purchased a book : customers are able to examine the book; business created a relationship with customer; normally customer would travel to where the store was located. College student would purchase their books at the campus bookstore or a bookstore located within the campus.

These bookstores would hire additional employees to stand at the door entrance to assist students on what book needed for the semester.

Normally, the book store will have the information on what book the student need since they have all the books categorized by the class and the professor teaching the class. With intent of if ten minutes, students would have found

the book they needed. Since the bookstore was formally designed to assist customer, the bookstore would have additional products that student might need.

A large percentage of electronic commerce is carried out entirely electronically for practical -items such as access to quality substance on a website, but most electronic commerce involves the shipping of physical items in some way.

Online retailers are sometimes known as e-tailers and online retail is sometimes known as e-tail. Almost all big retailers have electronic commerce presence on the World Wide Web. This type of electronic commerce that is conducted between businesses and consumers is referred to as business-to-consumer or B2C.

Distant Education Education has man if ested just like everything else in life. Technologies have advanced which have enhanced education and also made it easier for students to learn.

Online education through e-commerce has allowed students at home to earn degrees online without ever leaving the house. In 1728, distant education began by shorth and writing. The internet was the foundation stone for ecommerce and the driving force for online education. There are many universities and companies that provide online education. Some of these companies include the University of Phoenix, Aiu online, Kaplan University, Walden University, Ashford University and Colorado Tech Online. From these at of your computer a student is able to research online from a full-scalelibrary. In addition, there are virtual education that students are offered

which allows them to be educated more efficiently. “Available are Virtual companies created by the university to give students more realistic assignments that can be done using case studies.” In addition to virtual form of education, technology has advanced making it more of a full scope of an education.

University of Phoenix offers various services for their students. One of their services is there virtual companies. Their virtual companies allow students to learn more effectively virtually than in a classroom.

Stock Brokerage In the past, when an investor wanted to place an order,they had to call up their brokers and place the order through the phone, so that they could then enter the order in their system which was linked with trading floors and exchanges. These kinds of brokers are also known as full-service brokers, and they are called like that because they will also serve as financial advisors to the investors, as investors will come to them to research information. Full-service firms employ analysts to conduct primary research on several stocks, which they will later on use to provide written reports to assist their investors in buying or selling decisions on their trading.

Full-service brokers are in charge of dealing with the three primary value components for an investor. These three components are: advice, portfolio management, and administration Advice refers to the process of defining and implementing an appropriate investment strategy given an investor’s objective and particular constraints.

A discount broker is a stockbroker who carries out buying and selling orders at a reduced commission compared to a full-service broker, but provides no investment advice. Discount brokers allow you to trade securities (fixed

income and equities), options, mutual funds, and For-ex.

Entertainment

The entertainment industry has undergone some of the most drastic changes of all the industries affected by E-commerce. The Entertainment Industry consists of 3 major areas. These are Music, Movies, and Television. There was a definite way of how these 3 mediums were purchased and distributed before the advent of E-commerce. The Music Industry was the first part of the Entertainment Industry that was impacted. Before you would go to the store and buy your favourite CD or cassette. Theindustry had fans and the artist in a compromised position holding the only means of distribution. Then came illegal downloading of music.

With E-commerce people could go online through popular sites like Bookmyshow.com and MovieTickets.com to check show times and even purchase movie tickets. You then could go to the theatre and pick up your tickets from the automated kiosk. This saved a lot of time and made going to movies a lot more convenient. You could check show times and purchase your tickets assuring your seat before ever leaving your house. If you really don't feel like waiting in lines and dealing with crowds you don't have to leave your house to catch a flick.

ITunes is the largest source for Digital Media in the United States (25). They started out with just music only and moved to Movies and Television. In 2007 Apple reported profits of $570 million from iTunes. Through linking their media player iTunes directly to their online store, they have created a very easy and convenient way for people to download and organize their digital media.

Apple prides itself on the simplicity of its programs and this is one of the major reasons iTunes has emerged as the top pur vey or of digital media. Traditional brick and mortar movie rental companies such as Blockbuster have stepped into the digital media real. They have done online movie rentals and now are doing streaming movies from their website. If you go on their website www.blockbuster.com you will find a Rent, Buy, Download option on theirmainpage.Onlinedownloadingofmoviesisdefinitelythefutureoftheindustry.

Companies like Blockbuster, Netflix, and even the major studios are seeing this.

CHAPTER 5 – CONCLUSIONS & SUGGESTIONS

As you can see E-commerce has forever changed every industry it's touched. What was the standard foundation of business practices even as little as 20 years ago is no longer relevant. The move to E-commerce has affected every aspect of peoples' lives from the way they travel to how they travel, to how they make and spend their money, to how they entertain themselves. It had spawned endless options and made powerhouses of companies that were not so long ago operating out of their parents' garages. One thing we can assume about E- Commerce is that it is definitely here to stay and it will continue to evolve until it is considered traditional business practices. E-commerce provided a way to monetize these innovations in the first place. Without the ability to make money there would be no reason to create these innovations in the first place. Why do people work, to make money? This is the foundation of business and innovations in E- commerce have fanned the fires of innovation. Whether you're an eBay shopaholic, or you don't even like checking your email you must admit one thing. The E-commerce way of life is now part of your life whether you like it or not. Increasing internet and mobile penetration, growing acceptability of online payments and favourable demographics has provided the e-commerce sector in India the unique opportunity to fundamentally alter the way companies connect with their customers. Due to this digital revolution, thee- commerce sector in India has become morethan4 times its size, from $3.8 billion in 2009 to $18 billion in 2016, growing at a CAGR of more than 30%. The sector is expected to cross the $100 billion mark within the next five years, contributing over 4% to

India's GDP. The main opportunities for e- commerce in India are online travel, one of the key drivers of India's e-commerce market, accounts for nearly 71% of ecommerce business in India. Though the online retail market in India, currently at $1.6 billion, is a miniscule fraction of India's overall $500 billion retail industry; retail e-commerce has recorded a three-fold growth since 2011, predominantly driven by million dollar investments by domestic and foreign investors. Along with these opportunities the most important challenges for ecommerce to overcome are in Financing, Infrastructure, Logistics and focus on building Customer Loyalty to usher in the next wave of sustainable growth in ecommerce. Dedicated e-commerce laws are required to address issues in the sector's legal and regulatory framework and Banks must play a leading role as 'Facilitators' by offering cost effective cash management solutions, secure payment gateways and other relevant banking services.

Key market factors to be evaluated before entering a new E-Commerce business

To achieve their vision, E-Commerce companies will need to understand the intricate land scape of new markets in addition to their own internal capabilities and limitations. The following factors must be considered:

Market size : Before moving too aggressively into a new market, it is important to consider how sizable the overall opportunity is.

ecommerce readiness : It is essential to fully understanding the payment and logistical infrastructure, consumer behaviour, retail opportunity and technological developments. Scope of growth: It is also important to look at the internet penetration, demographics of the online buying population and

understand which phase of development each market is in.

Barrierstoentry: Players should understand the regulatory environment and connect with solution providers, content distribution networks, and digitalagencies.

Competition : There is also a need to do an in-depth assessment of what competitors are doing, their online strategy and the nature of each offering

E-Commerce has affected businesses positively and negatively.

On the one side, ecommerce makes it easier for businesses to reach a much wider audience at less expense than would be required if the traditional retail method was to be applied.With ecommerce, there is no requirement to acquire expensive shops in high streets. You can produce or store your good sat are mote up country location and still advertise and sell them worldwide. While the cost of developing a good website may be substantial, it is much cheaper than letting expensive high street storefronts. Additionally, once you have your website operational, you will reach a wide client base. The next thing is to ensure that you have access to appropriate means of transporting goods to customers who make orders.

Indian e-commerce has to face many difficulties in web marketing because of infrastructural difficulties and computer illiteracy. Majority of the customers live in rural areas do not sufficient knowledge about computer and internet. Some of customers in urban areas do not have credit facilities and therefore online buying and selling of goods is limited to urban class having knowledge

of computer internet if Indian marketer stake into account essentials of good website, they can definitely make success marketing in international markets.

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Unmanned SUV

A Project Report

Submitted in partial fulfillment of the
requirements for the award of the Degree of

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

By

Mr. Shubham Keer
Seat Number: _____

Under the esteemed guidance of

Prof.Geeta Sahu

Assistant Professor, Department of Information Technology

DEPARTMENT OF INFORMATION TECHNOLOGY

VIDYALANKAR SCHOOL OF INFORMATION TECHNOLOGY

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2020 - 2021

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MUMBAI-MAHARASHTRA-400037

DEPARTMENT OF INFORMATION TECHNOLOGY

CERTIFICATE

This is to certify that the project entitled, **"Unmanned SUV"**, is bonafied work of

Mr. Shubham Keer bearing Seat No: _____ submitted in partial fulfilment of the requirements for the award of degree of MASTER OF SCIENCE in INFORMATION TECHNOLOGY from University of Mumbai.

Internal Guide **Coordinator**

Internal Examiner **External Examiner**

Date: **College Seal** **Principal**

ABSTRACT

The autonomous car or the driverless car are often mentioned as a robotic car in simple language. This car is capable of sensing the environment, navigating and fulfilling the human transportation capabilities with none human input. it's an enormous step within the advancing future technology. Autonomous cars sense their surroundings with cameras, radar, lidar, GPS and navigational paths. Advanced control systems interpret sensory information to stay track of their position albeit the conditions change.

In this we are building a autonomous vehicle which is capable of driving itself without any need of manual intervention. It can drive itself, it can detect obstacles, it. can also follow the traffic signals and it can also control via Android phone. We can also provide GPS coordinates and it will help to guide itself provided by the phone.

ACKNOWLEDGEMENT

It gives me immense pleasure in expressing my heartfelt thanks to the people who were part of this project in numerous ways. I owe my thanks to all those who gave endless support right from the conception of the project idea to its implementation, it would not have materialized without the help of many.

The dedication, hard work, patience and correct guidance makes any task proficient & a successful achievement. Intellectual and timely guidance not only helps in trying productive but also transforms the whole process of learning and implementing into an enjoyable experience.

I would like to thank our Principal "**Dr. Rohini Kelkar**" and vice principal "**Mr. Asif Rampurawala**" for providing this opportunity, a special thanks to our Project Mentor "**Ms. Beena Kapadia**" for their support, blessings and for being a constant source of inspiration to us. With immense gratitude, I would like to convey my special honour and respect to "**Ms. Geeta Sahu**" **(Project Guide)** who took keen interest in checking the minute details of the project work and guided us throughout the same.

A sincere thanks to the non-teaching staff for providing us with the long lab timings that we could receive along with the books and with all the information we needed for this project, without which the successful completion of this project would not have been possible.

Finally, I wish to avail this opportunity & express a sense of gratitude and love to my friends and my beloved parents for their support, strength and help for everything.

Mr. Shubham Keer

DECLARATION

I hereby declare that the project entitled, "**Unmanned SUV**" done at Vidyalankar School of Information Technology, has not been in any case duplicated to submit to any other universities for the award of any degree. To the best of my knowledge other than me, no one has submitted to any other university.

The project is done in partial fulfillment of the requirements for the award of degree of **MASTER OF SCIENCE (INFORMATION TECHNOLOGY)** to be submitted as final semester project as part of our curriculum.

Name and Signature of the Student

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Introduction

Background:

A robot device is an instrumented mechanism utilized in science or industry to require the place of a person's being. Robots can move from one place to a different. This capability is difficult because more things can fail if the robot is liberal to move around instead of being bolted to at least one place. Autonomous mobile robots must contain everything, including a brain and an influence supply. There are many ways to approach mobile robot navigation, with path planning and obstacle avoidance

In this we are building a autonomous vehicle which is capable of driving itself without any need of manual intervention. It can drive itself, it can detect obstacles, it. can also follow the traffic signals and it can also control via Android phone. We can also provide GPS coordinates and it will help to guide itself provided by the phone.

Problem Statement: -

Our problem is to seem at the implications of utilizing autonomous vehicles in everyday use to scale back negative impacts on society caused by manual transportation.

The implications we shall study include the resulting impacts on personal safety during travel, efficiency and productivity of people and businesses as a result of autonomous transportation, economics, availability and accessibility to passengers with handicaps or less independence, and society and culture.

The principal goal of the self-driving movement is to form roads safer by eliminating human error. Different sources predict that autonomous vehicles could prevent anywhere from 75% to 90% of the auto accidents we suffer annually.

Scope: -

Technological advances are pacing in an unmanageable manner. The more a nation invests in upcoming technologies, the more incentives it enjoys within the end of the day. The prime focus of technology nowadays is to moderate the human intervention in day-to-day tasks. For that purpose, we'll make autonomous car that perceive their environment and move without human navigation. With the many growth within the field of Internet of Things, it's safe to mention it'll pave the way for self-driven vehicles.

Feasibility Study: -

The proposed system is time saving and reduce manpower. The system generates results with minimum errors and is highly accurate.

Software feasibility: -

For developing the application's GUI, we will be using Android studio that allows us to develop a Graphical User Interface and for the backend purpose we will be using python.

To deal with images and to extract their embeddings we will be using OpenCV. We will be using Support Vector Machine (SVM) to train the model on top of the embeddings. SVM is a supervised machine learning algorithm that helps in classification or regression problems.

Behavioural feasibility:

The proposed system is quite easy to use and learn because of its simple and attractive GUI. User requires no special training to operate the system.

Objectives: -

- It helps in **Lane Line follower**.
- It has **Obstacle detection**.
- It will **detect Traffic signals**.
- **GPS guided**.
- It can be **controlled by application remotely**.

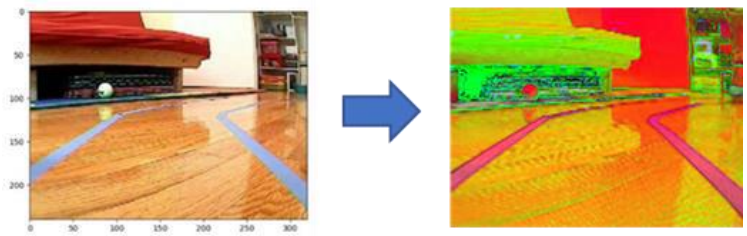
Literature review

Introduction: -

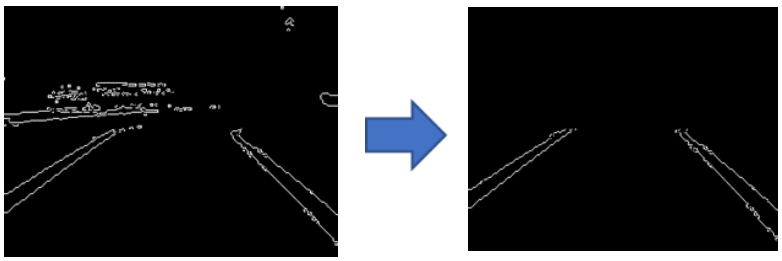
A literature review may well be a form of critique. A literature review may well be a paper that presents this information as substantive findings furthermore as theoretical and technique contributions to a selected topic. In this chapter, a fast outline of studies created on autonomous driving and controlling remotely are introduced, this could give a general set up of the history of systems and approaches that are used to this point.

Literature review

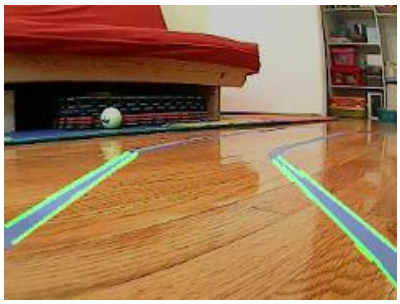
This paper presents lane detection technology to improve the efficiency and accuracy of real-time lane detection. the lane detection module is usually divided into two steps: (1) image pre-processing and (2) the establishment and matching of line lane detection model. The first step is to read the frames. The second step is to enter the image pre-processing module. What is different from others is that in the pre-processing stage we not only process the image itself but also do colour feature extraction and edge feature extraction. In order to reduce the influence of noise in the process of motion and tracking, afar extracting the colour features of the image, we need to use Gaussian filter to smooth the image. Then, the image is obtained by binary threshold processing and morphological closure. These are the pre-processing methods mentioned in this paper. Next, we select the adaptive area of interest (ROI) in the pre-processed image. The last step is lane detection. Firstly, Canny operator is used to detect the edge of lane line; then Hough transform is used to detect line lane.



BGR to HSV (Hue Saturation Value)



CANNY EDGE DETECTION WITH GAUSSIAN BLUR



RESULT

A camera-based algorithm for real-time robust traffic light detection and recognition was proposed, and particularly designed for autonomous vehicles. Although this reliable traffic light recognition algorithms operate well under way, most of them are mainly designed for detection at a tough and fast position and thus the effect on autonomous vehicles under real-world conditions remains limited. Some methods achieve high accuracy on autonomous vehicle, but they will not work normally without the assistance of high-precision priori map. The authors presented a camera-based algorithm for the matter. The image processing flow are often divided into three steps, including pre-processing, detection and recognition. Firstly, red-green-blue (RGB) colour space is converted to hue-saturation-value (HSV) as main content of pre-processing. In detection step, the transcendental colour threshold method is used for initial filtering, meanwhile, the prior knowledge is performed to scan the scene so on quickly establish candidate regions. For recognition, this text use histogram of oriented gradients (HOG) features and support vector machine (SVM) also to acknowledge the state of traffic light

For the obstacle point of view we are going to use ultrasonic sensors to detect the object. It covers the range between 1m-4m. If the object comes in the radar of given measurements then the vehicle get automatically stops. An autonomous car navigation system based on Global Positioning System (GPS) is a new and promising technology, which uses real time geographical data received from several GPS satellites to calculate longitude, latitude, speed and course to help navigate a car

Comparative Analysis: -

Language: -

Machine Learning & AI programs can be written in many programming languages like Java, Python & R. But R & Python are the two dominant programming languages for machine learning, both are free and open source both are easy to write.

Python: -

Python is a popular scientific language and a rising star for machine learning. Quickly coming to rival R's dominance in academia and research. But why is Python so popular in the machine learning world? Why is Python good for AI? The reason is Python allows users to focus on real problems & Python has so many features that are attractive for scientific computing.

R: -

R is a workhorse for statistical analysis and by extension machine learning. Much talk is given to the learning curve, it is the platform to use to understand and explore your data using statistical methods and graphs. It has an enormous number of machine learning algorithms, and advanced implementations too written by the developers of the algorithm.

Why are we using Python over R?

- Python is easier to code than R as R is little complicated
- Both R & Python has enormous packages & Libraries for machine learning but python has some of the best packages for Machine algorithms for inputting quires and getting responses

- Installing explicit packages for Python is easy and reliable like chatterbot & pyttsx3 package for our project.

Research Gap: -

A literature gap, or analysis gap, is an undiscovered topic disclosed throughout a literature search that has scope for analysis or additional exploration.
The researchers of autonomous vehicle have written in literature only about how the systems are made and the process behind it they have also written dozens of papers on how they are trained, how they work. Again, the process behind it is very little and has been written about the knowledgebase and how they are created.

System design and Modelling

Introduction: -

Systems style is that the method of shaping parts of a system like modules, design, components, and their interfaces and knowledge for a system supported the required needs. it is the method of shaping, developing, and planning systems that satisfy the wants and needs of a business or organization.

A general approach is needed for a coherent and well-running system. A designer uses modelling languages to specific information the data and knowledge during a structure of the system that is outlined by a standardized set of rules and definitions. The styles may be outlined in graphical or matter modelling languages.

Information requirement gathering and analysis: -

Hardware requirements: -

- Raspberry pi 4
- Pi Cam
- Ultrasonic sensor
- Lead acid Battery(12V)
- DC Motors
- Power bank

Software requirements: -

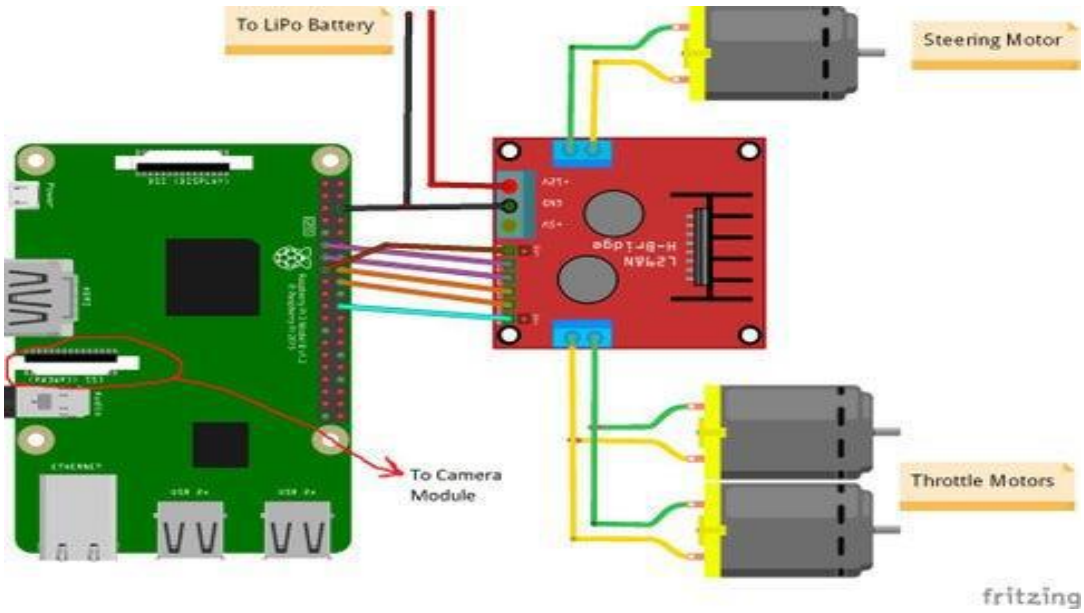
- Python
- Android studio

System Modelling: -

System modelling is that the method of developing abstract models of a system, with every model presenting a unique read or perspective of that system. associate degree interaction perspective, wherever you model the interactions between a system and its setting, or between the elements of a system.

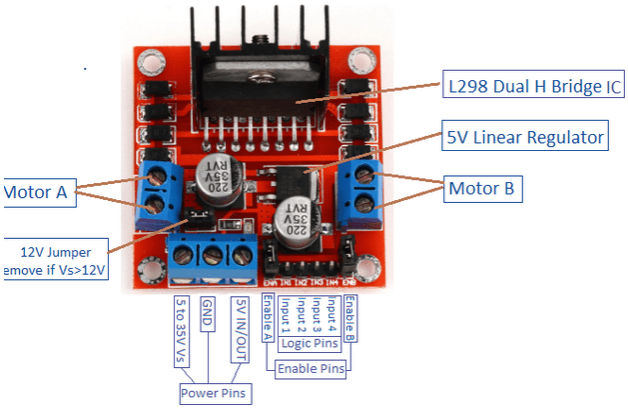
Our project has modules that are lane line detection, obstacle avoidance ,traffic light detection, GPS guidance and IOT mode.

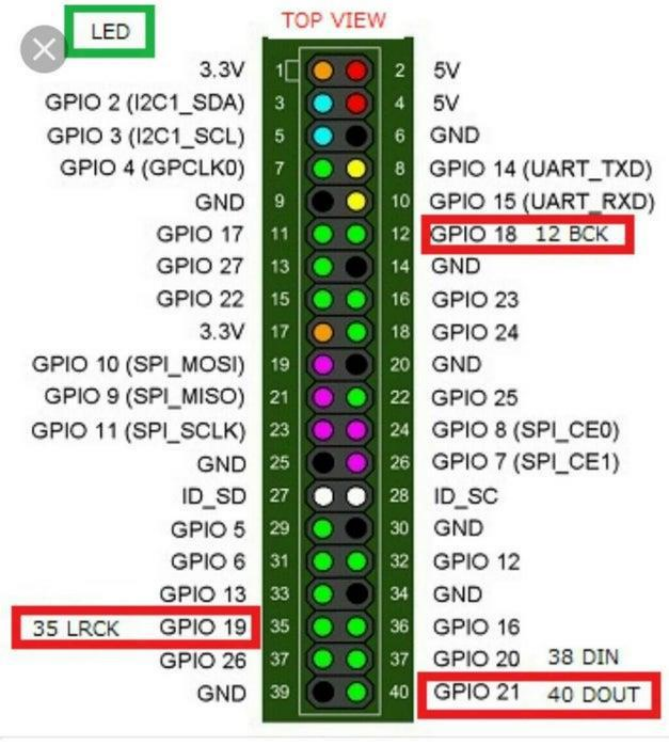
Circuit diagram: -



Description:-

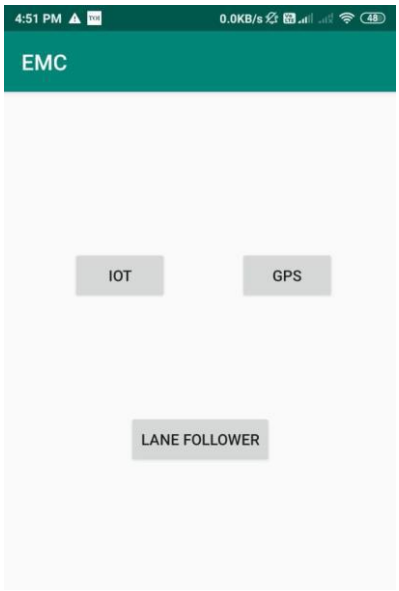
First we need to connect the motor driver and RPI 4 to ensure connection, so 6 connection from motor driver goes to RPI as Motor 1 control(INS 1 and INS 2), Motor control 2 (INS 3 and INS 4) and Both Motor control PWM Pin (1 and 2) and connect as shown in the below a diagram





After the connection is done as the main component of the circuit diagram is our raspberry pie CPU which handles the image processing part of the project and then after the image processing part is done by the CPU it gives specific digital signals in the specified digital outputs as per the instructions given to it this digital outputs are then given to motor driver digital input pins and depending upon the digital inputs given to the motor driver it will relay the specific DC input given to it with the battery with the help of H bridge.

And we have made an app to toggle the modes

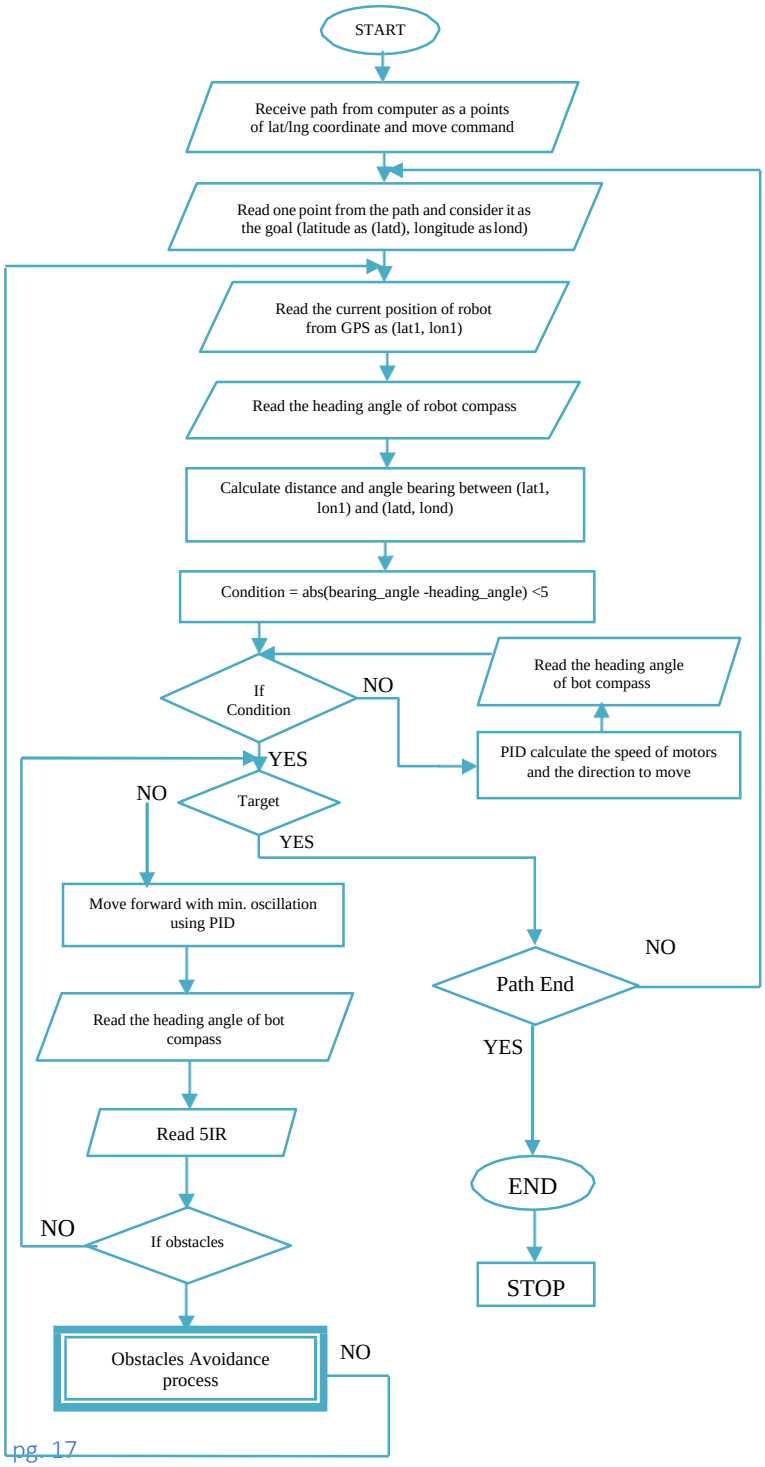

4:51 PM
0.0KB/s
EMC
IOT
GPS
LANE FOLLOWER

METHODOLOGY

Introduction: -

A methodology is that the style method for polishing off analysis or the event of a procedure associated isn't in itself an instrument, or method, or procedure for doing things.

Flowchart diagram:-



Description of methodology used: -

The proposed system is designed for self-driving for time saving and reduce manpower and overcome the flaws with the existing driving process. First, we preprocessed each frame image and then selected the area of interest (ROI) of the processed images. Finally, we only needed edge detection vehicle and line detection for the ROI area.

In this study, we introduced a new preprocessing method and ROI selection method. First, in the preprocessing stage, we converted the RGB colour model to the HSV colour space model and extracted white features on the HSV model. At the same time, the preliminary edge feature detection is added in the preprocessing stage, and then the part below the image is selected as the ROI area based on the proposed preprocessing. Compared with the existing methods, the existing pre-processing methods only perform operations such as graying, blurring, X-gradient, Y-gradient, global gradient, thresh, and morphological closure. And the ways to select the ROI area are also very different. Some of them are based on the edge feature of the lane to select the ROI area, and some are based on the colour feature of the lane to select the ROI area.

These existing methods do not provide accurate and fast lane information, which increases the difficulty of lane detection. In this paper, experiments show that the proposed method is significantly better than the existing preprocessing method and ROI selection method in lane detection. For obstacle point of view, the car will follow the same lane pattern if the sensor detect any obstacle within its radar its stops .

Implementation and Testing

Coding details:-

Main.py

```
from imutils.video import VideoStream
from flask import Response
from flask import Flask
from flask import render_template
import threading
import argparse
import datetime
import imutils
import features
import time
import matplotlib.pylab as plt
import cv2
import numpy as np
import py_qmc5883l
import heading as ch
import math
import sys
import urllib.request
import RPi.GPIO as GPIO
import imutils
import requests
import serial


outputFrame = None
lock = threading.Lock()
```

```
app = Flask(__name__)

vs = VideoStream(usePiCamera=1).start()
time.sleep(2.0)
trafficsign_cascade = cv2.CascadeClassifier('trafficsign_classifier.xml')

#throttle
#throttlePin = 22 # Physical pin 22
in3 = 16 # physical Pin 16
in4 = 18 # physical Pin 18

#Steering
#steeringPin = 15 # Physical Pin 15
in1 = 11 # Physical Pin 11
in2 = 13 # Physical Pin 13
#set GPIO Pins
GPIO_TRIGGER = 29
GPIO_ECHO = 31

#### setting GPIO pins #####
GPIO.setmode(GPIO.BOARD)
GPIO.setup(in1,GPIO.OUT)
GPIO.setup(in2,GPIO.OUT)
GPIO.setup(in3,GPIO.OUT)
GPIO.setup(in4,GPIO.OUT)

#set GPIO direction (IN / OUT)
GPIO.setup(GPIO_TRIGGER, GPIO.OUT)
GPIO.setup(GPIO_ECHO, GPIO.IN)
```

```
#GPIO.setup(throttlePin,GPIO.OUT)
#GPIO.setup(steeringPin,GPIO.OUT)

# Steering
# in1 = 1 and in2 = 0 -> Left
#GPIO.output(in1,GPIO.LOW)
#GPIO.output(in2,GPIO.LOW)
#steering = GPIO.PWM(steeringPin,1000)
#steering.stop()

# Throttle
# in3 = 1 and in4 = 0 -> Forward
#GPIO.output(in3,GPIO.HIGH)
#GPIO.output(in4,GPIO.LOW)
#throttle = GPIO.PWM(throttlePin,1000)
#throttle.stop()

speed = 8
lastTime = 0
lastError = 0
kp = 0.4
kd = kp * 0.65

#### defining control function ####

def back():
    print('back')
    GPIO.output(in1,GPIO.HIGH)
    GPIO.output(in2,GPIO.LOW)
    GPIO.output(in3,GPIO.HIGH)
```

```
    GPIO.output(in4,GPIO.LOW)

def straight():
    print('straight')
    GPIO.output(in1,GPIO.LOW)
    GPIO.output(in2,GPIO.HIGH)
    GPIO.output(in3,GPIO.LOW)
    GPIO.output(in4,GPIO.HIGH)

def stop():
    print('stop')
    GPIO.output(in1,GPIO.LOW)
    GPIO.output(in2,GPIO.LOW)
    GPIO.output(in3,GPIO.LOW)
    GPIO.output(in4,GPIO.LOW)

def left():
    print('left')
    GPIO.output(in1,GPIO.HIGH)
    GPIO.output(in2,GPIO.LOW)
    GPIO.output(in3,GPIO.LOW)
    GPIO.output(in4,GPIO.HIGH)

def right():
    print('right')
    GPIO.output(in1,GPIO.LOW)
    GPIO.output(in2,GPIO.HIGH)
    GPIO.output(in3,GPIO.HIGH)
    GPIO.output(in4,GPIO.LOW)
```

```
def ultrasonic():
    GPIO.output(GPIO_TRIGGER, True)
    time.sleep(0.00001)
    GPIO.output(GPIO_TRIGGER, False)
    StartTime = time.time()
    StopTime = time.time()
    while GPIO.input(GPIO_ECHO) == 0:
        StartTime = time.time()
    while GPIO.input(GPIO_ECHO) == 1:
        StopTime = time.time()
    TimeElapsed = StopTime - StartTime
    distance = (TimeElapsed * 34300) / 2
    return distance

def create_feature(rgb_image):
  '''Basic brightness feature, required by Udacity'''
  hsv = cv2.cvtColor(rgb_image, cv2.COLOR_RGB2HSV) # Convert to HSV color space

  sum_brightness = np.sum(hsv[:,:,2]) # Sum the brightness values
  area = 32*32
  avg_brightness = sum_brightness / area # Find the average

  return avg_brightness

def high_saturation_pixels(rgb_image, threshold):
  '''Returns average red and green content from high saturation pixels'''
  high_sat_pixels = []
  hsv = cv2.cvtColor(rgb_image, cv2.COLOR_RGB2HSV)
  for i in range(32):
    for j in range(32):
```

```
      if hsv[i][j][1] > threshold:
        high_sat_pixels.append(rgb_image[i][j])

  if not high_sat_pixels:
    return highest_sat_pixel(rgb_image)

  sum_red = 0
  sum_green = 0
  for pixel in high_sat_pixels:
    sum_red += pixel[0]
    sum_green += pixel[1]

  # TODO: Use sum() instead of manually adding them up
  avg_red = sum_red / len(high_sat_pixels)
  avg_green = sum_green / len(high_sat_pixels) * 0.8 # 0.8 to favor red's chances
  return avg_red, avg_green

def highest_sat_pixel(rgb_image):
  '''Finds the higest saturation pixel, and checks if it has a higher green
  content, or a higher red content'''

  hsv = cv2.cvtColor(rgb_image, cv2.COLOR_RGB2HSV)
  s = hsv[:,:,1]

  x, y = (np.unravel_index(np.argmax(s), s.shape))
  if rgb_image[x, y, 0] > rgb_image[x,y, 1] * 0.9: # 0.9 to favor red's chances
    return 1, 0 # Red has a higher content
  return 0, 1

def estimate_label(rgb_image): # Standardized RGB image
```

```
  return red_green_yellow(rgb_image)

def findNonZero(rgb_image):
  rows, cols, _ = rgb_image.shape
  counter = 0

  for row in range(rows):
    for col in range(cols):
      pixel = rgb_image[row, col]
      if sum(pixel) != 0:
        counter = counter + 1

  return counter

def red_green_yellow(rgb_image):
  '''Determines the Red, Green, and Yellow content in each image using HSV and
  experimentally determined thresholds. Returns a classification based on the
  values.
  '''
  hsv = cv2.cvtColor(rgb_image, cv2.COLOR_RGB2HSV)
  sum_saturation = np.sum(hsv[:,:,1]) # Sum the brightness values
  area = 32*32
  avg_saturation = sum_saturation / area # Find the average

  sat_low = int(avg_saturation * 1.3)
  val_low = 140

  # Green
  lower_green = np.array([70,sat_low,val_low])
  upper_green = np.array([100,255,255])
```

```
  green_mask = cv2.inRange(hsv, lower_green, upper_green)
  green_result = cv2.bitwise_and(rgb_image, rgb_image, mask = green_mask)

  # Yellow
  lower_yellow = np.array([10,sat_low,val_low])
  upper_yellow = np.array([60,255,255])
  yellow_mask = cv2.inRange(hsv, lower_yellow, upper_yellow)
  yellow_result = cv2.bitwise_and(rgb_image, rgb_image, mask = yellow_mask)

  # Red
  lower_red = np.array([150,sat_low,val_low])
  upper_red = np.array([180,255,255])
  red_mask = cv2.inRange(hsv, lower_red, upper_red)
  red_result = cv2.bitwise_and(rgb_image, rgb_image, mask = red_mask)

  sum_green = findNonZero(green_result)
  sum_yellow = findNonZero(yellow_result)
  sum_red = findNonZero(red_result)

  if sum_red >= sum_yellow and sum_red >= sum_green:
    return "Red" # Red
  if sum_yellow >= sum_green:
    return "Green" # Yellow
  return "Yellow" # Green

def detect_edges(frame):
    hsv = cv2.cvtColor(frame, cv2.COLOR_BGR2HSV)
    lower_blue = np.array([0, 50, 50], dtype = "uint8")
    upper_blue = np.array([10, 255, 255], dtype="uint8")
    mask = cv2.inRange(hsv,lower_blue,upper_blue)
```

```
    edges = cv2.Canny(mask, 50, 100)
    return edges


def region_of_interest(edges):
    height, width = edges.shape
    mask = np.zeros_like(edges)
    polygon = np.array([[
        (0, height),
        (0,  height/2),
        (width , height/2),
        (width , height),
    ]], np.int32)
    cv2.fillPoly(mask, polygon, 255)
    cropped_edges = cv2.bitwise_and(edges, mask)
    #cv2.imshow("roi",cropped_edges)
    return cropped_edges


def detect_line_segments(cropped_edges):
    rho = 1
    theta = np.pi / 180
    min_threshold = 10
    line_segments = cv2.HoughLinesP(cropped_edges, rho, theta, min_threshold, np.array([]),
minLineLength=5, maxLineGap=150)
    return line_segments


def average_slope_intercept(frame, line_segments):
    lane_lines = []
    if line_segments is None:
        print("no line segments detected")
        return lane_lines
    height, width,_ = frame.shape
```

```
    left_fit = []
    right_fit = []
    boundary = 1/3
    left_region_boundary = width * (1 - boundary)
    right_region_boundary = width * boundary
    for line_segment in line_segments:
        for x1, y1, x2, y2 in line_segment:
            if x1 == x2:
                print("skipping vertical lines (slope = infinity")
                continue
            fit = np.polyfit((x1, x2), (y1, y2), 1)
            slope = (y2 - y1) / (x2 - x1)
            intercept = y1 - (slope * x1)
            if slope < 0:
                if x1 < left_region_boundary and x2 < left_region_boundary:
                    left_fit.append((slope, intercept))
            else:
                if x1 > right_region_boundary and x2 > right_region_boundary:
                    right_fit.append((slope, intercept))
    left_fit_average = np.average(left_fit, axis=0)
    if len(left_fit) > 0:
        lane_lines.append(make_points(frame, left_fit_average))
    right_fit_average = np.average(right_fit, axis=0)
    if len(right_fit) > 0:
        lane_lines.append(make_points(frame, right_fit_average))
    return lane_lines


def make_points(frame, line):
    height, width, _ = frame.shape
    slope, intercept = line
```

```
    y1 = height  # bottom of the frame
    y2 = int(y1 / 2)  # make points from middle of the frame down
    if slope == 0:
        slope = 0.1
    x1 = int((y1 - intercept) / slope)
    x2 = int((y2 - intercept) / slope)
    return [[x1, y1, x2, y2]]

def display_lines(frame, lines, line_color=(0, 255, 0), line_width=6):
    line_image = np.zeros_like(frame)
    if lines is not None:
        for line in lines:
            for x1, y1, x2, y2 in line:
                cv2.line(line_image, (x1, y1), (x2, y2), line_color, line_width)
    line_image = cv2.addWeighted(frame, 0.8, line_image, 1, 1)
    return line_image

def display_heading_line(frame, steering_angle, line_color=(0, 0, 255), line_width=5 ):
    heading_image = np.zeros_like(frame)
    height, width, _ = frame.shape
    steering_angle_radian = steering_angle / 180.0 * math.pi
    x1 = int(width / 2)
    y1 = height
    x2 = int(x1 - height / 2 / math.tan(steering_angle_radian))
    y2 = int(height / 2)
    cv2.line(heading_image, (x1, y1), (x2, y2), line_color, line_width)
    heading_image = cv2.addWeighted(frame, 0.8, heading_image, 1, 1)
    return heading_image

def get_steering_angle(frame, lane_lines):
```

```
    height,width,_ = frame.shape
    if len(lane_lines) == 2:
        _, _, left_x2, _ = lane_lines[0][0]
        _, _, right_x2, _ = lane_lines[1][0]
        mid = int(width / 2)
        x_offset = (left_x2 + right_x2) / 2 - mid
        y_offset = int(height / 2)
    elif len(lane_lines) == 1:
        x1, _, x2, _ = lane_lines[0][0]
        x_offset = x2 - x1
        y_offset = int(height / 2)
    elif len(lane_lines) == 0:
        x_offset = 0
        y_offset = int(height / 2)
    angle_to_mid_radian = math.atan(x_offset / y_offset)
    angle_to_mid_deg = int(angle_to_mid_radian * 180.0 / math.pi)
    steering_angle = angle_to_mid_deg + 90
    return steering_angle


@app.route("/")
def index():
    # return the rendered template
    return render_template("index.html")

def self_drive(frameCount):
        global vs, outputFrame, lock
        speed = 8
        lastTime = 0
        lastError = 0
```

```
        kp = 0.4
        kd = kp * 0.65

        global NMEA_buff
        global lat_in_degrees
        global long_in_degrees

        gpgga_info = "$GPGGA,"
        ser = serial.Serial ("/dev/ttyS0")              #Open port with baud rate
        GPGGA_buffer = 0
        NMEA_buff = 0
        lat_in_degrees = 0
        long_in_degrees = 0
        declination = -0.00669          #define declination angle of location where measurement
going to be done
        pi          = 3.14159265359     #define pi value
        sensor = py_qmc5883l.QMC5883L()

        GPIO.setmode(GPIO.BOARD)
        GPIO.setup(in1,GPIO.OUT)
        GPIO.setup(in2,GPIO.OUT)
        GPIO.setup(in3,GPIO.OUT)
        GPIO.setup(in4,GPIO.OUT)

        while True:
            request = urllib.request.Request('http://101.53.145.200:33162/EMC/emc/control/')
            mode=""
            direction=""
            try:
                response = urllib.request.urlopen(request)
                htmlBytes = response.read()
```

```
            htmlStr = htmlBytes.decode("utf8")
            temp=htmlStr.split('&')
            mode=temp[1]
            if mode=="1":
                response =
urllib.request.urlopen(urllib.request.Request('http://101.53.145.200:33162/EMC/emc/control/
iot/'))
                htmlBytes = response.read()
                htmlStr = htmlBytes.decode("utf8")
                temp=htmlStr.split('&')
                direction=temp[1]
                print("iot mode on")
            elif mode=="2":
                response =
urllib.request.urlopen(urllib.request.Request('http://101.53.145.200:33162/EMC/emc/control/
lane/'))
                htmlBytes = response.read()
                htmlStr = htmlBytes.decode("utf8")
                temp=htmlStr.split('&')
                print("lane mode on")
            elif mode=="3":
                print("gps mode on")
                try:
                    received_data = (str)(ser.readline())
                    print("ser", ser.readline())
                    GPGGA_data_available = received_data.find(gpgga_info)   #check for
NMEA GPGGA string
                    if (GPGGA_data_available>0):
                        #print('here')
                        GPGGA_buffer = received_data.split("$GPGGA,",1)[1]  #store data
coming after "$GPGGA," string
                        NMEA_buff = (GPGGA_buffer.split(','))              #store comma separated
data in buffer
```

```
                nmea_time = []
                nmea_latitude = []
                nmea_longitude = []
                nmea_time = NMEA_buff[0]
                nmea_latitude = NMEA_buff[1]
                nmea_longitude = NMEA_buff[3]
                lat = float(nmea_latitude)
                longi = float(nmea_longitude)
                decimal_value = lat/100.00
                degrees = int(decimal_value)
                mm_mmmm = (decimal_value - int(decimal_value))/0.6
                position = degrees + mm_mmmm
                position = "%.4f" %(position)
                lat_in_degrees = position
                decimal_value = longi/100.00
                degrees = int(decimal_value)
                mm_mmmm = (decimal_value - int(decimal_value))/0.6
                position = degrees + mm_mmmm
                position = "%.4f" %(position)
                long_in_degrees = position
                print("gps located")

            except:
                print("ERRO")

    except:
        print("something wrong")


    if mode=="1":
```

```
            cv2.destroyAllWindows()
            frame = vs.read()
            frame=cv2.flip(frame,-1)
            dist = ultrasonic()
            gray = cv2.cvtColor(frame, cv2.COLOR_BGR2GRAY)
            trafficsign = trafficsign_cascade.detectMultiScale(gray, 1.3, 5)
            pr=estimate_label(cv2.resize(frame,(32,32)))
            for (x, y, w, h) in trafficsign:
                cv2.rectangle(frame, (x, y), (x + w, y + h), (255, 0, 0), 2)
                cv2.putText(frame, "", (x,y+h), cv2.FONT_HERSHEY_SIMPLEX, 0.5,
(0,0,255), 1)
                cv2.putText(frame, pr, (x,y+h), cv2.FONT_HERSHEY_SIMPLEX, 0.5,
(0,0,255), 1)
                #cv2.imshow('gr',frame)
            with lock:
                outputFrame = frame.copy()
            if direction=="0" or dist< 25:
                stop()
            elif direction=="1" or direction=="2":
                straight()
            elif direction=="4":
                left()
            elif direction=="6":
                right()
            elif direction=="8":
                back()

        elif mode=="2":
            cv2.destroyAllWindows()
            frame = vs.read()
            frame = cv2.flip(frame,-1)
```

```
dist = ultrasonic()
#cv2.imshow("original",frame)
#thread_tra=threading.Thread(target=Traffic(frame))
#thread_tra.start()
edges = detect_edges(frame)
roi = region_of_interest(edges)
line_segments = detect_line_segments(roi)
lane_lines = average_slope_intercept(frame,line_segments)
lane_lines_image = display_lines(frame,lane_lines)
steering_angle = get_steering_angle(frame, lane_lines)
heading_image = display_heading_line(lane_lines_image,steering_angle)
#cv2.imshow("heading line",heading_image)
with lock:
    outputFrame = heading_image.copy()
#thread_ultra= threading.Thread(target = ultrasonic)
#thread_ultra.start()
now = time.time()
dt = now - lastTime
deviation = steering_angle - 90
error = abs(deviation)
print("deviation: "+ str(deviation))

if deviation == 0 or dist <25:
    deviation = 0
    print("stop")
    stop()
    #time.sleep(0.5)

elif deviation < 30 and deviation > -30:
    deviation = 0
```

```
            error = 0
            straight()
            time.sleep(0.5)

        elif deviation > 30:
            straight()
            time.sleep(0.5)
            right()
            time.sleep(0.5)
            straight()

        elif deviation < -30:
            straight()
            time.sleep(0.5)
            left()
            time.sleep(0.5)
            straight()

        derivative = kd * (error - lastError) / dt
        proportional = kp * error
        PD = int(speed + derivative + proportional)
        spd = abs(PD)
        if spd > 25:
            spd = 25
        #throttle.start(spd)
        lastError = error
        lastTime = time.time()

    elif mode=="3":
        while True:
```

```
                frame = vs.read()
                frame=cv2.flip(frame,-1)
                with lock:
                    outputFrame = frame.copy()
                received_data = (str)(ser.readline())                #read NMEA string received
                GPGGA_data_available = received_data.find(gpgga_info)   #check for NMEA GPGGA string
                #time.sleep(3.0)
                print("mode 3",received_data)
                if (GPGGA_data_available>0):
                   print("mode 3 gps received")
                   GPGGA_buffer = received_data.split("$GPGGA,",1)[1]  #store data coming after "$GPGGA," string
                   NMEA_buff = (GPGGA_buffer.split(','))              #store comma separated data in buffer
                   nmea_time = []
                   nmea_latitude = []
                   nmea_longitude = []
                   nmea_time = NMEA_buff[0]
                   nmea_latitude = NMEA_buff[1]
                   nmea_longitude = NMEA_buff[3]
                   lat = float(nmea_latitude)
                   longi = float(nmea_longitude)
                   decimal_value = lat/100.00
                   degrees = int(decimal_value)
                   mm_mmmm = (decimal_value - int(decimal_value))/0.6
                   position = degrees + mm_mmmm
                   position = "%.4f" %(position)
                   lat_in_degrees = position
                   decimal_value = longi/100.00
                   degrees = int(decimal_value)
```

```
                mm_mmmm = (decimal_value - int(decimal_value))/0.6
                position = degrees + mm_mmmm
                position = "%.4f" %(position)
                long_in_degrees = position

                time.sleep(0.5)
                print ("Bearing: "+str(sensor.get_bearing()))
                #print (sensor.get_data())
                x,y,z,t = sensor.get_data()
                heading = math.atan2(y, x) + declination
                if(heading > 2*pi):
                   heading = heading - 2*pi
                if(heading < 0):
                   heading = heading + 2*pi
                heading_angle = int(heading * 180/pi)
                request =
urllib.request.Request('http://101.53.145.200:33162/EMC/emc/control/location/')
                response = urllib.request.urlopen(request)
                htmlBytes = response.read()
                htmlStr = htmlBytes.decode("utf8")
                temp=htmlStr.split('&')
                #print(temp)
                angle=heading_angle+45.0
                direction=ch.CurrentHeading.getHeading(float(long_in_degrees)-
float(temp[2]),float(lat_in_degrees)-float(temp[1]),angle)
                print ("heading angle "+str(heading_angle))

                print("angle "+str(angle))
                print("lat in degrees:", lat_in_degrees," long in degree: ", long_in_degrees,
'\n')
```

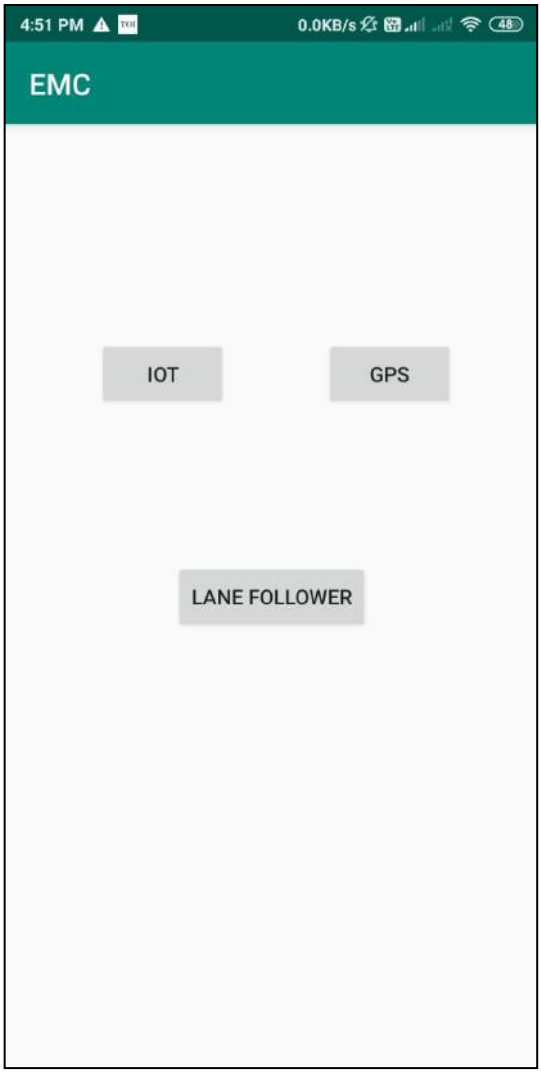
```
                url =
'http://101.53.145.200:33162/EMC/emc/control/location/4&'+lat_in_degrees+'&'+long_in_de
grees+'&'+str(angle)
                res = requests.get(url)
                print(res.text)
                if direction=="Right":
                    left()
                    time.sleep(0.5)
                    straight()
                    time.sleep(1)
                elif direction=="Left":
                    right()
                    time.sleep(0.5)
                    straight()
                    time.sleep(1)
                else:
                    straight()
                    time.sleep(0.5)




#cv2.destroyAllWindows()
#GPIO.cleanup()
#throttle.stop()
#steering.stop()

def generate():
    # grab global references to the output frame and lock variables
    global outputFrame, lock
    # loop over frames from the output stream
```

```
    while True:
        # wait until the lock is acquired
        with lock:
            # check if the output frame is available, otherwise skip
            # the iteration of the loop
            if outputFrame is None:
                continue
            # encode the frame in JPEG format
            (flag, encodedImage) = cv2.imencode(".jpg", outputFrame)
            # ensure the frame was successfully encoded
            if not flag:
                continue
        # yield the output frame in the byte format
        yield(b'--frame\r\n' b'Content-Type: image/jpeg\r\n\r\n' +
            bytearray(encodedImage) + b'\r\n')

@app.route("/video_feed")
def video_feed():
    # return the response generated along with the specific media
    # type (mime type)
    return Response(generate(),
        mimetype = "multipart/x-mixed-replace; boundary=frame")

# check to see if this is the main thread of execution
if __name__ == '__main__':
    # construct the argument parser and parse command line arguments
    ap = argparse.ArgumentParser()
    ap.add_argument("-i", "--ip", type=str, required=False)
    ap.add_argument("-o", "--port", type=int, required=False)
    ap.add_argument("-f", "--frame-count", type=int, default=30)
```

```
    args = vars(ap.parse_args())
    # start a thread that will perform motion detection
    t = threading.Thread(target=self_drive, args=(
        args["frame_count"],))
    t.daemon = True
    t.start()
    # start the flask app
    app.run(host="192.168.1.105", port="5000", debug=False,
        threaded=True, use_reloader=False)
# release the video stream pointer
vs.stop()
GPIO.cleanup()
cv2.destroyAllWindows()
#GPIO.cleanup()
```

Result:-

App to control mode



←IOT mode robot

Conclusion

Conclusion:-

- It has been proven that the mobile robot successfully finds its path between its start location and target point, depending on information from the lane detection and digital compass sensors.
- It has been proven that with five Sharp IR sensors the mobile robot detected and avoided complicated obstacles in its path.
- Without using a PID controller, the mobile robot does not move in a continuous straight line, it deviates around the selected path and takes more time to reach to its final target;

Limitations: -

- Expensive. Autonomous cars are so exciting because they're stuffed to the brim with time technology, but all this technology is currently astronomically expensive. In general, technology grows cheaper the longer it's available to the general public , so self-driving cars may eventually be something anyone can afford. For now however, most companies haven't released a price for his or her driverless cars.

- Security issues. One of the potential cons about self-driving cars is that the possibility of hacking. To have automated cars talk and coordinate with one another , they might got to share an equivalent network protocol. If an outsized number of cars share an equivalent network, however, they might be vulnerable to a hack. Even alittle hack could wreak significant damage on busy roads by causing collisions and gridlock traffic.

- Sensor failure. Machine error must be taken into consideration when examining the pros and cons of driverless cars. While most agree self-driving cars will likely prevent more accidents from happening, it doesn't completely eliminate the danger of accidents caused by machine error. Furthermore, if the software or any a part of the vehicle fails, an autonomous vehicle could put the driving force in additional danger than if the driving force was to personally take hold of the vehicle.

Future Scope: -

Sign recognition:-

We can add more into out image processing by adding sign recognition. So that the car can lower its speed and stop based on the sign it is shown.

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ONLINE COUNSELLING APPLICATION USING ARTIFICIAL INTELLIGENCE

A Project Report

Submitted in partial fulfilment of the requirement for the award of the Degree of

MASTER OF SCIENCE

(INFORMATION TECHNOLOGY)

By

BHAGYASHRI GOLER

3538439

Under the esteemed guidance of

Dr. Rajendra Patil

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2020-2021

Vidyalankar School of Information Technology
(Affiliated by Mumbai university)

Wadala (East), Mumbai – 400037

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CERTIFICATE

This is to certify that the project entitled, **"ONLINE COUNSELLING APPLICATION USING ARTIFICIAL INTELLIGENCE", is** bonafied work of **Bhagyashri Goler** bearing

Seat No.: **3538439** Submitted in partial fulfilment of the requirement for the award of the Degree of **MASTER OF SCIENCE in INFORMATION TECHNOLOGY** from University of Mumbai.

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This is to certify that **Ms. Goler Bhagyashri Shridhar** of **Vidyalankar School of Information Technology, Wadala** has participated and submitted a research proposal titled **AI based counselling tool** in **Humanities, Languages and Fine Arts** category and **PG** level for the **Selection Round** of **15th Inter-Collegiate / Institute / Department Avishkar Research Convention: 2020-21** for zone.

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This is to certify that Mr./Ms. Bhagyashri goler

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using artificial intelligence in VSearch 2021,

held on Saturday, 3rd April 2021 organized by Research & Development Committee of

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Dr.Amita Jain	Dr.Swagatika Nanda	Dr.Rohini Kelkar
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ABSTRACT

The 21st century is rapidly becoming online with all latest technology, like artificial intelligence. Online counselling, becoming more and more pervasive. The main motive of online counselling is helping to people, students who confused about their study what to do and facing life issue problem. Now days people face a mental health issue. The counselling is required everywhere by the expert in order to get proper suggestions and advise from the expert. The counselling for career, counseling for job skills, counseling for anxiety, depression etc.

The project is about an expert system used to automate the process of counselling.

The project will be developed using android app, latest version with artificial intelligence technology. Android to power hundreds of millions of mobile devices in more than 190 countries around the world.

This project is for all types of people and student who can't afford expensive counselling. Such as educational counselling, family counselling, mental health counselling. A report by the WHO predict that by 2020 20% of the Indian population will suffer from mental illnesses. Like depression, anxiety. But now artificial intelligence is presence felt in this field.

Chances of getting too personal and emotionally attached to the counsellor are high. Sometime counsellor has limited knowledge to tackle the situation and give a solution to the problem. Lack of information, lack of visual and verbal clues. Overcome all above these problems online counselling is easily accessible to all. Improved communication and interpersonal skills. Increase the confidence and decision-making skill. Online counselling is easy to access, reduced cost, reduced the time, increased progress and flexibility. Online counselling is beneficial for all people or student who can't afford it. Online counseling is cheaper and online counselling is proven to be as effective Were student speak with a counsellor or chat with a counselor anytime its 24*7 available. In This counselling, we will give psychologist therapy. Anywhere we can access.

ACKNOWLEDGEMENT

It gives me immense pleasure in expressing my heartfelt thanks to the people who were part of this project in numerous ways. I owe my thanks to all those who gave endless support right from the conception of the project idea to its implementation, it would not have materialized without the help of many.

The dedication, hard work, patience and correct guidance makes any task proficient & a successful achievement. Intellectual and timely guidance not only helps in trying productive but also transforms the whole process of learning and implementing into an enjoyable experience.

I would like to thank our principal "**Dr. Rohini Kelkar**" and vice principal **"Mr. Asif Rampurawala"** for providing this opportunity, a special thanks to our MSc IT coordinator "**Ms. Beena Kapadia**" for their support, blessings and for being a constant source of inspiration to us. With immense gratitude, I would like to convey my special honor and respect to "**Dr. Rajendra Patil**" **(Project Guide)** who took keen interest in checking the minute details of the project work and guided us throughout the same.

A sincere thanks to the non-teaching staff for providing us with the long lab timings that we could receive along with the books and with all the information we needed for this project, without which the successful completion of this project would not have been possible.

Finally, I wish to avail this opportunity & express a sense of gratitude and love to my friends and my beloved parents for their support, strength and help for everything.

Bhagyashri Goler

DECLARATION

I hereby declare that the project entitled, **"ONLINE COUNSELLING APPLICATION USING ARTIFICIAL INTELLIGENCE"** done at **vidyalankar school of information technology,** has not been in any case duplicated to submit to any other university for the award of any degree. To the best of my knowledge other than me, no one has submitted to any other university.

The project is done in partial fulfillment of the requirements for the award of degree of **MASTER OF SCIENCE (INFORMATION TECHNOLOGY)** to be submitted as final semester project as part of our curriculum.

Bhagyashri Goler

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1. INTRODUCTION

1.1 BACKGROUND

In addition to the rapid development of online counseling, limited research is available is focused on the situation, even though more and more books have appeared. Online counseling has been the focus of recent years, as internet use has become more widespread. The use of online counseling is gaining ground due to social media and online business and visual employment. With the widespread use of Smartphones and the freedom of video calling, online chats have become a very easy source of communication. Being anywhere in the world, while it is much easier to see someone and talk, video games have changed the way we communicate.

Counseling is a form of therapy in which the client shares all of his or her feelings, thoughts and problems with career and seeking help from a counselor. Online counseling gives you the opportunity to talk to a counselor, share personal problems or analyst online, without having to meet them face-to-face. And nowadays online counseling would be a better option because of COVID-19. Online counseling can provide valuable services for you if you need medical help but have already left it for emotional or physical reasons.

1.2 PROBLEM STATEMENT

The following behavioral concerns can be distinguished from those related to design and those who are related to the use of online counselling services. The loyalty of the users who are using our AI based counselling system is can be one of the obstacles we might have to face because it can be difficult to find trustworthy from people. It will take a long time to ensure that people Will believe in what we can give them in terms of career guidance, develop motivation and open their minds to accept the other.

But Career Counselling in India faces some serious challenges and problems. Career Counsellors face several difficulties and challenges when it comes to setting up a successful Career Counselling and guidance mechanism. It Is extremely important for the youth of the nation to have a proper

direction to their career. Anxiety is the highest concern among college students (41.6%), followed by and career problems (40.9%). Depression is the health condition that can affect student's ability to work, study, interact with peers. Or take care of themselves.

Students often use face-to-face counselling and getting suggestions from expertise. In these Nowadays, people have lot of work to do rather than go to the counsellor, but now, technology offers an opportunity to People so that they can easily ask and tell their stories online. With the internet, they don't have to attend any Appointment, go to a consultant, counsellor, waste their energy, money and time. This will be easier for working people, housewives, or just anyone to send their problems anytime anywhere.

1.3 SCOPE

Online counseling, is becoming more and more popular. A great motivation to working for online counseling is to help people, students who are confused about their learning what to do and deal with a health problem. Nowadays people face a mental health problem. Advice is needed everywhere by an expert to get the right recommendations and professional advice. Career counseling, job skills counseling, anxiety counseling, depression etc.

Psychological Comfort: Online therapy can help eliminate social stigma associated with receiving psychological counseling or other treatment. Flexibility: Clients have access to multiple professionals and can choose professionals who can work with their schedules.

1.4 FEASIBILITY STUDY

Feasibility studies to check the visibility of the project under the consideration the theoretical project various types of feasibility are conducted but below are important represent explain

1) Economic feasibility:

With manual system the operation cost of this system is about 60 lacs for annual this cost comprises salary of Swiss 25 people's stationary, building rent, electricity water

telephone etc. but with a new system this offering cost comes out to be about 20 lacs for renewal and the new system is economically feasible

2) Technical feasibility:

Technical Feasibility determines whether the work for the project can be done with the existing equipment's software technology and available personals technical feasibility is concerned with the specified equipment and software that will satisfy the user requirement this project is feasible on technical remark also as the proposed system is beneficiary in term of having a soundproof system with new technical equipment's install on the system that proposed system can run on any machine supporting window and work on the best software and hardware that had been used while designing the system so it would be visible in all technical term of feasibility3

3) Operational feasibility:

The new solution is possible in all sense but operationally is not the new system demands the explosion of at least 15 people from the company it creates an environment of joblessness and fear among the employees it can lead to indefinite Strike in the company also, so the management must take corrective action prior in advance to start further proceeding.

1.5 OBJECTIVE

Online Counseling is the provision of online mental health and career counseling services. These Services are usually provided, real-time chat, and video conferencing.

Online psychological or personal counseling is very much focused on the normal growth of people. This approach seeks to help patients cope with daily problems, such as work, and

lifestyle changes. The aim is to empower the client by finding areas they can manage and manage effectively. The main objective of this counseling project is to help student with their desire career guidance and to help people who are dealing with THEIR mental health like depression and anxiety or to help people who are stress with their jobs and daily work

This Counseling project aims to help clients understand and accept themselves "as they are", and counseling to help the student help themselves for their better career choices. The main purpose of counseling is to bring about voluntary change for the client.

The program is structured to ensure that the students can get benefits from this application and can present their problems freely without any hesitation. One of the aims of this mentoring project is to promote student / social development in a safe, inclusive environment and to improve their higher education system and career path.

2. LITERATURE REVIEW AND ANALYSIS

2.1 INTRODUCTION

Developing a greater understanding of various online-counseling services to include demonstrating their effectiveness, understanding their limitations, and assessing their equivalence with in-person psychotherapy Coordinating and engaging in active advocacy efforts to resolve jurisdictional issues so that all licensed psychologists can provide treatment services online to those in need. Creating ethical principles and standards directly relevant to the unique aspects of online counseling;

• Developing and obtaining funding for initiatives that create access to needed technology for our neediest citizens, that educate them about these services, and that assess their use and effectiveness; and

• Creating training programs for graduate students and practicing psychologists alike to provide them with the knowledge and skills needed to be competent and effective.

With the provision of counselling services, personal problems should be considered to consider whether these issues can be resolved to improve performance. In addition, The World Health Organization (WHO) emphasizes that many of the major health problems that lead to depression are ineffective. [1] Depression involves mixing different emotions and behaviors that can lead to loss of self-confidence mainly when it comes to job pressure or career pressure. When the person is suffering from depression, may lose interest in work, and may live away from home.

Automation the process of career guidance and counselling with the help of computer-assisted solutions is very powerful and it will hold greater importance for the people who are confused with their career preference. Besides, simplifying the task and saving effort and time, automated solution has great potential for integration and access, a larger diverse group of people. In this research paper, consideration of a number of Artificial Intelligence (AI) programs provided in the field of project management or career guidance and counselling has been done. This paper begins with the highlight of job guidance and follow-up counselling by considering the various technologies in providing a solution.

The career guidance bot is a user-friendly program where they can ask any job-related questions like the best optional field, latest advanced course, any career related queries, etc. even if the student does not frame question properly the system will have ability to understand question and can give answer accordingly to the student. The user does not need to follow any specific format to ask questions. Chatbots are new-generation computer programs that enable intelligent human conversations. Every chatbot has usually three parts. The first is typed or spoken input from the user in the native language, the second is typed or spoken output from chatbot and process input transfer through the program o that the understandable output is generated. The whole process is repeated until the end of the conversation. The purpose of a chat bot program is to mimic a human conversation; the construction of a bot includes a computational algorithm and language model to mimic the communication of information dialogue between a human user and computer.

2.2 LITERATURE REVIEW

One of the great features of online counseling is that it can be provided worldwide; online counseling has no local boundaries. Certainly, this presents exciting possibilities, but a number of

practical considerations must be addressed. Language is a significant barrier to overcome, but multilingual counseling psychologists may find many new markets for their services, and as the authors state, it may allow "counseling psychologists to reach out to populations that may otherwise avoid or not have access to mental health services" Developing a greater understanding of various online-counseling services to include demonstrating their effectiveness, understanding their limitations, and assessing their equivalence with in-person psychotherapy. Coordinating and engaging in active advocacy efforts to resolve jurisdictional issues so that all licensed psychologists can provide treatment services online to those in need. Creating ethical principles and standards directly relevant to the unique aspects of online counseling. Developing and obtaining funding for initiatives that create access to needed technology for our neediest citizens, that educate them about these services, and that assess their use and effectiveness and Creating training programs for graduate students and practicing psychologists alike to provide them with the knowledge and skills needed to be competent and effective.

2.3 COMPARATIVE ANALYSIS

The advent of the Internet has led to the continued growth of online counseling since the 1970s. Despite the growing popularity of online counseling worldwide right now, even if the benefits of online counseling outweigh those of offline counseling. Contrary to what has happened in the past, this study seeks to compare between online, offline counseling, and integrated in therapeutic outcomes, to shed light on the importance of the great advancement of online counseling in adolescent situations. this study adopted a mixed approach in conducting comparative analysis of service outcomes in terms of health quality and sense of well-being. Quantitative results showed that combined counseling is considered to be the best of all three counseling methods, whereas online counseling was better than offline counseling and online counseling focuses on personal issues. extremely psychological, described in quality analysis, online and offline counseling have their distinctive advantages. Offline counseling actually provides more substantial support in terms of real-time company and tangible resources. The idea is that online counseling has a potential value to be extensively developed. it can be like other offline counseling or integrated with offline counseling to maximize service results.

2.4 RESEARCH GAP

The research conducted in the online counseling center falls into four categories: 1) client attitudes; 2) counsellor perceptions/experiences; and 3) the effectiveness of online counselling.

1) client attitudes:

- Privacy
- Anonymity from family, friends and coworkers
- Emotionally safe environment
- Empowerment; equal relationship with therapist
- Protection from negative counselor's negative emotions, such as anxiety or criticism.
- Great freedom by expressing yourself; uncomfortable and intimidating than face-to-face counseling
- freedom of expression without shame or fear of being judged by a doctor.
- Ability to be completely honest and open

2) counsellor perceptions/experiences:

- Emotional safety
- Makes clients less anxious and nervous about receiving counselling, making it easier to discuss problems and helps to be self-confident with counsellors
- Might be a good helper to face-to-face services.
- We can meet the needs of patients in rural areas and patients with disabilities who may have difficulty participating in face-to-face treatment.

3) the effectiveness of online counselling:

- Online counseling that involves email support and feedback can be effective and very helpful for treating people who have depression, anxiety and traumatic stress and disorder.
- A single session counseling using real-time text conversation can be effective in reducing stress among teens and students' concerns.

- Chat-based online cognitive behavioral therapy may be effective at improving university students' study-related behavior and anxiety.

3. SYSTEM DESIGN AND MODELLING

3.1 INTRODUCTION

Online counseling is becoming more and more pervasive. Some see the practice as positive and others are concerned about the moral and ethical issues associated with providing online counseling. This project reviews the pros and cons of providing online counseling services, and whether or not staff and investigators do this. It recognizes that not only does it happen, but it will also increase and increase regardless of the potential for disruption. The case is made that now that it is here to stay, we should study this event because, for better or worse, it offers a unique opportunity to study counseling and psychotherapy.

3.2 INFORMATION REQUIREMENT GATHERING AND ANALYSIS

The requirement determination involved the collection of information about how the Online counselling should operate. The requirements determination activity is the most difficult part of system analysis and system testing. It involved gatherings and documenting of the true and real requirements for the system being developed. The main purpose of this section was to create detailed operational information that describes the complete set of system skills to be used, as well as the data associated with the process model. It shows the details that will be managed and the processes that will support the new system. It involved examination of the collected data. Models such as Entity Relationship (ERD's) were used to model individual processes and data respectively. Under requirements were classified as functional and non-functional requirements, the determination and analysis of requirements helped us to achieve proper objective..

3.3 SYSTEM MODELLING

ANDROID

Android is an active OS developed by Google, based on a modified version of the Linux kernel and other open-source software and specifically designed for touch mobile devices such as Smartphones and tablets. In addition, Google has improved even more Android TV for TVs, Android Auto cars, and Wear OS watches, each with visual interface. The variety of Android is used in game consoles, digital cameras, PCs and other electronic devices. Originally developed by Android Inc., which Google purchased in 2005, Android was introduced 2007, and the first commercial Android device launched in September 2008. The system has gone through many major releases, with the current version 9.0 "Pie" released in August 2018. The actual and main source code for Android is calls as Android Open-Source Project (AOSP), and licensed primarily under the Apache license. Android is also associated with a suite of related software developed by Google, including key applications for services such as Gmail and Google Search, as well as an app store with the digital distribution platform Google Play, and a compatible development platform. These apps are licensed by manufacturers of Android devices that are certified below Google's standards, but AOSP has been used as the basis for Android-based competitors, such as Amazon.com's Fire OS, which use similar features on Google Mobile Services. Android has become the best-selling OS in the world on Smartphones since 2011 and tablets since 2013. As of May 2017, it has more than two billion active users every month, the largest base installed in any app, and as of June 2018, the Google Play Store has more than 3.3 million apps.

ANDROID STUDIO

❖ Android Studio is Google's official integrated development platform (IDE) Android app, made on JetBrains' IntelliJ IDEA software and planned especially, with the development of Android. Available for download on Windows, Operating systems are based on MacOS and Linux. It is a substitute for Eclipse Android Development Tools (ADT) as the main IDE of the traditional Android app development.

❖ Android Studio was publicized on 16th may, 2013 at the time of Google I/O conference. in the preview category first access from version 0.1 in May 2013, and then in the beta phase starting with version 0.8 released in June 2014. The first stable structure released in December 2014, from version 1.0. Current stable version is 3.2, released in September 2018

❖ The following features are provided in the current stable version:

• Specific Android re-use and quick fix

Lint tools for capturing performance, usability, version compatibility and other issues

• Combination of ProGear and app signing capabilities

• Template-based wizards to create Android designs and common features

• A rich layout editor that allows users to drag and drop parts of the UI, an option

preview properties in multiple screen configurations

• Android Wear app building support

• Built-in Google Cloud Platform support, which enables integration with Firebase Cloud

Installation (Formerly 'Google Cloud Messaging') and Google App Engine

• Visible Android device (Emulator) for initializing and debugging applications in Android studio.

• Gradle-based construction support

• Android Studio supports same programming languages of PyCharm and IntelliJ,

e.g., Python, and Kotlin and Android Studio 3.0 support "Java 7 language features and

a subset of Java 8 language features that vary by platform type. "External activities

retrieve some features of Java 9

JAVA LANGUAGE

❖ Java is that the official language of the program developed by Sun Microsystems in 1995.

The company was noninheritable by Oracle Corporation, that continues to carry till

day. the newest version is Java SE nine, that came go into 2017.

❖ Java, that was referred to as Oak once it absolutely was still being developed, is object homeward-bound, meaning it's absolutely supported objects that employment along to form programs do their jobs. Java code appears like C, C++, or C#, however code written in those languages won't add Java in most cases while not being modified.

❖ Java works on many different operating systems, including Android, the world's largest

a popular mobile app. This makes the Java platform independent. It does this

by making the Java connector convert the code into Java bytecode instead of machine code.

This means that when the program is done, Java Virtual Machine translates the

bytecode and translate it into machine code.

❖ Java was established to achieve five main objectives. These are:

• It should be simple, targeted, distributed and easy to read.

• It must be strong and secure.

• It should be independent of computer or platform construction.

• It should play very well.

• You must be able to write a language interpreter. Language should also

support parallelism and use powerful typing.

HTML

(HYPER TEXT MARKUP LANGUAGE)

❖ Hypertext Markup (HTML) is the standard markup language web pages and web applications. For Cascading Style Spreadsheets (CSS) and JavaScript, it builds a stone technology triangle in the corner of the World Wide Web.

❖ Web browsers retrieve HTML documents from a web server or from local storage as well provide texts on multimedia web pages. HTML defines the structure of A web page contains indicators of the appearance of a document.

❖ HTML elements are elements of HTML page layout. With HTML formatting, photos and other items such as complementary forms can be included in the offer page. HTML provides ways to create organized documents with structured descriptions text semantics such as titles, paragraphs, lists, links, quotes and more. HTML elements are defined by tags which are written using angle brackets. Tags like <img/> And <input /> Import the content directly to the page. Some tags like <p> rotate and provide details about the text of the document and you can add other tags as less things. Browsers do not display HTML tags but use them to translate page content.

❖ HTML can embed text programs such as JavaScript, i.e., affects the functionality and content of web pages. CSS input defines visibility as well content design. The World Wide Web Consortium (W3C), the custodian of both HTML and CSS levels, have encouraged the use of CSS beyond the obvious HTML presentation since 1997.

XML

(EXTENSIBLE MARKUP LANGUAGE)

❖ In computer use, Extensible Mark-up Language (XML) is a descriptive marking language a set of rules for encoding in an easy-to-read text machine-readable. W3C's XML 1.0 specification and many more related Specification of all free open standards defines XML.

❖ Goals of XML design objectives emphasize simplicity, general usability, and usability everywhere the Internet. It is a text data format with solid Unicode support for different people languages. Although the structure of XML focuses on documents, the language is broad used for shortcut data representations similar to those used on the web services.

❖ Several schema programs exist to assist in the interpretation of XML-based languages, while Developers have developed many application plugins (APIs) to help XML data processing.

FIREBASE

Firebase is a mobile- and web application development platform, backed by Google, to help developers distribute richer app experiences. Firebase achieves its own infrastructure with a nice set of tools to shorten the workflow of the developer by providing them with development kits and an online dashboard. These toolkits are interconnected, scalable and integrable with third party software to overcome complex tests with standard building blocks. The platform consists excessive set of development tools.

This means that both the app and its database eavesdrop to each other, providing the user with reactive app experiences. And Firebase Cloud Functions can even spread this functionality. These functions allow the developer to inscribe backend code to respond to events happening in the Firebase platform without having to deal with any servers. For example, a Cloud Function can refer a notification to the app whenever something is happening in the database. Pretty neat, right? And there's additional.

Using Firebase Authentication you can verify users through both social and e-mail logins and can manage them very securely. Firebase Hosting can deploy both static and dynamic content to web apps and Cloud Storage can accumulate and serve a huge number of files. Last but not least, there's ML Kit. This module brings artifical learning to your app with ready-to-use APIs and custom models using TensorFlow Lite, an open-source machine learning platform by Google.

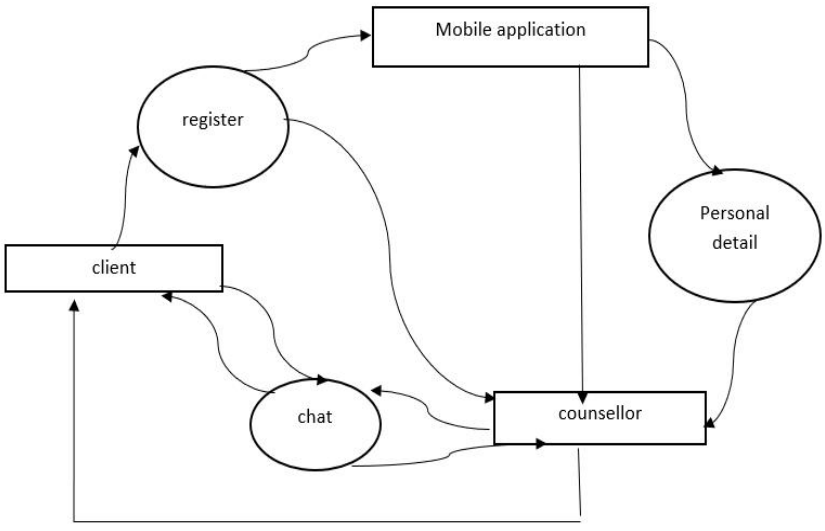
Firebase can also be use to improve your app quality when development is done by the developer. The Crashlytics module gives a real-time overview of the problems your users might encounter. Your app's act can also be monitored by using the Performance Monitoring tool and Test Lab tests your app on a range of devices to make sure that everyone gets the same user knowledge. The platform has its own Analytics and Prediction modules to get a better understanding of your users' behaviour and, for example, target precise addressees using In-App Messaging.

Application notifications can also be sent through the platform and there is even an A/B Testing tool to experiment with new functionalities that we have invented in the system. Are you aware with those links which can redirect you to a specific screen in an app? Well, Firebase can do that too.

3.4 DATABASE ANALYSIS AND MODELLING

A picture costs a thousand words. Data Flow diagram (DFD)may be an ancient method of visualizing info flowing inside a system A clean and clear DFD can clearly show the right amount of system requirements. It may be manual, automatic, or a mix of each. Indicates how the data enters and leaves the system, what changes the data and where the information is stored. The purpose of the DFD is to indicate the size and parameters of the entire system. It can be used as a communication tool between a system analyst and any person involved in a program that serves as the starting point for system rebuilding.

It usually starts with a content diagram as level 0 of the DFD diagram, a simple representation of the entire system. To illustrate further, we come down to a level 1 diagram with low-level tasks tied to major project functions. This could further evolve into a level 2 diagram where further analysis is needed. Going through levels 3, 4 and so on is possible but anything more than level 3 is not very common. Please keep in mind that the level of data corruption of a particular job depends on the difficulty at hand.



3.5 SYSTEM DIAGRAM

CLASS DIAGRAM

In Software Engineering, class drawing is Unified Modeling Language type of a diagram of a vertical structure that describes the structure of a system by display system classes, their attributes, functionality, and interpersonal relationships. Classroom design is the basic foundation for object-oriented design. Commonly used conceptual modeling of app layout, as well as detailed translation of the model models become program code. Class drawings can also be used for data modeling. The classes in a classroom drawing represent both key elements, application interaction, and classes will be organized.

In the diagram, the classes are represented by boxes containing three rooms:

• Upstairs has a class name. It is printed in bold and focused, too

the first letter is capitalized.

• The middle room contains section attributes. Aligned left and right

The first letter is small letters.

The room below contains activities that can be performed by a section. They are left again

aligned and the first letter is lowercase.

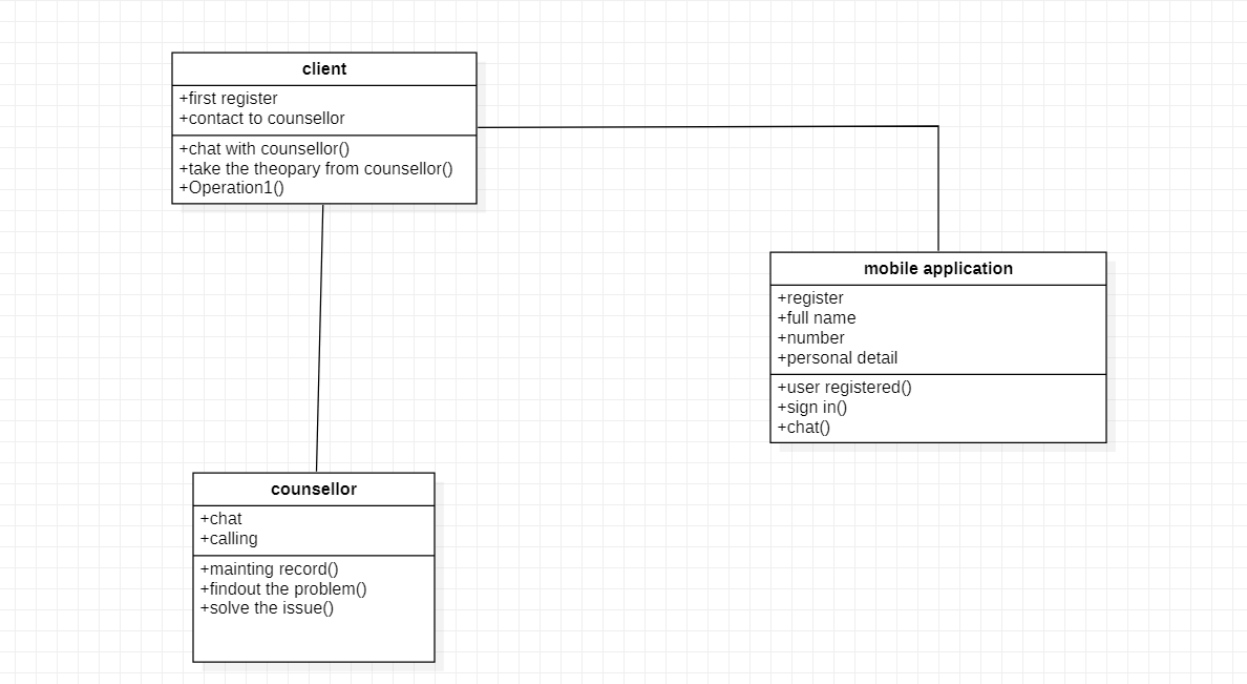
In program design, many classes are identified and grouped together in the classroom

A diagram that helps determine the relationship that exists between them. For detailed modeling,

concept design classes are often divided into a few scenes.

To further explain the functionality of the systems, these class diagrams can be

completed by state drawing or unified modeling diagram.

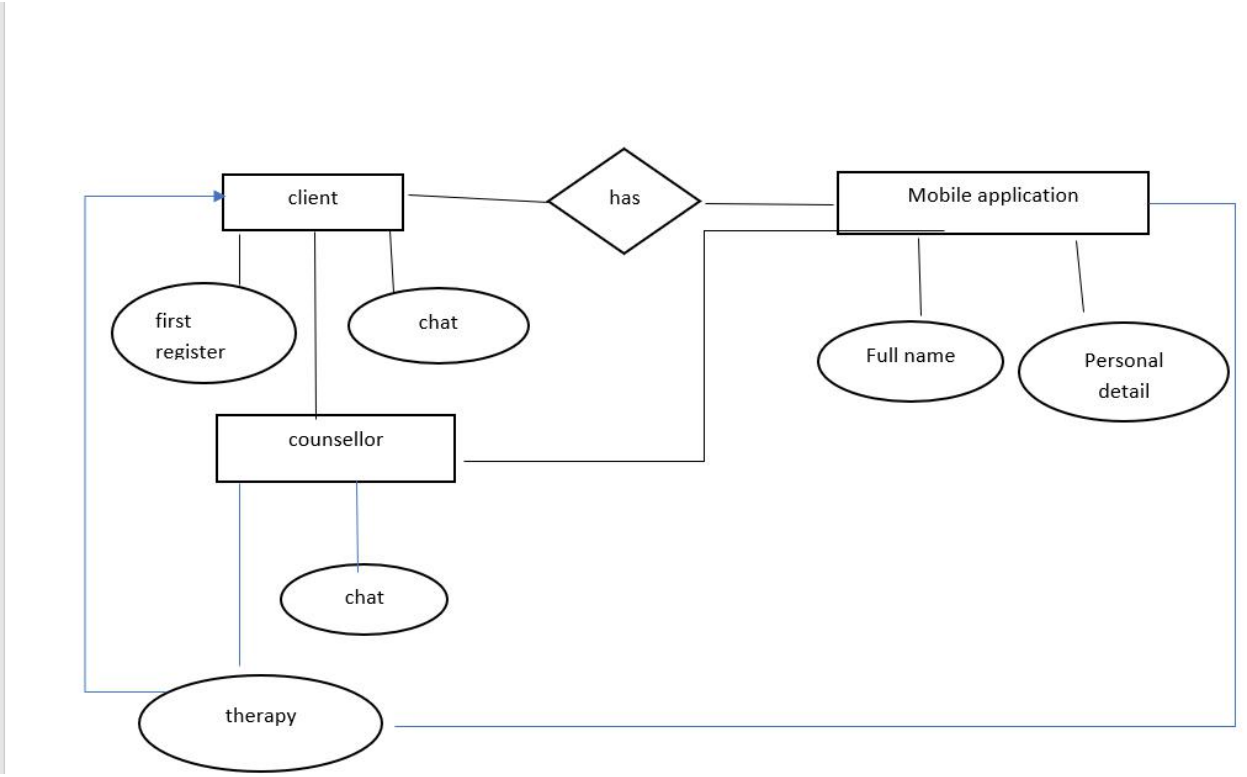


ENTITY RELATIONSHIP

The entity relationship model is often the result of systematic analysis to be defined and interpreted what is important is the processes in the business environment. It does not define business processes; provides only a business data schema in a graphical way. It is usually sketched form as boxes (businesses) connected to the line (relationships) that display associations and interdependence between businesses. The ER model can also be shown orally form, for example: one building can be divided into zero or more flats, the apartment can only be found in one.

entities may be seen not only in relationships, but also in other properties (attributes), which include an identifier called "key keys". The drawings are designed to represent attributes and associations and relationships can be called business-attribute-relationships drawings, rather than business relationship models. The ER model is often used as a database. In a simple relationship

database implementation, each row of the table represents one example of the type of business, and each field in the table represents the type of responsibility. In the database of relationships, the relationship between businesses is approx. used to store the key for one entity as an indicator or "external key" in the table of another entity.



4.METHODOLOGY

4.1 INTRODUCTION

Online counselling, becoming more and more pervasive. The main motive of online counselling is helping to people, students who confused about their study what to do and facing life issue problem. Now days people face a mental health issue. The counselling is required everywhere by the expert in order to get proper suggestions and advise from the expert. The counselling for career, counseling for job skills, counseling for anxiety, depression etc.

The project is about an expert system used to automate the process of counselling.

The project will be developed using android app, latest version with artificial intelligence technology. Android empowers hundreds of millions of mobile devices in more than 190 countries around the world.

4.2 BLOCK DIAGRAM/FLOWCHART OF PROPOSED METHODOLOGY

Automation the process of career guidance and counselling with the help of computer-assisted solutions is very powerful and it will hold greater importance for the people who are confused with their career preference. Besides, simplifying the task and saving effort and time, automated solution has great potential for integration and access, a larger diverse group of people. In this research paper, consideration of a number of Artificial Intelligence (AI) programs provided in the field of project management or career guidance and counselling has been done. This paper begins with the highlight of job guidance and follow-up counselling by considering the various technologies in providing a solution.

The career guidance bot is a user-friendly program where they can ask any job-related questions like the best optional field, latest advanced course, any career related queries, etc. even if the student does not frame question properly the system will have ability to understand question and can give answer accordingly to the student. The user does not need to follow any specific format to ask questions. Chatbots are new-generation computer programs that enable intelligent human conversations. Every chatbot has usually three parts. The first is typed or spoken input from the user in the native language, the second is typed or spoken output from chatbot and process input transfer through the program o that the understandable output is generated. The whole process is repeated until the end of the conversation. The purpose of a chat bot program is to mimic a human conversation; the construction of a bot includes a computational algorithm and language model to mimic the communication of information dialogue between a human user and computer.

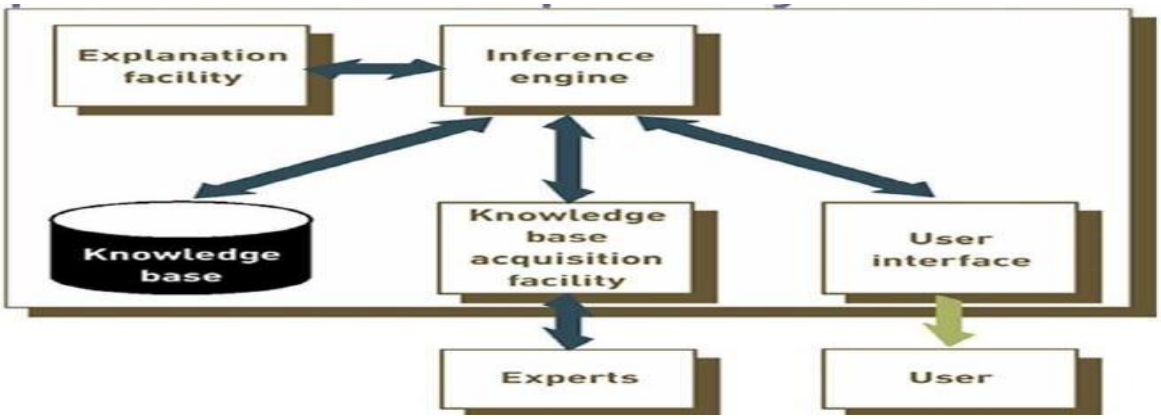
Online writing counselling:

A quantity of researchers has used current online chat applications such as WhatsApp and WeChat to provide counseling services, with generally helpful results (Chester and Glass, 2006; Lewis and Coursol, 2007; Barak et al., 2008). Specifically, for example, Nolan et al. (2011) conducted a

longitudinal study where four therapists providing counselling via text messaging to 40 students over 3 years [1] Machine learning is a sub filed of artificial intelligence-(AI)

Expert System

A. Expert System (ES) Expert System (ES) is a communicating computerized decision tool that manipulates both the heuristics and facts to offer solutions to problematic decision-making problems, depending on the information gained from an expert. Further according to [15], the computer programs that purpose to match the behaviour of human expert form an Expert system. Wide adaptation of such expert systems is being observed in sectors of education, medicine, and accounting etc. In education sector, expert system turns out to be a successful and versatile tool for computerization and computerization of highlights the components in an Expert System.



1.Knowledge Base: contains the domain knowledge essential for problem solving.

2. Database memory: includes set of facts utilized for similar against the IF portion of the rules saved in knowledge base.

3. Inference Engine: forms the important processor, where the information is being processed. This module gains relationships from the underlying knowledge base by assessing, examining and interpreting the knowledge base rules to deliver suggestion, predictions and answers. [1]

4. User Interface: is the communication link between the expert system and the user.

Numerous of such solutions applied various features to reach the best results, like acceptance-commitment and cognitive-behavioural therapies, gamification, art therapy, mood training plans, etc. Each product is individual, of course.

4.3 DESCRIPTION OF METHODOLOGY USED

Personal control – For those who don't suffer from mental disorders, app can help track mood and cope with stress. But patients identified with a disorder will need this function for tracking signs and progress. The feature monitors the state and feelings to understand the primary activates for depressive incidents.

Support groups – By sharing their moods and progress with others in a safe and stable atmosphere, users get more care and understanding. What is more dangerous, such psychological groups have to be under therapists` control, so all the users must feel safe while using the app.

Sharing option – This function is important when users feel the want to share progress with their counsellors. It works similarly ways: while patients feel constant support, counsellors control patients` state remotely and, therefore, timely address emergencies. Besides, some users want family support, and sharing features helps in the case.

Text/audio/video messaging and chats – This function allows users to choose the most comfortable way of communication with the counsellor, as some might feel nervous because of phone calls, for example.

Counsellors' dashboard – The feature plays a suggested role for patients and their counsellors. Here, counselors handle cases, track progress, and keep a good record in one profile.

More broadly, the AI-based counselling apps is both an advantage and a disadvantage. Like in the case of drug amplification, we will need precise monitoring to ensure the app safety and effectiveness of treatment protocols.

5.RESULTS, ANALYSIS AND DISCUSSION

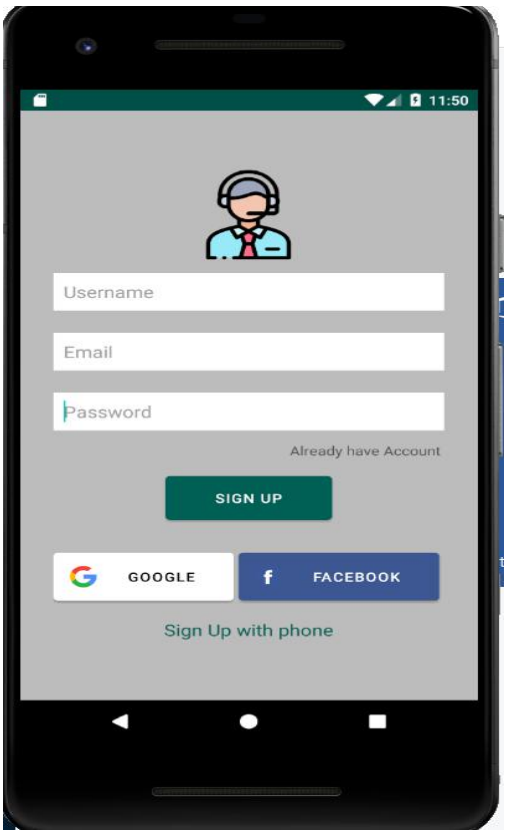
5.1 CODING

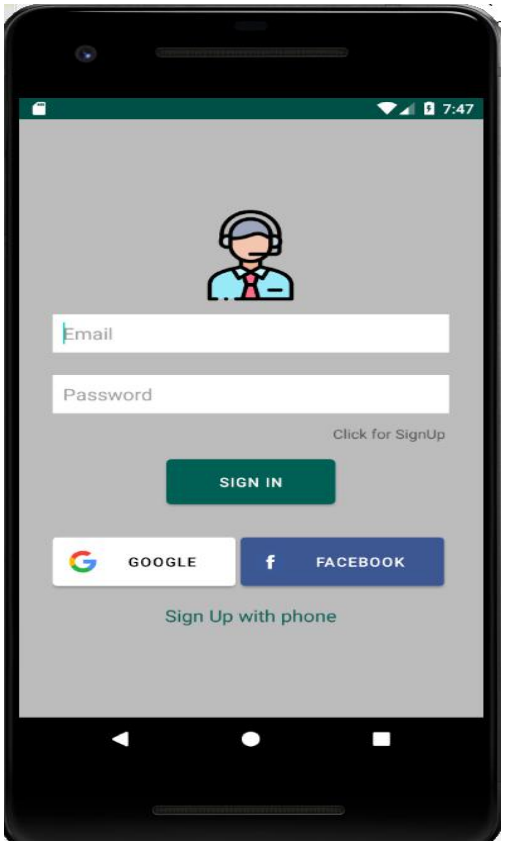
```
package com.example.OnlineCounsellingApp;

import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.widget.Toast;

import com.example.OnlineCounsellingApp.Adapters.FragmentsAdapter;
import com.example.OnlineCounsellingApp.databinding.ActivityMainBinding;
import com.google.firebase.auth.FirebaseAuth;

public class MainActivity<onCreatteOptionsMenu> extends AppCompatActivity {
    ActivityMainBinding binding;
    FirebaseAuth auth;


    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        binding = ActivityMainBinding.inflate(getLayoutInflater());
        setContentView(binding.getRoot());
        auth = FirebaseAuth.getInstance();


@Override
    public boolean onCreateOptionsMenu(Menu menu) {

        MenuInflater inflater =getMenuInflater();
        inflater.inflate(R.menu.menu,menu);
        return super.onCreateOptionsMenu(menu) ;
    }

    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        switch (item.getItemId())
        {
            case R.id.settings:
                Intent i = new Intent(MainActivity.this, SettingActivity.class);
                startActivity(i);
```

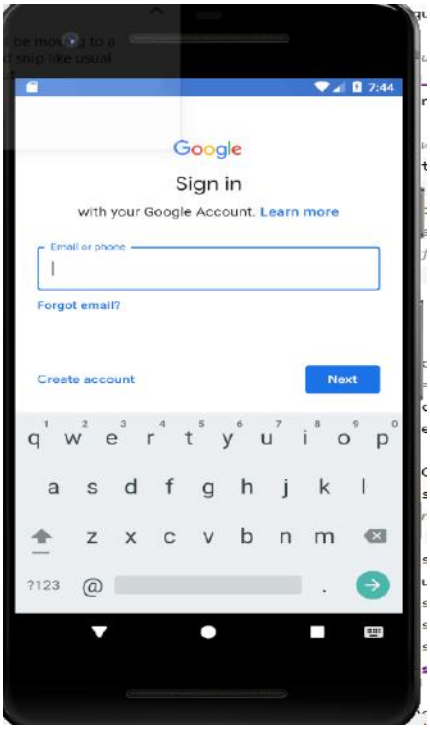
```
            break;

            case R.id.logout:
            auth.signOut();
               Intent intent = new Intent(MainActivity.this, SignInActivity.class);
               startActivity(intent);

            break;
            case R.id.groupChat:
                Intent intentt = new Intent(MainActivity.this, GroupChatActivity.class);
                startActivity(intentt);

                break;

        }
        return true;
    }
}
```

5.2 RESULT(SNAPSHOT)

SignUp, SignIn and Google login page


11:50
Username
Email
Password
Already have Account
SIGN UP
GOOGLE
FACEBOOK
Sign Up with phone


7:47
Email
Password
Click for SignUp
SIGN IN
GOOGLE
FACEBOOK
Sign Up with phone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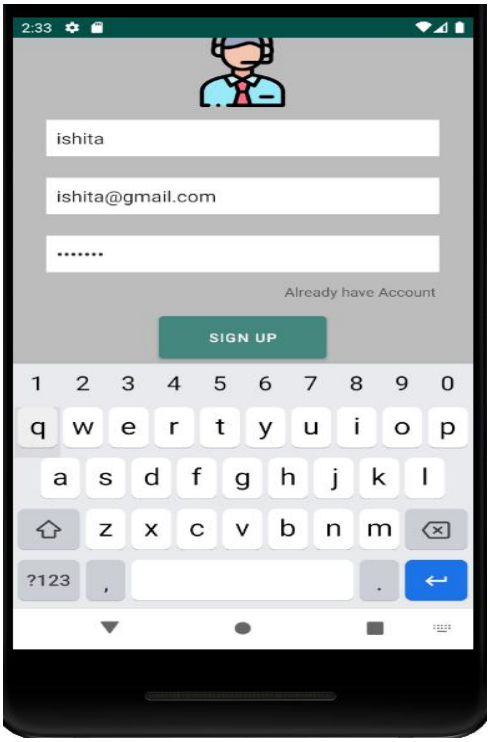
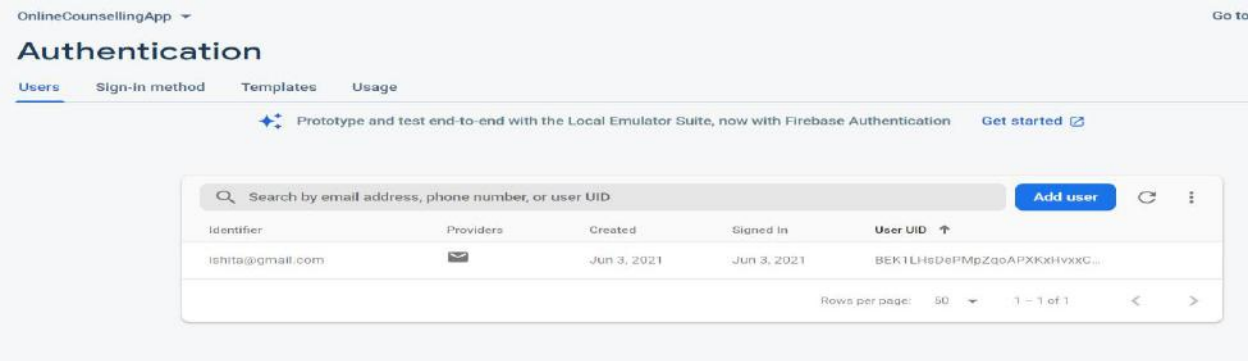
Google
Sign in
with your Google Account. Learn more
Email or phone
Forgot email?
Create account
Next

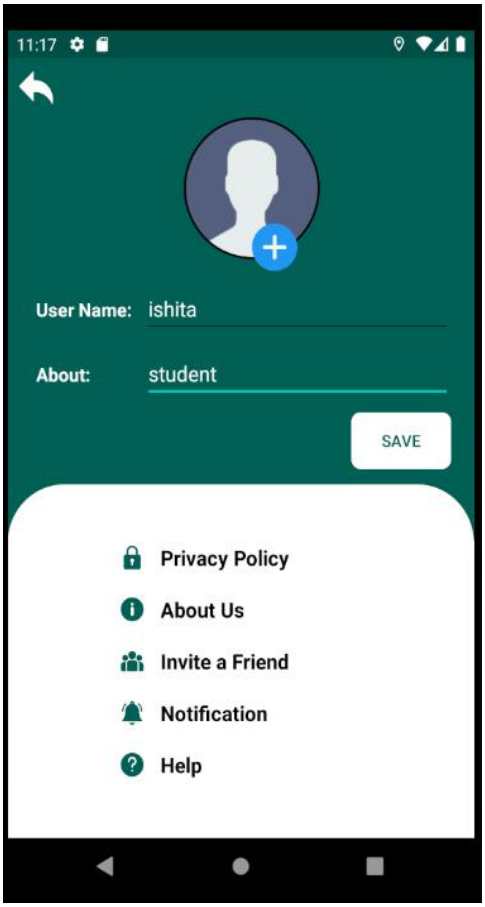

2:33
ishita
ishita@gmail.com
Already have Account
SIGN UP

Database


OnlineCounsellingApp
Go to
Authentication
Users
Sign-in method
Templates
Usage
Prototype and test end-to-end with the Local Emulator Suite, now with Firebase Authentication
Get started
Search by email address, phone number, or user UID
Add user
Identifier
Providers
Created
Signed In
User UID
ishita@gmail.com
Jun 3, 2021
Jun 3, 2021
Rows per page:
50
1 – 1 of 1

OnlineCounsellingApp
CHATS
CALLS

11:16
OnlineCounsellingAp
CHATS
Settings
Group Chat
Logout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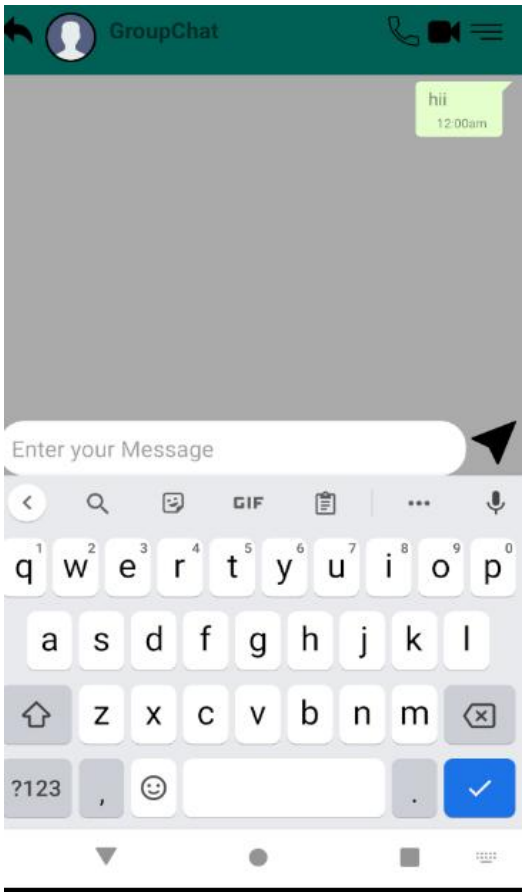
About: student
SAVE
Privacy Policy
About Us
Invite a Friend
Notification
Help


GroupChat
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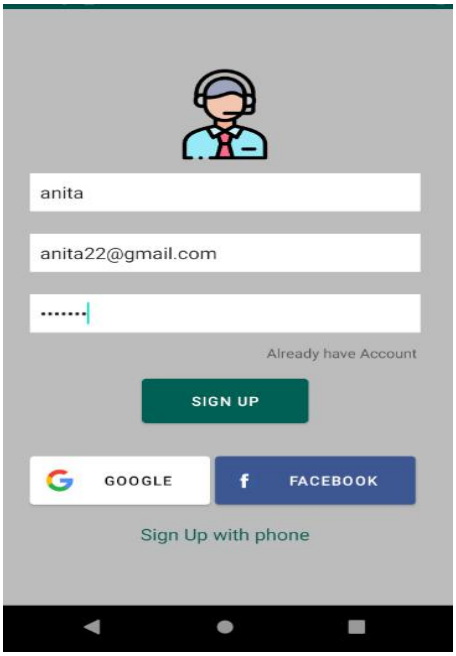
anita
anita22@gmail.com
Already have Account
SIGN UP
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FACEBOOK
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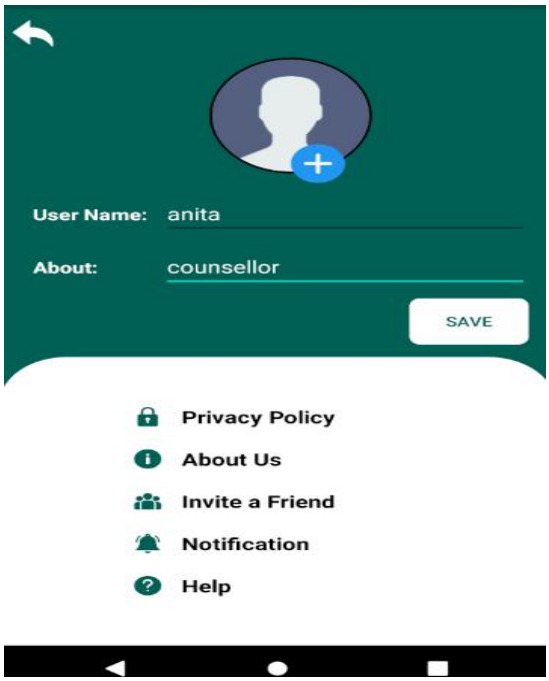
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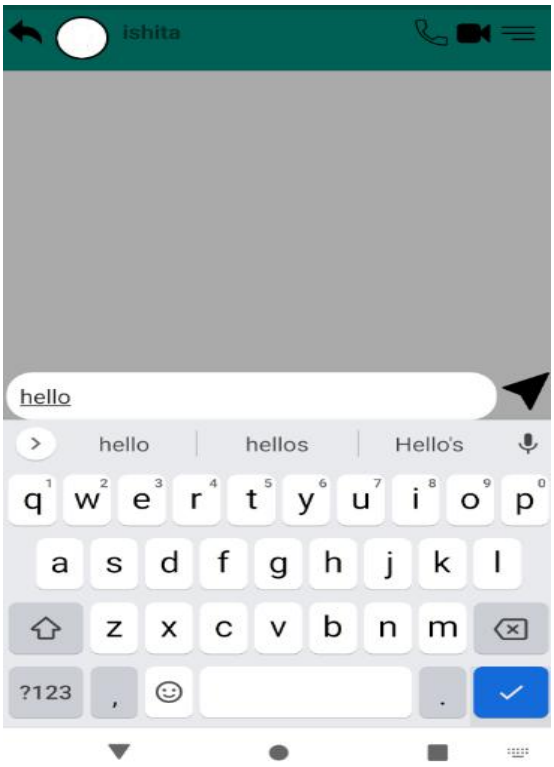
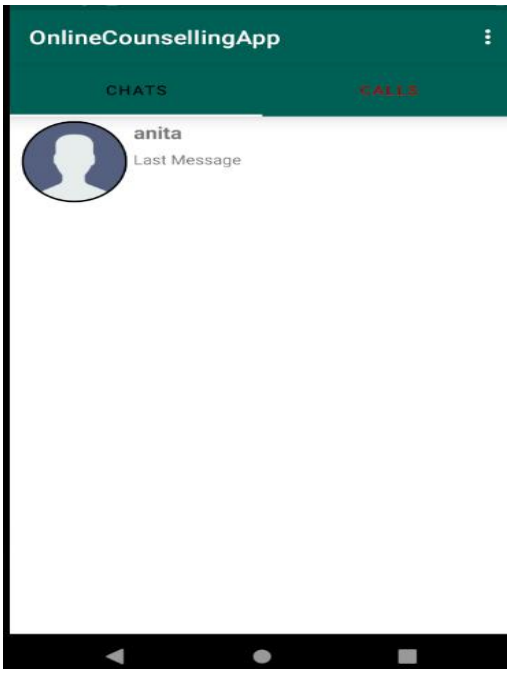
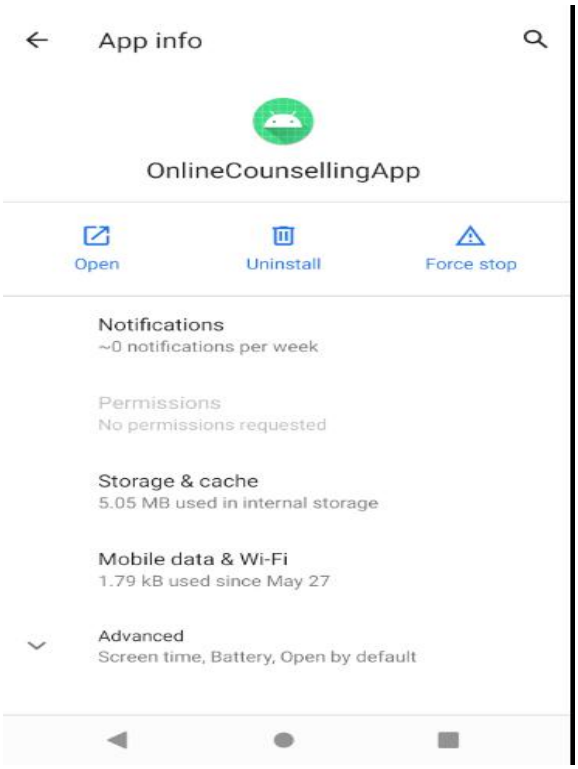
About: counsellor
SAVE
Privacy Policy
About Us
Invite a Friend
Notification
Help


ishita
hello
hello
hellos
Hello's

OnlineCounsellingApp
CHATS
CALLS
ishita
Last Message


OnlineCounsellingApp
CHATS
CALLS
anita
Last Message

OnlineCounsellingApp
CHATS
CALLS
Hello blank fragment



6.CONCLUSION, LIMITATIONS AND FUTURE WORK

6.1 CONCLUSION

The "Online Counseling System" is designed to solve a variety of problems learns that the center faces when working manually. At the same time this software meets the purpose of maintaining a future interest database.

As we have seen, online counseling has both advantages and disadvantages. In addition, research in the field of Internet couseling focuses on self-help interventions with minimal involvement of the counselors and are limited to complete completion evidence regarding the effectiveness of online counseling between counselor and the client. Students can use this system if they are confused about their career. research on the attitudes of clients and advisers highlights, online counseling may not be for preferable everyone.

Software developed with keeping in mind the use of users. It is developed in such a way that any user without the detailed knowledge of the system can handle the software easily. User communicates with this software system with messages displayed in various steps.

6.2 LIMITATIONS

Currently the system need more security and enhancement in order to increase the integrity and vulnerability of the system. Hardware or software failure or internet service failure can affect the online accessibility of both counsellor and client. Ideally, the expertise becomes 'transparent', so it simply helps as a device for communication, without requiring attention in and of itself. In practice, however, even the best technical tools sometimes require attention, and it can be annoying if this occurs during a counselling discussion.

Typing speed can limit the flow of information at sessions based on chat and People may find it difficult to express complex thoughts and feelings in written words. Clients should be aware of the additional risks of online system for eg. Confidentiality, technical difficulties, possibility of misunderstanding since it is chat based counseling.)

6.3 FUTURE WORK

This application holds a scope of future enhancement and improvement. Some significant points are listed below.

- We can add a option where student can communicate with some certified counselors in affordable amount.
- We can make this application more effective, efficient and more attractive so that the students can feel more friendly while using this application.
- nowadays online counseling would be a better option because of COVID-19. Online counseling can provide valuable services for you if you need medical help but have already left it for emotional or physical reasons.

7. SUMMARY

Currently, the uncertainty among young people regarding their work is a major concern. The choice of the right job just happened complex science because of its diverse nature. Many factors influence the choice of career potential extrinsic, intrinsic or a combination of both; making job choices difficult, time-consuming and intimidating process. Choosing the right job is the most important decision in the life of an individual as it affects them financially, socially and psychologically through their lives.

Young minds need proper leadership that will enable them to stand out in the community and make a name for themselves. Counseling not only helps them make decisions about their professional career, but it also builds their confidence and prepares them for social difficulties.

Despite these limitations, courses can still provide practical insight as long ascare is taken not to over generalize from them. In particular, studies help identify some of the reasons why people might prefer online counseling rather than face-to-face counseling:

- Privacy
- Anonymity from family, friends and coworkers.
- Emotionally safe environment.
- Empowerment; equal relationship with counsellors.
- Convenience/Access
- face-to-face counselling.
- Ability to be completely honest and open.

8. REFERENCES

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ONLINE COUNSELLING APPLICATION USING ARTIFICIAL INTELLIGENCE

A Project Report

Submitted in partial fulfilment of the requirement for the award of the Degree of

MASTER OF SCIENCE

(INFORMATION TECHNOLOGY)

By

DEEPTI NIGUDKAR

3537845

Under the esteemed guidance of

Dr. Rajendra Patil

Professor, Department of Information Technology

2020-2021

Vidyalankar School of Information Technology
(Affiliated by Mumbai university)

Wadala (East), Mumbai – 400037

VSIT | Vidyalankar School of Information Technology
NAAC ACCREDITED COLLEGE

CERTIFICATE

This is to certify that the project entitled, **"ONLINE COUNSELLING APPLICATION USING ARTIFICIAL INTELLIGENCE", is** bonafied work of **Deepti Nigudkar** bearing Seat No.: **3537845**

Submitted in partial fulfilment of the requirement for the award of the Degree of

MASTER OF SCIENCE in INFORMATION TECHNOLOGY from University of Mumbai.

Internal Guide **Coordinator**

Internal Examiner **External Examiner**

Date **college seal** **Principal**

University of Mumbai

15th Inter-Collegiate/
Institute/Department

AVISHKAR

Research Convention: 2020-21

SELECTION ROUND

(District/Zonal Level Research Proposal Competition)

Certificate of Participation

This is to certify that **Ms. Nigudkar Deepti Dyaneshwar** of **Vidyalankar School of Information Technology, Wadala** has participated and submitted a research proposal titled **AI based counselling tool** in **Humanities, Languages and Fine Arts** category and **PG** level for the **Selection Round** of **15th Inter-Collegiate / Institute / Department Avishkar Research Convention: 2020-21** for zone.

Dr. (Mrs.) Minakshi Gurav
OSD,
Avishkar Research Convention,
University of Mumbai

Dr. Sunil Patil
Director,
Department of Students' Development,
University of Mumbai

Mumbai
April 12, 2021

VSIT | Vidyalankar School of Information Technology

VSEARCH 2021

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on

" Recent Trends in Management & IT "

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This is to certify that Mr./Ms. Deepti nigudkar

of Vidyalankar School of Information Technology has

presented the research paper titled Online counselling

using artificial intelligence in VSearch 2021,

held on Saturday, 3rd April 2021 organized by Research & Development Committee of

Vidyalankar School of Information Technology, Wadala(E), Mumbai - 400037.

Dr.Amita Jain	Dr.Swagatika Nanda	Dr.Rohini Kelkar
Convenor	Convenor	Principal

ABSTRACT

The 21st century is rapidly becoming online with all latest technology, like artificial intelligence. Online counselling, becoming more and more pervasive. The main motive of online counselling is helping to people, students who confused about their study what to do and facing life issue problem. Now days people face a mental health issue. The counselling is required everywhere by the expert in order to get proper suggestions and advise from the expert. The counselling for career, counseling for job skills, counseling for anxiety, depression etc.

The project is about an expert system used to automate the process of counselling.

The project will be developed using android app, latest version with artificial intelligence technology. Android to power hundreds of millions of mobile devices in more than 190 countries around the world.

This project is for all types of people and student who can't afford expensive counselling. Such as educational counselling, family counselling, mental health counselling. A report by the WHO predict that by 2020 20% of the Indian population will suffer from mental illnesses. Like depression, anxiety. But now artificial intelligence is presence felt in this field.

Chances of getting too personal and emotionally attached to the counsellor are high. Sometime counsellor has limited knowledge to tackle the situation and give a solution to the problem. Lack of information, lack of visual and verbal clues. Overcome all above these problems online counselling is easily accessible to all. Improved communication and interpersonal skills. Increase the confidence and decision-making skill. Online counselling is easy to access, reduced cost, reduced the time, increased progress and flexibility. Online counselling is beneficial for all people or student who can't afford it. Online counseling is cheaper and online counselling is proven to be as effective Were student speak with a counsellor or chat with a counselor anytime its 24*7 available. In This counselling, we will give psychologist therapy. Anywhere we can access.

ACKNOWLEDGEMENT

It gives me immense pleasure in expressing my heartfelt thanks to the people who were part of this project in numerous ways. I owe my thanks to all those who gave endless support right from the conception of the project idea to its implementation, it would not have materialized without the help of many.

The dedication, hard work, patience and correct guidance makes any task proficient & a successful achievement. Intellectual and timely guidance not only helps in trying productive but also transforms the whole process of learning and implementing into an enjoyable experience.

I would like to thank our principal "**Dr. Rohini Kelkar**" and vice principal **"Mr. Asif Rampurawala"** for providing this opportunity, a special thanks to our MSc IT coordinator "**Ms. Beena Kapadia**" for their support, blessings and for being a constant source of inspiration to us. With immense gratitude, I would like to convey my special honor and respect to "**Dr. Rajendra Patil**" **(Project Guide)** who took keen interest in checking the minute details of the project work and guided us throughout the same.

A sincere thanks to the non-teaching staff for providing us with the long lab timings that we could receive along with the books and with all the information we needed for this project, without which the successful completion of this project would not have been possible.

Finally, I wish to avail this opportunity & express a sense of gratitude and love to my friends and my beloved parents for their support, strength and help for everything.

Deepti Nigudkar

DECLARATION

I hereby declare that the project entitled, **"ONLINE COUNSELLING APPLICATION USING ARTIFICIAL INTELLIGENCE"** done at **vidyalankar school of information technology,** has not been in any case duplicated to submit to any other university for the award of any degree. To the best of my knowledge other than me, no one has submitted to any other university.

The project is done in partial fulfillment of the requirements for the award of degree of **MASTER OF SCIENCE (INFORMATION TECHNOLOGY)** to be submitted as final semester project as part of our curriculum.

Deepti Nigudkar

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1. INTRODUCTION

1.1 BACKGROUND

In addition to the rapid development of online counseling, limited research is available is focused on the situation, even though more and more books have appeared. Online counseling has been the focus of recent years, as internet use has become more widespread. The use of online counseling is gaining ground due to social media and online business and visual employment. With the widespread use of Smartphones and the freedom of video calling, online chats have become a very easy source of communication. Being anywhere in the world, while it is much easier to see someone and talk, video games have changed the way we communicate.

Counseling is a form of therapy in which the client shares all of his or her feelings, thoughts and problems with career and seeking help from a counselor. Online counseling gives you the opportunity to talk to a counselor, share personal problems or analyst online, without having to meet them face-to-face. And nowadays online counseling would be a better option because of COVID-19. Online counseling can provide valuable services for you if you need medical help but have already left it for emotional or physical reasons.

1.2 PROBLEM STATEMENT

The following behavioral concerns can be distinguished from those related to design and those who are related to the use of online counselling services. The loyalty of the users who are using our AI based counselling system is can be one of the obstacles we might have to face because it can be difficult to find trustworthy from people. It will take a long time to ensure that people Will believe in what we can give them in terms of career guidance, develop motivation and open their minds to accept the other.

But Career Counselling in India faces some serious challenges and problems. Career Counsellors face several difficulties and challenges when it comes to setting up a successful Career Counselling and guidance mechanism. It Is extremely important for the youth of the nation to have a proper

direction to their career. Anxiety is the highest concern among college students (41.6%), followed by and career problems (40.9%). Depression is the health condition that can affect student's ability to work, study, interact with peers. Or take care of themselves.

Students often use face-to-face counselling and getting suggestions from expertise. In these Nowadays, people have lot of work to do rather than go to the counsellor, but now, technology offers an opportunity to People so that they can easily ask and tell their stories online. With the internet, they don't have to attend any Appointment, go to a consultant, counsellor, waste their energy, money and time. This will be easier for working people, housewives, or just anyone to send their problems anytime anywhere.

1.3 SCOPE

Online counseling, is becoming more and more popular. A great motivation to working for online counseling is to help people, students who are confused about their learning what to do and deal with a health problem. Nowadays people face a mental health problem. Advice is needed everywhere by an expert to get the right recommendations and professional advice. Career counseling, job skills counseling, anxiety counseling, depression etc.

Psychological Comfort: Online therapy can help eliminate social stigma associated with receiving psychological counseling or other treatment. Flexibility: Clients have access to multiple professionals and can choose professionals who can work with their schedules.

1.4 FEASIBILITY STUDY

Feasibility studies to check the visibility of the project under the consideration the theoretical project various types of feasibility are conducted but below are important represent explain

1) Economic feasibility:

With manual system the operation cost of this system is about 60 lacs for annual this cost comprises salary of Swiss 25 people's stationary, building rent, electricity water

telephone etc. but with a new system this offering cost comes out to be about 20 lacs for renewal and the new system is economically feasible

2) Technical feasibility:

Technical Feasibility determines whether the work for the project can be done with the existing equipment's software technology and available personals technical feasibility is concerned with the specified equipment and software that will satisfy the user requirement this project is feasible on technical remark also as the proposed system is beneficiary in term of having a soundproof system with new technical equipment's install on the system that proposed system can run on any machine supporting window and work on the best software and hardware that had been used while designing the system so it would be visible in all technical term of feasibility3

3) Operational feasibility:

The new solution is possible in all sense but operationally is not the new system demands the explosion of at least 15 people from the company it creates an environment of joblessness and fear among the employees it can lead to indefinite Strike in the company also, so the management must take corrective action prior in advance to start further proceeding.

1.5 OBJECTIVE

Online Counseling is the provision of online mental health and career counseling services. These Services are usually provided, real-time chat, and video conferencing.

Online psychological or personal counseling is very much focused on the normal growth of people. This approach seeks to help patients cope with daily problems, such as work, and

lifestyle changes. The aim is to empower the client by finding areas they can manage and manage effectively. The main objective of this counseling project is to help student with their desire career guidance and to help people who are dealing with THEIR mental health like depression and anxiety or to help people who are stress with their jobs and daily work

This Counseling project aims to help clients understand and accept themselves "as they are", and counseling to help the student help themselves for their better career choices. The main purpose of counseling is to bring about voluntary change for the client.

The program is structured to ensure that the students can get benefits from this application and can present their problems freely without any hesitation. One of the aims of this mentoring project is to promote student / social development in a safe, inclusive environment and to improve their higher education system and career path.

2. LITERATURE REVIEW AND ANALYSIS

2.1 INTRODUCTION

Developing a greater understanding of various online-counseling services to include demonstrating their effectiveness, understanding their limitations, and assessing their equivalence with in-person psychotherapy Coordinating and engaging in active advocacy efforts to resolve jurisdictional issues so that all licensed psychologists can provide treatment services online to those in need. Creating ethical principles and standards directly relevant to the unique aspects of online counseling;

• Developing and obtaining funding for initiatives that create access to needed technology for our neediest citizens, that educate them about these services, and that assess their use and effectiveness; and

• Creating training programs for graduate students and practicing psychologists alike to provide them with the knowledge and skills needed to be competent and effective.

With the provision of counselling services, personal problems should be considered to consider whether these issues can be resolved to improve performance. In addition, The World Health Organization (WHO) emphasizes that many of the major health problems that lead to depression are ineffective. [1] Depression involves mixing different emotions and behaviors that can lead to loss of self-confidence mainly when it comes to job pressure or career pressure. When the person is suffering from depression, may lose interest in work, and may live away from home.

Automation the process of career guidance and counselling with the help of computer-assisted solutions is very powerful and it will hold greater importance for the people who are confused with their career preference. Besides, simplifying the task and saving effort and time, automated solution has great potential for integration and access, a larger diverse group of people. In this research paper, consideration of a number of Artificial Intelligence (AI) programs provided in the field of project management or career guidance and counselling has been done. This paper begins with the highlight of job guidance and follow-up counselling by considering the various technologies in providing a solution.

The career guidance bot is a user-friendly program where they can ask any job-related questions like the best optional field, latest advanced course, any career related queries, etc. even if the student does not frame question properly the system will have ability to understand question and can give answer accordingly to the student. The user does not need to follow any specific format to ask questions. Chatbots are new-generation computer programs that enable intelligent human conversations. Every chatbot has usually three parts. The first is typed or spoken input from the user in the native language, the second is typed or spoken output from chatbot and process input transfer through the program o that the understandable output is generated. The whole process is repeated until the end of the conversation. The purpose of a chat bot program is to mimic a human conversation; the construction of a bot includes a computational algorithm and language model to mimic the communication of information dialogue between a human user and computer.

2.2 LITERATURE REVIEW

One of the great features of online counseling is that it can be provided worldwide; online counseling has no local boundaries. Certainly, this presents exciting possibilities, but a number of

practical considerations must be addressed. Language is a significant barrier to overcome, but multilingual counseling psychologists may find many new markets for their services, and as the authors state, it may allow "counseling psychologists to reach out to populations that may otherwise avoid or not have access to mental health services" Developing a greater understanding of various online-counseling services to include demonstrating their effectiveness, understanding their limitations, and assessing their equivalence with in-person psychotherapy. Coordinating and engaging in active advocacy efforts to resolve jurisdictional issues so that all licensed psychologists can provide treatment services online to those in need. Creating ethical principles and standards directly relevant to the unique aspects of online counseling. Developing and obtaining funding for initiatives that create access to needed technology for our neediest citizens, that educate them about these services, and that assess their use and effectiveness and Creating training programs for graduate students and practicing psychologists alike to provide them with the knowledge and skills needed to be competent and effective.

2.3 COMPARATIVE ANALYSIS

The advent of the Internet has led to the continued growth of online counseling since the 1970s. Despite the growing popularity of online counseling worldwide right now, even if the benefits of online counseling outweigh those of offline counseling. Contrary to what has happened in the past, this study seeks to compare between online, offline counseling, and integrated in therapeutic outcomes, to shed light on the importance of the great advancement of online counseling in adolescent situations. this study adopted a mixed approach in conducting comparative analysis of service outcomes in terms of health quality and sense of well-being. Quantitative results showed that combined counseling is considered to be the best of all three counseling methods, whereas online counseling was better than offline counseling and online counseling focuses on personal issues. extremely psychological, described in quality analysis, online and offline counseling have their distinctive advantages. Offline counseling actually provides more substantial support in terms of real-time company and tangible resources. The idea is that online counseling has a potential value to be extensively developed. it can be like other offline counseling or integrated with offline counseling to maximize service results.

2.4 RESEARCH GAP

The research conducted in the online counseling center falls into four categories: 1) client attitudes; 2) counsellor perceptions/experiences; and 3) the effectiveness of online counselling.

1) client attitudes:

- Privacy
- Anonymity from family, friends and coworkers
- Emotionally safe environment
- Empowerment; equal relationship with therapist
- Protection from negative counselor's negative emotions, such as anxiety or criticism.
- Great freedom by expressing yourself; uncomfortable and intimidating than face-to-face counseling
- freedom of expression without shame or fear of being judged by a doctor.
- Ability to be completely honest and open

2) counsellor perceptions/experiences:

- Emotional safety
- Makes clients less anxious and nervous about receiving counselling, making it easier to discuss problems and helps to be self-confident with counsellors
- Might be a good helper to face-to-face services.
- We can meet the needs of patients in rural areas and patients with disabilities who may have difficulty participating in face-to-face treatment.

3) the effectiveness of online counselling:

- Online counseling that involves email support and feedback can be effective and very helpful for treating people who have depression, anxiety and traumatic stress and disorder.
- A single session counseling using real-time text conversation can be effective in reducing stress among teens and students' concerns.

- Chat-based online cognitive behavioral therapy may be effective at improving university students' study-related behavior and anxiety.

3. SYSTEM DESIGN AND MODELLING

3.1 INTRODUCTION

Online counseling is becoming more and more pervasive. Some see the practice as positive and others are concerned about the moral and ethical issues associated with providing online counseling. This project reviews the pros and cons of providing online counseling services, and whether or not staff and investigators do this. It recognizes that not only does it happen, but it will also increase and increase regardless of the potential for disruption. The case is made that now that it is here to stay, we should study this event because, for better or worse, it offers a unique opportunity to study counseling and psychotherapy.

3.2 INFORMATION REQUIREMENT GATHERING AND ANALYSIS

The requirement determination involved the collection of information about how the Online counselling should operate. The requirements determination activity is the most difficult part of system analysis and system testing. It involved gatherings and documenting of the true and real requirements for the system being developed. The main purpose of this section was to create detailed operational information that describes the complete set of system skills to be used, as well as the data associated with the process model. It shows the details that will be managed and the processes that will support the new system. It involved examination of the collected data. Models such as Entity Relationship (ERD's) were used to model individual processes and data respectively. Under requirements were classified as functional and non-functional requirements, the determination and analysis of requirements helped us to achieve proper objective..

3.3 SYSTEM MODELLING

ANDROID

Android is an active OS developed by Google, based on a modified version of the Linux kernel and other open-source software and specifically designed for touch mobile devices such as Smartphones and tablets. In addition, Google has improved even more Android TV for TVs, Android Auto cars, and Wear OS watches, each with visual interface. The variety of Android is used in game consoles, digital cameras, PCs and other electronic devices. Originally developed by Android Inc., which Google purchased in 2005, Android was introduced 2007, and the first commercial Android device launched in September 2008. The system has gone through many major releases, with the current version 9.0 "Pie" released in August 2018. The actual and main source code for Android is calls as Android Open-Source Project (AOSP), and licensed primarily under the Apache license. Android is also associated with a suite of related software developed by Google, including key applications for services such as Gmail and Google Search, as well as an app store with the digital distribution platform Google Play, and a compatible development platform. These apps are licensed by manufacturers of Android devices that are certified below Google's standards, but AOSP has been used as the basis for Android-based competitors, such as Amazon.com's Fire OS, which use similar features on Google Mobile Services. Android has become the best-selling OS in the world on Smartphones since 2011 and tablets since 2013. As of May 2017, it has more than two billion active users every month, the largest base installed in any app, and as of June 2018, the Google Play Store has more than 3.3 million apps.

ANDROID STUDIO

❖ Android Studio is Google's official integrated development platform (IDE) Android app, made on JetBrains' IntelliJ IDEA software and planned especially, with the development of Android. Available for download on Windows, Operating systems are based on MacOS and Linux. It is a substitute for Eclipse Android Development Tools (ADT) as the main IDE of the traditional Android app development.

❖ Android Studio was publicized on 16th may, 2013 at the time of Google I/O conference. in the preview category first access from version 0.1 in May 2013, and then in the beta phase starting with version 0.8 released in June 2014. The first stable structure released in December 2014, from version 1.0. Current stable version is 3.2, released in September 2018

❖ The following features are provided in the current stable version:

• Specific Android re-use and quick fix

Lint tools for capturing performance, usability, version compatibility and other issues

• Combination of ProGear and app signing capabilities

• Template-based wizards to create Android designs and common features

• A rich layout editor that allows users to drag and drop parts of the UI, an option

preview properties in multiple screen configurations

• Android Wear app building support

• Built-in Google Cloud Platform support, which enables integration with Firebase Cloud

Installation (Formerly 'Google Cloud Messaging') and Google App Engine

• Visible Android device (Emulator) for initializing and debugging applications in Android studio.

• Gradle-based construction support

• Android Studio supports same programming languages of PyCharm and IntelliJ,

e.g., Python, and Kotlin and Android Studio 3.0 support "Java 7 language features and

a subset of Java 8 language features that vary by platform type. "External activities

retrieve some features of Java 9

JAVA LANGUAGE

❖ Java is that the official language of the program developed by Sun Microsystems in 1995.

The company was noninheritable by Oracle Corporation, that continues to carry till

day. the newest version is Java SE nine, that came go into 2017.

❖ Java, that was referred to as Oak once it absolutely was still being developed, is object homeward-bound, meaning it's absolutely supported objects that employment along to form programs do their jobs. Java code appears like C, C++, or C#, however code written in those languages won't add Java in most cases while not being modified.

❖ Java works on many different operating systems, including Android, the world's largest

a popular mobile app. This makes the Java platform independent. It does this

by making the Java connector convert the code into Java bytecode instead of machine code.

This means that when the program is done, Java Virtual Machine translates the

bytecode and translate it into machine code.

❖ Java was established to achieve five main objectives. These are:

• It should be simple, targeted, distributed and easy to read.

• It must be strong and secure.

• It should be independent of computer or platform construction.

• It should play very well.

• You must be able to write a language interpreter. Language should also

support parallelism and use powerful typing.

HTML

(HYPER TEXT MARKUP LANGUAGE)

❖ Hypertext Markup (HTML) is the standard markup language web pages and web applications. For Cascading Style Spreadsheets (CSS) and JavaScript, it builds a stone technology triangle in the corner of the World Wide Web.

❖ Web browsers retrieve HTML documents from a web server or from local storage as well provide texts on multimedia web pages. HTML defines the structure of A web page contains indicators of the appearance of a document.

❖ HTML elements are elements of HTML page layout. With HTML formatting, photos and other items such as complementary forms can be included in the offer page. HTML provides ways to create organized documents with structured descriptions text semantics such as titles, paragraphs, lists, links, quotes and more. HTML elements are defined by tags which are written using angle brackets. Tags like <img/> And <input /> Import the content directly to the page. Some tags like <p> rotate and provide details about the text of the document and you can add other tags as less things. Browsers do not display HTML tags but use them to translate page content.

❖ HTML can embed text programs such as JavaScript, i.e., affects the functionality and content of web pages. CSS input defines visibility as well content design. The World Wide Web Consortium (W3C), the custodian of both HTML and CSS levels, have encouraged the use of CSS beyond the obvious HTML presentation since 1997.

XML

(EXTENSIBLE MARKUP LANGUAGE)

❖ In computer use, Extensible Mark-up Language (XML) is a descriptive marking language a set of rules for encoding in an easy-to-read text machine-readable. W3C's XML 1.0 specification and many more related Specification of all free open standards defines XML.

❖ Goals of XML design objectives emphasize simplicity, general usability, and usability everywhere the Internet. It is a text data format with solid Unicode support for different people languages. Although the structure of XML focuses on documents, the language is broad used for shortcut data representations similar to those used on the web services.

❖ Several schema programs exist to assist in the interpretation of XML-based languages, while Developers have developed many application plugins (APIs) to help XML data processing.

FIREBASE

Firebase is a mobile- and web application development platform, backed by Google, to help developers distribute richer app experiences. Firebase achieves its own infrastructure with a nice set of tools to shorten the workflow of the developer by providing them with development kits and an online dashboard. These toolkits are interconnected, scalable and integrable with third party software to overcome complex tests with standard building blocks. The platform consists excessive set of development tools.

This means that both the app and its database eavesdrop to each other, providing the user with reactive app experiences. And Firebase Cloud Functions can even spread this functionality. These functions allow the developer to inscribe backend code to respond to events happening in the Firebase platform without having to deal with any servers. For example, a Cloud Function can refer a notification to the app whenever something is happening in the database. Pretty neat, right? And there's additional.

Using Firebase Authentication you can verify users through both social and e-mail logins and can manage them very securely. Firebase Hosting can deploy both static and dynamic content to web apps and Cloud Storage can accumulate and serve a huge number of files. Last but not least, there's ML Kit. This module brings artifical learning to your app with ready-to-use APIs and custom models using TensorFlow Lite, an open-source machine learning platform by Google.

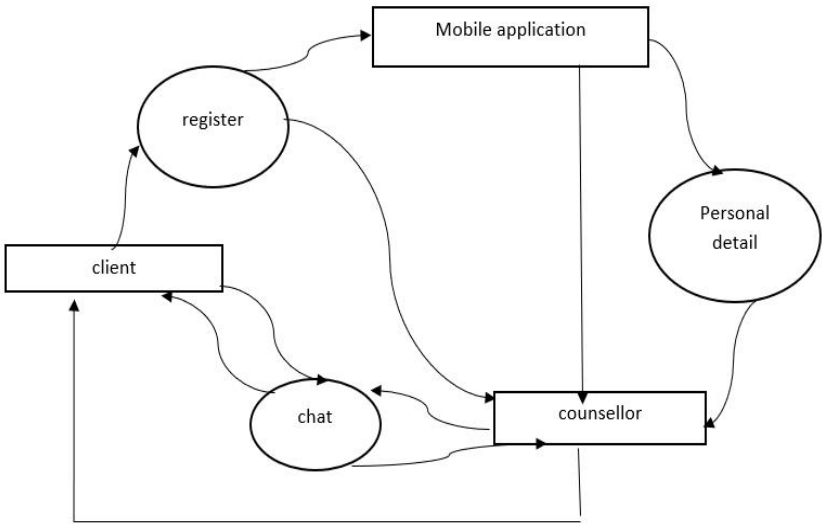
Firebase can also be use to improve your app quality when development is done by the developer. The Crashlytics module gives a real-time overview of the problems your users might encounter. Your app's act can also be monitored by using the Performance Monitoring tool and Test Lab tests your app on a range of devices to make sure that everyone gets the same user knowledge. The platform has its own Analytics and Prediction modules to get a better understanding of your users' behaviour and, for example, target precise addressees using In-App Messaging.

Application notifications can also be sent through the platform and there is even an A/B Testing tool to experiment with new functionalities that we have invented in the system. Are you aware with those links which can redirect you to a specific screen in an app? Well, Firebase can do that too.

3.4 DATABASE ANALYSIS AND MODELLING

A picture costs a thousand words. Data Flow diagram (DFD)may be an ancient method of visualizing info flowing inside a system A clean and clear DFD can clearly show the right amount of system requirements. It may be manual, automatic, or a mix of each. Indicates how the data enters and leaves the system, what changes the data and where the information is stored. The purpose of the DFD is to indicate the size and parameters of the entire system. It can be used as a communication tool between a system analyst and any person involved in a program that serves as the starting point for system rebuilding.

It usually starts with a content diagram as level 0 of the DFD diagram, a simple representation of the entire system. To illustrate further, we come down to a level 1 diagram with low-level tasks tied to major project functions. This could further evolve into a level 2 diagram where further analysis is needed. Going through levels 3, 4 and so on is possible but anything more than level 3 is not very common. Please keep in mind that the level of data corruption of a particular job depends on the difficulty at hand.



3.5 SYSTEM DIAGRAM

CLASS DIAGRAM

In Software Engineering, class drawing is Unified Modeling Language type of a diagram of a vertical structure that describes the structure of a system by display system classes, their attributes, functionality, and interpersonal relationships. Classroom design is the basic foundation for object-oriented design. Commonly used conceptual modeling of app layout, as well as detailed translation of the model models become program code. Class drawings can also be used for data modeling. The classes in a classroom drawing represent both key elements, application interaction, and classes will be organized.

In the diagram, the classes are represented by boxes containing three rooms:

• Upstairs has a class name. It is printed in bold and focused, too

the first letter is capitalized.

• The middle room contains section attributes. Aligned left and right

The first letter is small letters.

The room below contains activities that can be performed by a section. They are left again

aligned and the first letter is lowercase.

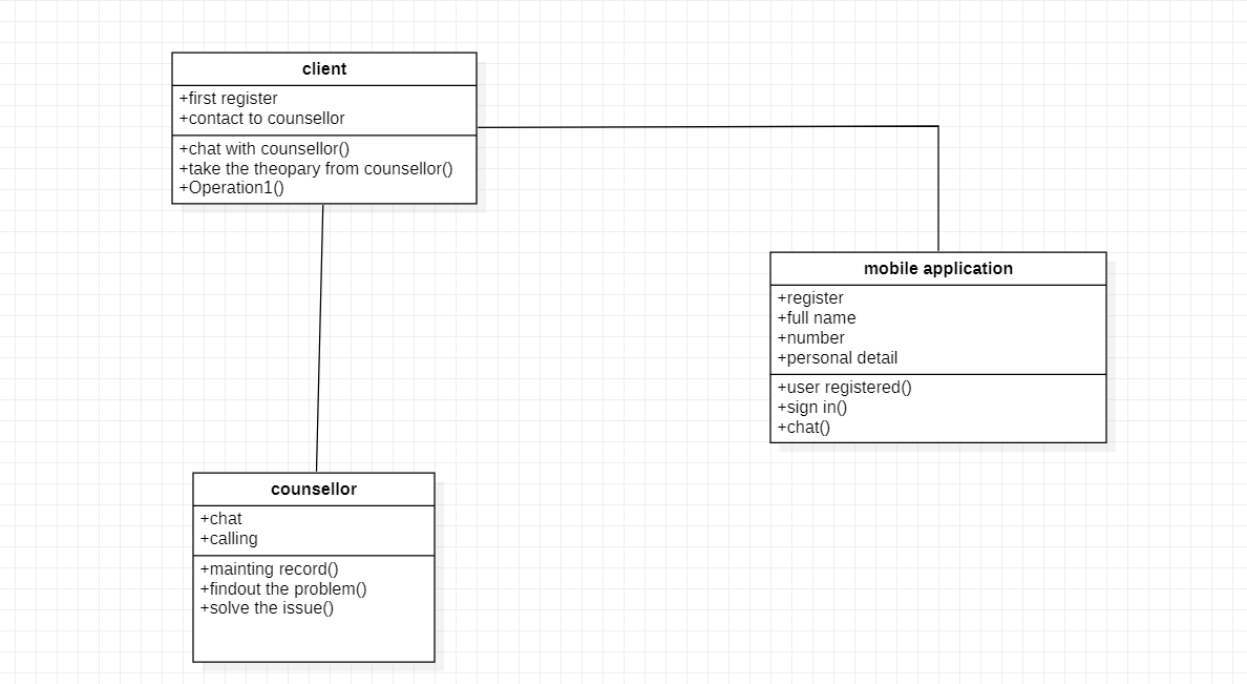
In program design, many classes are identified and grouped together in the classroom

A diagram that helps determine the relationship that exists between them. For detailed modeling,

concept design classes are often divided into a few scenes.

To further explain the functionality of the systems, these class diagrams can be

completed by state drawing or unified modeling diagram.

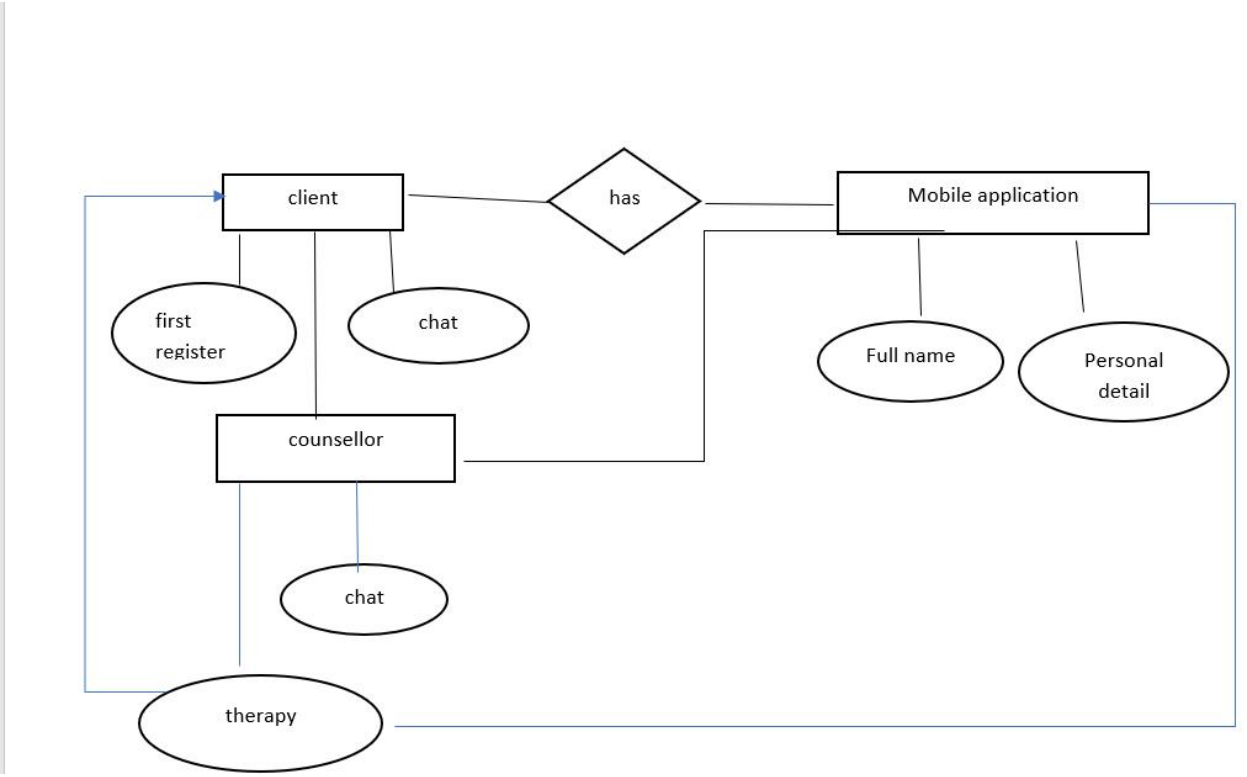


ENTITY RELATIONSHIP

The entity relationship model is often the result of systematic analysis to be defined and interpreted what is important is the processes in the business environment. It does not define business processes; provides only a business data schema in a graphical way. It is usually sketched form as boxes (businesses) connected to the line (relationships) that display associations and interdependence between businesses. The ER model can also be shown orally form, for example: one building can be divided into zero or more flats, the apartment can only be found in one.

entities may be seen not only in relationships, but also in other properties (attributes), which include an identifier called "key keys". The drawings are designed to represent attributes and associations and relationships can be called business-attribute-relationships drawings, rather than business relationship models. The ER model is often used as a database. In a simple relationship

database implementation, each row of the table represents one example of the type of business, and each field in the table represents the type of responsibility. In the database of relationships, the relationship between businesses is approx. used to store the key for one entity as an indicator or "external key" in the table of another entity.



4.METHODOLOGY

4.1 INTRODUCTION

Online counselling, becoming more and more pervasive. The main motive of online counselling is helping to people, students who confused about their study what to do and facing life issue problem. Now days people face a mental health issue. The counselling is required everywhere by the expert in order to get proper suggestions and advise from the expert. The counselling for career, counseling for job skills, counseling for anxiety, depression etc.

The project is about an expert system used to automate the process of counselling.

The project will be developed using android app, latest version with artificial intelligence technology. Android empowers hundreds of millions of mobile devices in more than 190 countries around the world.

4.2 BLOCK DIAGRAM/FLOWCHART OF PROPOSED METHODOLOGY

Automation the process of career guidance and counselling with the help of computer-assisted solutions is very powerful and it will hold greater importance for the people who are confused with their career preference. Besides, simplifying the task and saving effort and time, automated solution has great potential for integration and access, a larger diverse group of people. In this research paper, consideration of a number of Artificial Intelligence (AI) programs provided in the field of project management or career guidance and counselling has been done. This paper begins with the highlight of job guidance and follow-up counselling by considering the various technologies in providing a solution.

The career guidance bot is a user-friendly program where they can ask any job-related questions like the best optional field, latest advanced course, any career related queries, etc. even if the student does not frame question properly the system will have ability to understand question and can give answer accordingly to the student. The user does not need to follow any specific format to ask questions. Chatbots are new-generation computer programs that enable intelligent human conversations. Every chatbot has usually three parts. The first is typed or spoken input from the user in the native language, the second is typed or spoken output from chatbot and process input transfer through the program o that the understandable output is generated. The whole process is repeated until the end of the conversation. The purpose of a chat bot program is to mimic a human conversation; the construction of a bot includes a computational algorithm and language model to mimic the communication of information dialogue between a human user and computer.

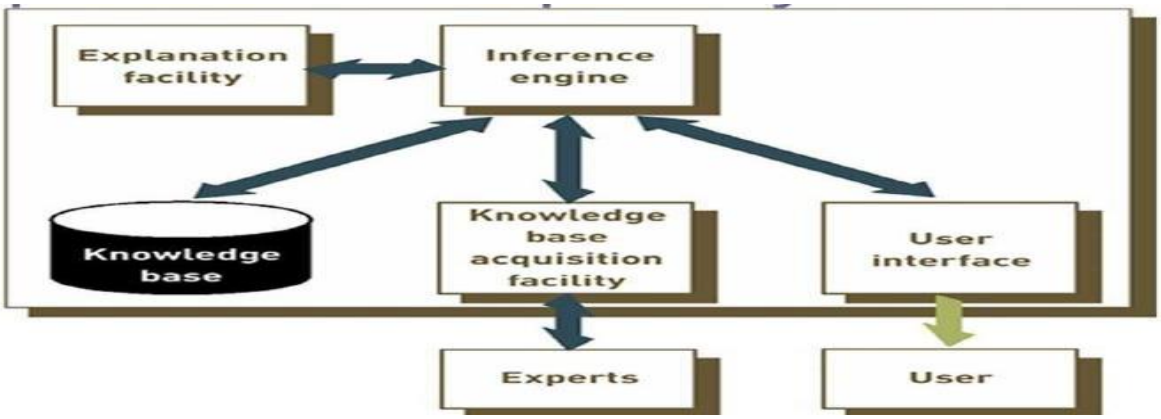
Online writing counselling:

A quantity of researchers has used current online chat applications such as WhatsApp and WeChat to provide counseling services, with generally helpful results (Chester and Glass, 2006; Lewis and Coursol, 2007; Barak et al., 2008). Specifically, for example, Nolan et al. (2011) conducted a

longitudinal study where four therapists providing counselling via text messaging to 40 students over 3 years [1] Machine learning is a sub filed of artificial intelligence-(AI)

Expert System

A. Expert System (ES) Expert System (ES) is a communicating computerized decision tool that manipulates both the heuristics and facts to offer solutions to problematic decision-making problems, depending on the information gained from an expert. Further according to [15], the computer programs that purpose to match the behaviour of human expert form an Expert system. Wide adaptation of such expert systems is being observed in sectors of education, medicine, and accounting etc. In education sector, expert system turns out to be a successful and versatile tool for computerization and computerization of highlights the components in an Expert System.



1.Knowledge Base: contains the domain knowledge essential for problem solving.

2. Database memory: includes set of facts utilized for similar against the IF portion of the rules saved in knowledge base.

3. Inference Engine: forms the important processor, where the information is being processed. This module gains relationships from the underlying knowledge base by assessing, examining and interpreting the knowledge base rules to deliver suggestion, predictions and answers. [1]

4. User Interface: is the communication link between the expert system and the user.

Numerous of such solutions applied various features to reach the best results, like acceptance-commitment and cognitive-behavioural therapies, gamification, art therapy, mood training plans, etc. Each product is individual, of course.

4.3 DESCRIPTION OF METHODOLOGY USED

Personal control – For those who don't suffer from mental disorders, app can help track mood and cope with stress. But patients identified with a disorder will need this function for tracking signs and progress. The feature monitors the state and feelings to understand the primary activates for depressive incidents.

Support groups – By sharing their moods and progress with others in a safe and stable atmosphere, users get more care and understanding. What is more dangerous, such psychological groups have to be under therapists` control, so all the users must feel safe while using the app.

Sharing option – This function is important when users feel the want to share progress with their counsellors. It works similarly ways: while patients feel constant support, counsellors control patients` state remotely and, therefore, timely address emergencies. Besides, some users want family support, and sharing features helps in the case.

Text/audio/video messaging and chats – This function allows users to choose the most comfortable way of communication with the counsellor, as some might feel nervous because of phone calls, for example.

Counsellors' dashboard – The feature plays a suggested role for patients and their counsellors. Here, counselors handle cases, track progress, and keep a good record in one profile.

More broadly, the AI-based counselling apps is both an advantage and a disadvantage. Like in the case of drug amplification, we will need precise monitoring to ensure the app safety and effectiveness of treatment protocols.

5.RESULTS, ANALYSIS AND DISCUSSION

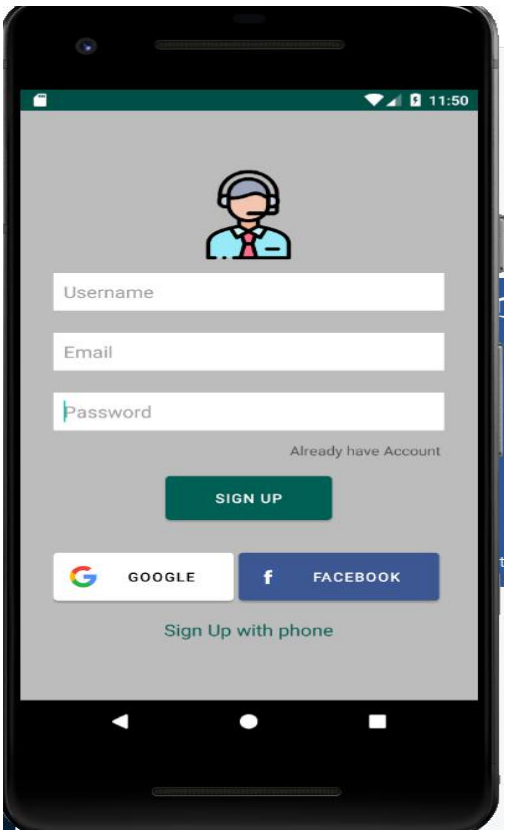
5.1 CODING

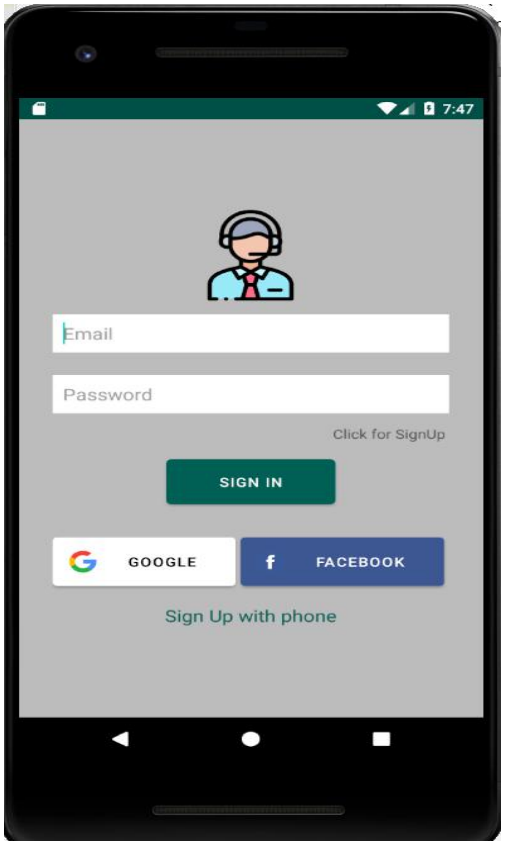
```
package com.example.OnlineCounsellingApp;

import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.widget.Toast;

import com.example.OnlineCounsellingApp.Adapters.FragmentsAdapter;
import com.example.OnlineCounsellingApp.databinding.ActivityMainBinding;
import com.google.firebase.auth.FirebaseAuth;

public class MainActivity<onCreatteOptionsMenu> extends AppCompatActivity {
    ActivityMainBinding binding;
    FirebaseAuth auth;


    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        binding = ActivityMainBinding.inflate(getLayoutInflater());
        setContentView(binding.getRoot());
        auth = FirebaseAuth.getInstance();


@Override
    public boolean onCreateOptionsMenu(Menu menu) {

        MenuInflater inflater =getMenuInflater();
        inflater.inflate(R.menu.menu,menu);
        return super.onCreateOptionsMenu(menu) ;
    }

    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        switch (item.getItemId())
        {
            case R.id.settings:
                Intent i = new Intent(MainActivity.this, SettingActivity.class);
                startActivity(i);
```

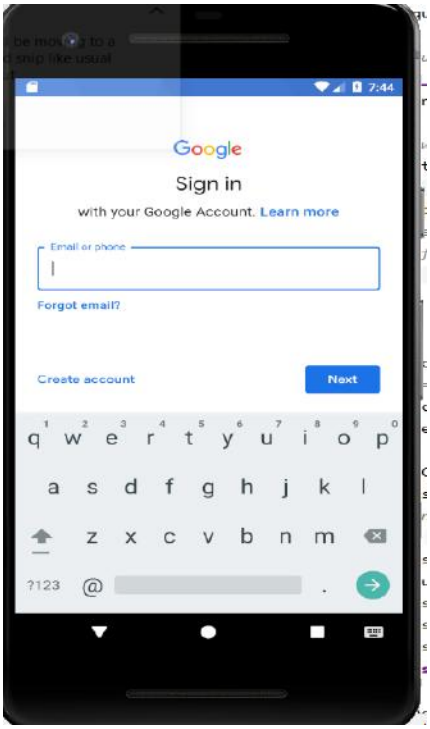
```
            break;

            case R.id.logout:
            auth.signOut();
               Intent intent = new Intent(MainActivity.this, SignInActivity.class);
               startActivity(intent);

            break;
            case R.id.groupChat:
                Intent intentt = new Intent(MainActivity.this, GroupChatActivity.class);
                startActivity(intentt);

                break;

        }
        return true;
    }
}
```

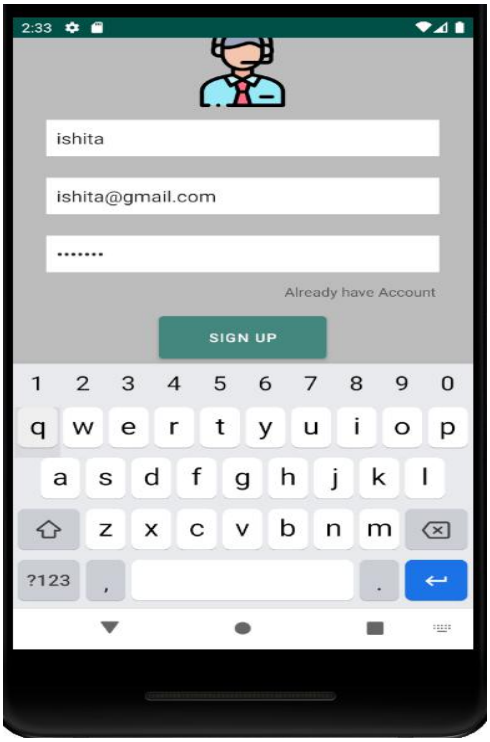
5.2 RESULT(SNAPSHOT)

SignUp, SignIn and Google login page

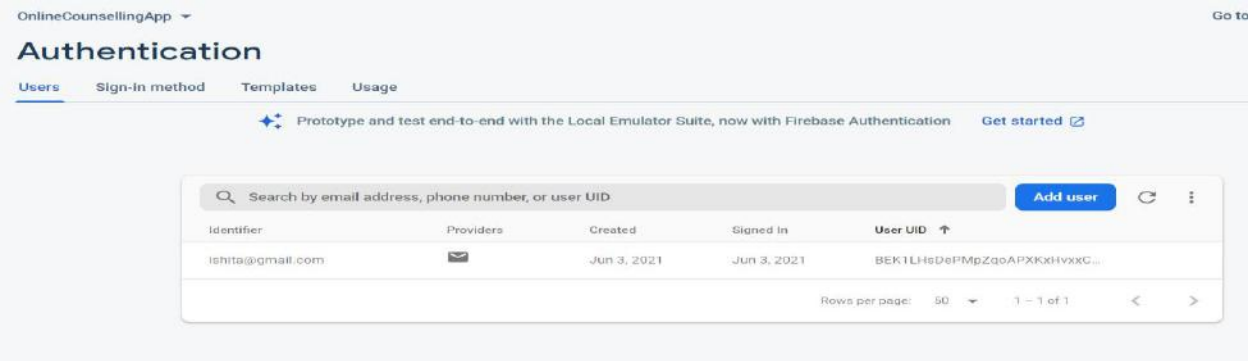

11:50
Username
Email
Password
Already have Account
SIGN UP
GOOGLE
FACEBOOK
Sign Up with phone


7:47
Email
Password
Click for SignUp
SIGN IN
GOOGLE
FACEBOOK
Sign Up with phone


7:44
Google
Sign in
with your Google Account. Learn more
Email or phone
Forgot email?
Create account
Next

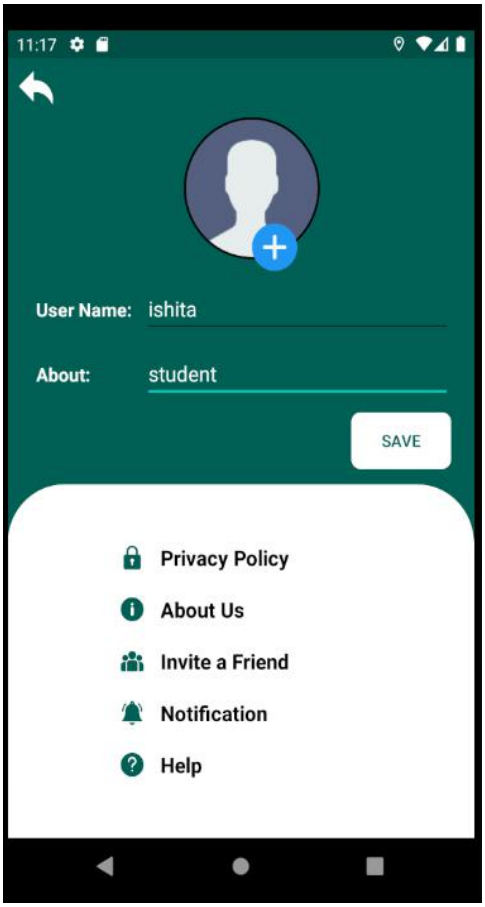

2:33
ishita
ishita@gmail.com
Already have Account
SIGN UP

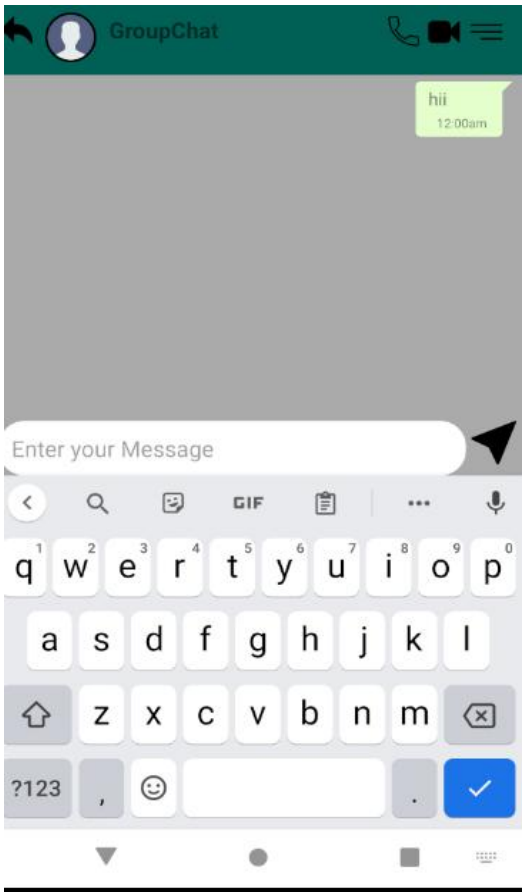
Database

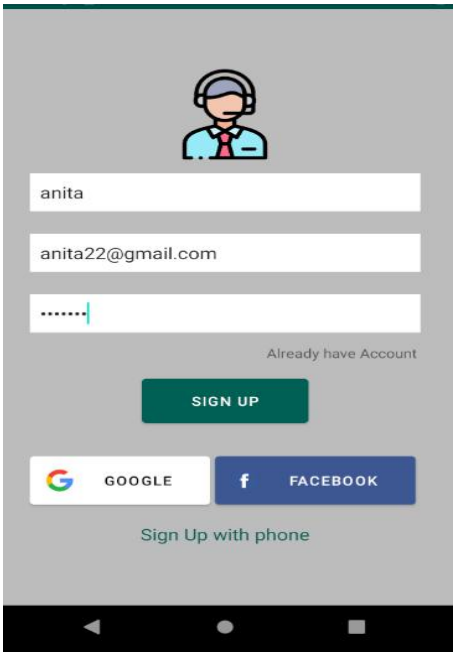

OnlineCounsellingApp
Go to
Authentication
Users
Sign-in method
Templates
Usage
Prototype and test end-to-end with the Local Emulator Suite, now with Firebase Authentication
Get started
Search by email address, phone number, or user UID
Add user
Identifier
Providers
Created
Signed In
User UID
ishita@gmail.com
Jun 3, 2021
Jun 3, 2021
Rows per page:
50
1 – 1 of 1

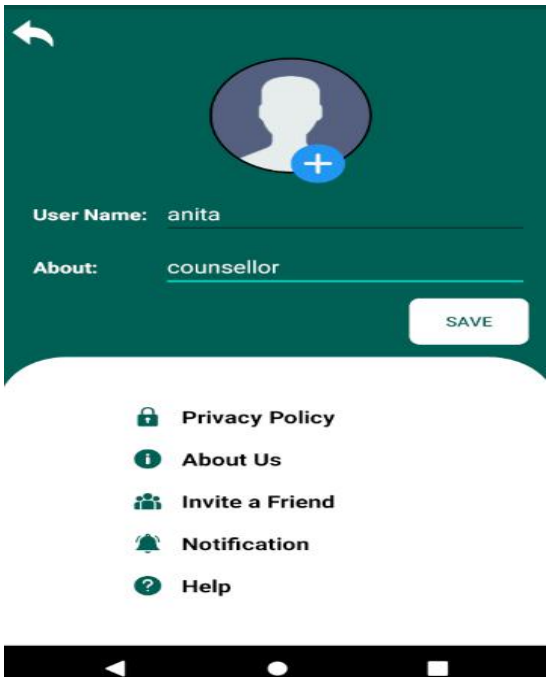
OnlineCounsellingApp
CHATS
CALLS

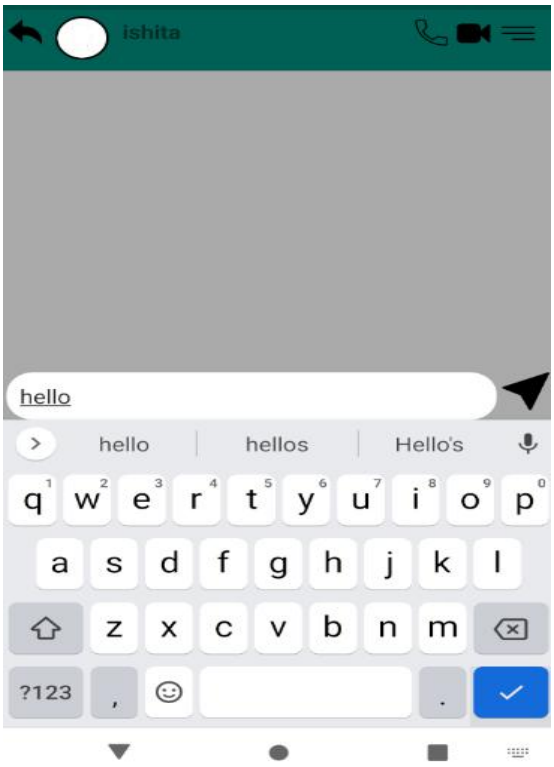
11:16
OnlineCounsellingAp
CHATS
Settings
Group Chat
Logout


11:17
User Name: ishita
About: student
SAVE
Privacy Policy
About Us
Invite a Friend
Notification
Help

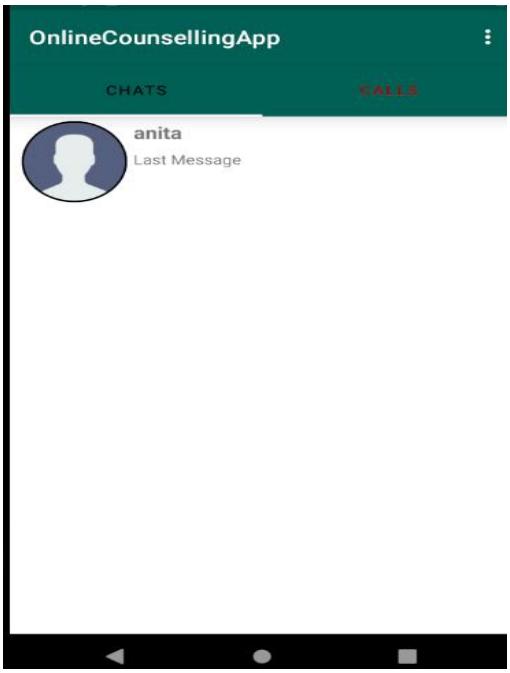

GroupChat
hii
12:00am
Enter your Message
GIF


anita
anita22@gmail.com
Already have Account
SIGN UP
GOOGLE
FACEBOOK
Sign Up with phone

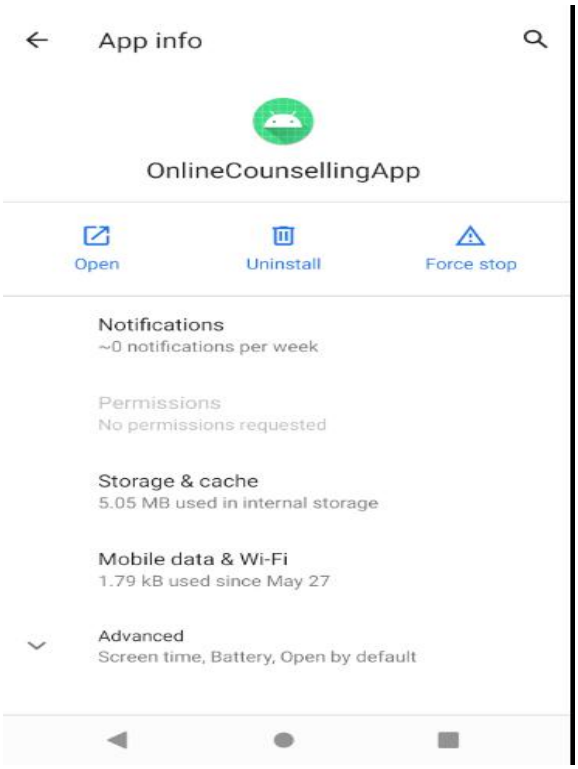

User Name: anita
About: counsellor
SAVE
Privacy Policy
About Us
Invite a Friend
Notification
Help


ishita
hello
hello
hellos
Hello's

OnlineCounsellingApp
CHATS
CALLS
ishita
Last Message


OnlineCounsellingApp
CHATS
CALLS
anita
Last Message

OnlineCounsellingApp
CHATS
CALLS
Hello blank fragment



6.CONCLUSION, LIMITATIONS AND FUTURE WORK

6.1 CONCLUSION

The "Online Counseling System" is designed to solve a variety of problems learns that the center faces when working manually. At the same time this software meets the purpose of maintaining a future interest database.

As we have seen, online counseling has both advantages and disadvantages. In addition, research in the field of Internet couseling focuses on self-help interventions with minimal involvement of the counselors and are limited to complete completion evidence regarding the effectiveness of online counseling between counselor and the client. Students can use this system if they are confused about their career. research on the attitudes of clients and advisers highlights, online counseling may not be for preferable everyone.

Software developed with keeping in mind the use of users. It is developed in such a way that any user without the detailed knowledge of the system can handle the software easily. User communicates with this software system with messages displayed in various steps.

6.2 LIMITATIONS

Currently the system need more security and enhancement in order to increase the integrity and vulnerability of the system. Hardware or software failure or internet service failure can affect the online accessibility of both counsellor and client. Ideally, the expertise becomes 'transparent', so it simply helps as a device for communication, without requiring attention in and of itself. In practice, however, even the best technical tools sometimes require attention, and it can be annoying if this occurs during a counselling discussion.

Typing speed can limit the flow of information at sessions based on chat and People may find it difficult to express complex thoughts and feelings in written words. Clients should be aware of the additional risks of online system for eg. Confidentiality, technical difficulties, possibility of misunderstanding since it is chat based counseling.)

6.3 FUTURE WORK

This application holds a scope of future enhancement and improvement. Some significant points are listed below.

- We can add a option where student can communicate with some certified counselors in affordable amount.
- We can make this application more effective, efficient and more attractive so that the students can feel more friendly while using this application.
- nowadays online counseling would be a better option because of COVID-19. Online counseling can provide valuable services for you if you need medical help but have already left it for emotional or physical reasons.

7. SUMMARY

Currently, the uncertainty among young people regarding their work is a major concern. The choice of the right job just happened complex science because of its diverse nature. Many factors influence the choice of career potential extrinsic, intrinsic or a combination of both; making job choices difficult, time-consuming and intimidating process. Choosing the right job is the most important decision in the life of an individual as it affects them financially, socially and psychologically through their lives.

Young minds need proper leadership that will enable them to stand out in the community and make a name for themselves. Counseling not only helps them make decisions about their professional career, but it also builds their confidence and prepares them for social difficulties.

Despite these limitations, courses can still provide practical insight as long ascare is taken not to over generalize from them. In particular, studies help identify some of the reasons why people might prefer online counseling rather than face-to-face counseling:

- Privacy
- Anonymity from family, friends and coworkers.
- Emotionally safe environment.
- Empowerment; equal relationship with counsellors.
- Convenience/Access
- face-to-face counselling.
- Ability to be completely honest and open.

8. REFERENCES

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