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Editorial

Re-orientation Of Indian Higher Education Towards Global Acceptance

As a fundamental step, the Indian education system must create "value" that offers significant benefits to education seekers from across the globe. Therefore, we must focus more on developing the overall competency of the candidates to adapt to the specific requirements of cross-functional, cross-cultural, cross-economic, and cross-professional demands.

The recent changes brought in by the Indian government through its new education policy, such as making the education system 5+3+3+4, should be of great help in synching Indian higher education with some of the best universities and colleges from developed countries. In addition, the four-year graduation for non-professional degrees may help to a large extent in facilitating the credit transfers and other academic requirements of other leading universities. Moreover, this feature may attract students as the educational landscape becomes more adaptable to different countries and universities to find presence in India.

The inter and trans-disciplinary studies proposed at the graduate level will permit students pursuing professional courses to opt for non-technical courses/subjects such as social sciences, economics, management, humanities, and so on, which may add much value to the adaptability and competency building of graduates. In addition, it improves career options in more diverse professions.

This is an opportune time for us to make use of the economic advantage of the Indian higher education. This is critical because many developing and underdeveloped countries may find it more affordable and attractive to enroll in Indian higher education, which has reasonably good quality education at competitive prices. With the advancement of ICT technologies, reaching out to different countries through virtual classrooms has become very practical. Many platforms have emerged and tested successfully during the Covide period. However, the trends show that the technology providers are still working to improve upon the current platforms. In the coming years, online education may become much more value-adding and user-friendly by both teaching and learning ends.

Finally, we should be very optimistic about the emerging Indian economic scenario in the coming decades. As projected by the World Economic Forum, the Asia-Pacific countries can become economic superstars in the coming decades. As a result, employment opportunities are likely to flourish with openings for Indian graduates, here and in abroad. This might trigger our education system to reorient itself for the huge demand that is forthcoming. In the process, the Indian education system is likely to offer a more excellent value to international students.

Prof. (Dr.) Uday Salunkhe
Editor in Chief

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6. The abstract, followed by relevant keywords should not be more than 250 words and should adequately describe the work and highlight its significance. The abstract should only include text. Avoid the use of abbreviations and references in the abstract.

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10. All tables, charts, graphs, diagrams should be black and not in colour. The images should be of high resolution and in black and white only. Number and complexity of such exhibits should be as low as possible. All charts and graphs should be drawn legibly and figures should be indicated in millions and billions.

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ONGC-CBM Campaign: Driving India To A Gas - Based Economy

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ABSTRACT

A country's dependence on energy sources plays a very important role in preparing for its future energy needs and the alternatives it seeks to access or build upon. In India ONGC has been a trendsetter in making forays in extraction of Coal Bed Methane (CBM) Gas which is an unconventional source of energy. Thus, to reduce dependency on oil imports, ONGC's foray into CBM gas has been a landmark step in moving Indian Economy towards to a Gas- Based Economy. ONGC CBM Asset is working on a war footing to develop the gas footprints in India which will enable them to meet the projected demand of 9% of India's energy demand to be met by gas by 2040 in line with the National Energy Plan. This case study deliberates on the vital parameters effecting at large to ONGC's CBM Campaign i.e., land acquisition for drilling these CBM wells; need of creating the Surface Facilities to purify this gas at a faster pace; marketing and selling of Methane to the end consumers; need of changes in statutory policies and framework by Government and the implications for businesses and marketers and competition that ONGC faces.

Key Words: ONGC, CBM, energy dependence, unconventional energy source, gas based economy.

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INTRODUCTION

I would suggest ONGC to give world leadership in management of energy source, exploration of energy sources, diversification of energy sources, technology in Underground Coal Gasification, and above all, finding new ways of tapping energy wherever it is, to meet the ever-growing demand of the country. (Kalam,2005)

- Strategic vision given by former President of India Dr A.P.J. Abdul Kalam

ONGC's role in extraction of Coal Bed Methane (CBM) Gas which is an unconventional source of energy has been a landmark step in moving Indian Economy towards to a Gas Based Economy. ONGC has diversified its businesses towards the extraction of CBM Gas in India by getting the Petroleum Exploration Licence in Jharkhand and West Bengal to extract Coal Bed Methane from the Coal Seams. The total target is of drilling 349 CBM Wells with a cumulative production target of 10 BCM (billion cubic meters) in 20 years. To achieve this target specific time frame for the success of this CBM Campaign, ONGC CBM Asset is streamlining activities like getting land for drilling these CBM wells and creating the Surface Facilities to purify this gas, marketing and selling it to the end consumers. However, challenges remain in getting land, necessary clearances and permissions, commercialization etc. The success of ONGC CBM Campaign will be entirely based on how ONGC does the strategic planning of tapping this unconventional source of energy both from the profitability and the productivity points to achieve the targets sets. Apart from

the regulatory pressures that ONGC faces, it is pertinent to mention that market facing factors in terms of competition, pricing of CBM gas, availability of alternatives, the switching cost of customers are challenges that ONGC needs to confront.

The purpose of the study is to identify and address the critical issues of CBM project in India which can be a gamechanger in managing unconventional clean energy sources and provide a momentum and drive for making India a gas-based economy. Secondly, the study on the CBM gas project is important from trying to understand how alternative sources of unconventional energy can provide answers to India's energy security.

The case study attempts to shed light on the CBM foray of ONGC by touching upon various issues. Beginning with a background note of ONGC, the case then dwells on aspects how the oil and gas sector heavily dependent on oil imports can slowly move towards a gas based economy & the Policy Implications and Regulations governing the Oil and Gas Sector.Thereafter the Capacity Potential and Usages of CBM are discussed. Next the case looks at the foray of ONGC into the CBM Sector and the Importance of ONGC CBM Project f or the entire nation. Further the case dwells on aspects of CBM economics and risks. Next the case tries to portray the Industry and Firm Analysis of ONGC and the presence of Competitors in the Industry. The next pasture brings up the major challenges faced by ONGC and follows it up with the

Implications for Businesses and Marketers. Towards the end a discussion section of the entire case and The Road Ahead is highlighted.

BACKGROUND NOTE

As the most prominent player in the hydrocarbon industry, Maharatna ONGC is the largest crude oil and natural gas producing company in India that contributes an astonishing 75 % of India's domestic production[2]. Crude oil is the raw material used by downstream companies like IOCL, BPCL, and HPCL (subsidiary of ONGC) to produce petroleum products like Petrol, Diesel, Kerosene, Naphtha, and Cooking Gas-LPG.

ONGC ranks 11th among global energy majors (Platts). IBEF (2021) mentions it as the only public sector Indian company to feature in Fortune's 'Most Admired Energy Companies' list. ONGC ranks 18th in 'Oil and Gas operations' and 220 overall in Forbes Global 2000(Business Standard, n d). Acclaimed for its Corporate Governance practices, Transparency International has ranked ONGC 26th among the biggest publicly traded global giants (Devex, n d). It is one of the most valued and largest E&P

Companies in the world, and one of the highest profit-making and dividend-paying enterprises (ONGC, n d).

ONGC's has inhouse capabilities in all facets of exploration and production of oil & gas and allied oil-field services. Winner of several Best Employer awards instituted by reputed agencies, ONGC is a goliath of an enterprise having a team of over 30,000 associates spread all across the country in challenging locations.

ONGC Videsh is a wholly owned subsidiary of ONGC. ONGC Videsh has participation in 39 projects in 19 countries namely Azerbaijan, Bangladesh, Brazil, Colombia, Iraq, Israel, Iran, Kazakhstan, Libya, Mozambique, Myanmar, Namibia, Russia, South Sudan, Syria, United Arab Emirates, Venezuela, Vietnam and New Zealand. ONGC Videsh maintains a balanced portfolio of 15 producing, 4 discovered/under development, 18 exploratory and 4 pipe line projects.[5] The Company currently operates /jointly operates 21 projects. ONGC Videsh has 2P (proven and probable) reserves of 675.721 MTOE (million tons of oil equivalent) as on 01 April 2019. Refer Exhibit-I for a look at ONGC group of Companies.

Exhibit-I-ONGC Group of Companies

Source: ONGC website

TOWARDS A GAS BASED ECONOMY IN INDIA & POLICY IMPLICATIONS

Government of India in order to meet the commitments under the UN Framework Convention on Climate Change has intended to reduce carbon emission intensity by 33- 35 percent from 2005 levels by 2030. It has indicated since late 2016 that it plans to increase natural gas penetration and move towards a gas-based economy.

A campaign was announced under #Gas4India which plans to increase the share of natural gas in India's primary energy mix from the current 6.7 percent to 15 percent an increase from around 50 billion cubic meters(bcm) currently to more than 200 bcm by 2030.

Natural gas is a much cleaner fuel than coal (Business Standard, n. d). Increased gas utilization is also expected to help India to reduce India's dependence on crude oil imports, which were around 4.6 million barrels a day ($73.4 billion in 2016- 17) through-

i) substituting the use of oil products in industrial and residential applications.

ii) boosting the options of the transportation sector through production of domestic gas to create gas verticals in different aspects of the economy"

NITI Aayog has developed energy forecasts as part of the Draft National Energy Policy. This highlights four key priorities for energy policy:

a) Access to gas at affordable prices: This should lead to the reduction of poverty, including energy poverty, and increasing access to electricity and clean cooking.

b) Improved security and independence: As India import large quantities of oil, gas and coal, energy security could be enhanced both through diversification of import sources and by increased domestic production.

c) Greater Sustainability: This priority is linked to the need to reduce carbon emissions.

d) Economic Growth: energy must promote economic growth, either directly or by fostering investment.

As a means to strengthen energy security and reduce dependency on oil, Government of India, wants to achieve:

i) Development of gas sources, either through domestic gas exploration and production activities or by building up LNG import facilities.

ii) Development of gas pipeline infrastructure and the secondary distribution network.

iii) Development of gas-consuming markets like fertilizer, power, transport sectors.

The draft National Energy Plan forecasts an increase in gas demand from 6.5 percent currently to 8-9 percent in 2040, an increase from around 50 bcm in 2015-16 to 95 bcm in the Business as Usual (BAU) scenario, and 124 bcm in the ambitious scenario. However, none of the projections aimed at boosting the share of gas in the energy mix set out in any of the vision

s have, in fact, materialised during the intervening years (Kapsarc, n d). As envisaged in the Hydrocarbon Vision 2025, gas was expected to be a game changer against coal and oil between 2000 and 2025 if the expected evolutionary trends are looked at as also the shares of oil and gas in the energy mix is expected to drop over time. Refer Exhibit -II for different projections of gas demand.

EXHIBIT- II- DIFFERENT PROJECTIONS OF GAS DEMAND

Visions	Year of projection	Gas demand	Share in energy mix (%)
Hydrocarbon Vision 2025	2024 - 25	143	20
India vision 2020	2020	64 - 70	9 - 10
IEP 2006	2031 - 32	94 - 177	5.5 - 11
Draft National Energy Plan	2040	95 - 124	9

Source: Vision and Policy documents, Government of India

In the NITI Aayog forecasts, the demand for gas-based resources is expected to increase three times of the current levels to projected levels of 152-154 MTOE by 2040. Refer Exhibit-III for projected energy supply in MTOE (Kapsarc, n. d)

EXHIBIT-III: PRIMARY PROJECTED ENERGY SUPPLY (MTOE)

	2012	2022(BAU)	2022(ambitious)	2040(BAU)	2040(ambitious)
Renewable and clean energy	23	69	71	173	224
Coal	282	518	475	973	725
Oil	166	260	237	519	420
Gas	49	88	87	152	154
Others	91	95	99	116	140
Total	**612**	**1029**	**970**	**1933**	**1662**

Source: NITI Aayog 2017b

This is equivalent to 168-171 bcm in the BAU and High Gas scenarios. Also, the share of gas in the energy mix does not increase to more than between 8 and 9 percent by 2040, far from the targeted 15 percent. However, next generation economy is expected to be driven by gas i.e., unconventional source of energy which will foster the economic growth of India.

CBM Policy was initially introduced in 1997, the first CBM block was awarded in 2001. One of the key features of India's CBM policy was the freedom to sell gas to the domestic market. Recent amendments now extend pricing freedom to CBM contractors in a bid to incentivise the CBM sector thereby boosting gas production. India is the third largest producer of coal in the world and has an estimated potential of around 28 bcm (around 92 trillion cubic feet) of CBM, an enormous source of natural gas trapped in the coal seams.

CAPACITY POTENTIAL AND USAGES OF CBM (ONGC, n d)

CBM (Coal Bed Methane) is a natural occurring hydrocarbon gas which is generated during the coalification through biogenic/thermogenic process. The Coal Beds hold 5 times more gas than the sand stone. CBM is absorbed in the seams under pressure. This gas can be extractedby dewatering of the coal seams. The current life cycle of the CBM is 35-40 years and commercial cycle of the CBM Gas is 25 years. It is estimated that currently Coal Bed seam can produce 3000-7000 standard cubic meters per day (SCMD) of CBM which can be used

for generating smaller power (~1MW) for the industrial sector like Chemicals /Fertilizers/Metal Industry/Ceramic/ Porcelain / Glass Products etc., as also for the Transport Sector through CNG and Household / Commercial uses like PNG & CGD. There are various advantages of CBM:

a) It acts as clean fuel

b) Low Risk High Gain - Energy Business

c) Cheapest environment friendly fuel

d) Easy Storage and Transportation.

ONGC'S FORAY TO GAS BASED ECONOMY THROUGH CBM

In Accordance to NITI Aayog National Energy Policy, all unconventional energy sources were reinvestigated in order to reduce the dependency of Oil and Gas. Government of India, used its National Oil Company, like ONGC to bid for the CBM Block under NELP regime in order to tap the vast resources of CBM Gas which can be a potential source of efficient energy with high calorific value. ONGC has been a pioneering upstream company which has a vast expertise in Oil and Gas Exploration, Production, then supplying it to end consumers. ONGC has been utilising its skill and technological resources along with best human resources to be the best E&P Company of India.

The Coal Bed Methane (CBM) project of ONGC was initiated as a part of an exploration effort in research and Development in 1995 in the Raniganj basin-Durgapur depression

(ONGC, n d). As a part of the prioritization carried out by ONGC, the coal basins were targeted for CBM exploration. The endeavour bore fruit in 1997 when the efforts led to the extraction of methane from Jharia well.

With the advent of CBM Policy in 2001, ONGC bid for Blocks and also secured the Raniganj and Jharia blocks on nomination basis. Over the years, Government of India awarded thirty- three Coal Bed Methane Blocks to various operators of which ONGC was awarded nine acreages. However, with the prospects of meagre returns from several projects, ONGC disbanded five CBM projects and currently operates in four CBM acreages in eastern India (ONGC, n d)

IMPORTANCE OF ONGC CBM PROJECT FOR ENTIRE NATION
(ONGC, n d)

ONGC CBM Asset has joins hands with various strategic industry partners in these blocks to extract CBM Gas with revenue sharing investment in each block. The total number of wells to be drilled by ONGC CBM Asset has been also quantified for achieving the target of 11 bcm of methane gas in next 20 years. ONGC's CBM projects has strategic importance for India as this endeavour is expected to:

i) Reduce India's dependence on crude oil imports, which were around 4.6 million barrels a day (bbl/d), or $73.4 billion in 2016- 17.

ii) be a slow substitute in replacing oil products in industrial and residential applications as fuel.

iii) Help coal mining industries by extraction of hazardous methane gas from Coal which will give a fill-up in coal mining activities.

iv) Generate Revenue from the unconventional source of energy and reduce greenhouse effect. The basic work flow process of CBM Asset is depicted in Exhibit-IV

EXHIBIT-IV- BASIC WORK FLOW PROCESS OF CBM ASSET

Geological Identification of Drill Site & Stacking of same Land

⬇

Land Acquisition of the Identified Stacked Land for Drill Site & Surface Facility

⬇

Civil Work for the Drill Site and Installations.

⬇

Preparation of the GTO and then Drilling of The Well Site

⬇

After Gas Break, transportation of the Gas collected from Wells to GCS/EPS/QPS by pipelines.

⬇

Purification of the Gas at Installation and Supply of the CBM Gas to End Consumers by Pipelines or Tankers/Bullets

⬇

Logging for identification of coal seam / productive CBM zone

⬇

Hydro-fracturing of zone to enhance permeability of zone and dewatering of the zone.

Source: Constructed by the authors

CBM ECONOMICS & RISKS (*PetroWiki, n d*)

Coalbed methane (CBM) reservoirs initially produce little or no gas and require a large initial capital commitment for well drilling, stimulation, and water handling. Because it may be several years before commercial gas rates are achieved, if at all, it can be difficult to obtain long-term gas contracts or financing. As a result, CBM projects require more work to fully quantify and manage the risks involved. Technical risk can be reduced through reservoir data analysis, pilot projects, and staged reservoir development. Commercial risks can be reduced by the use of decision analysis, fiscal incentives, and creative project financing.

Industry And Firm Analysis

An industry analysis of the CBM sector explains the broad structure of the industry as also the major forces that can play out in terms of affecting the profitability of the industry that can determine corporate strategies of the future. The Five Forces Model helps out in understanding the major forces that can help in understanding the CBM sector.

Threat Of New Entrants– Low

➢ Entry in the industry requires substantial capital and resource investment.

➢ Psychological switching cost for consumers is high and existing brands have established a loyal customer base.

➢ Existing regulatory framework imposes certain challenges to the new firms.

Threat Of Substitute: Low

➢ Other Sources of energy are less developed in India

➢ The switching cost of using the substitute product is high (due to high psychological costs or higher economic costs)

➢ Customers cannot derive the same utility (in terms of quality and performance) from substitute products.

Competitive Rivalry: Low

➢ The number of competitors in the industry in which ONGC operates are very few.

➢ The products produced are highly differentiated. As a result, it is difficult for competing firms to win the customers of each other because of each of their products are unique.

➢ The exit barriers within the industry are particularly high due to high investment required in capital and assets to operate. The exit barriers are also high due to government regulations and restrictions**.**

Bargaining Power Of Buyers: Low

➢ The product differentiation within the industry is high and buyers are not able to find alternative firms producing a particular product.

➢ Consumer are price takers not a price makers

➢ The quality of the products is important to the buyers.

Barging Power Of Suppliers: Low

➢ The product that these suppliers provide are fairly standardized, less differentiated and have low switching costs.

➢ The suppliers do not provide a credible threat for forward integration into the industry in which ONGC operates.

➢ Industry's profits are closely tied to that of the suppliers. These suppliers, therefore, have to provide reasonable pricing

From the above it is very clear that ONGC is in a favourable position to exploit the new opportunities of CBM project given its positioning.

FIRM ANALYSIS

An analysis of the internal and external environment reveals that ONGC is well poised to take advantages in the environment that may result in higher profitability in the future.

Strengths

• ONGC have a vital advantage as being the leader and pioneer company with huge capital reserve and technology base to drive the CBM Project successfully.

• Highly skilled manpower availability.

• Pioneer in the field of extraction of CBM Gas with uniqueness of the product

Weaknesses

CBM extraction involves special technology and skill set which is costly and different from gas extraction operations.

• No Financial incentive from Government to ONGC in operating in CBM Block which is adding lot of cost.

• Short life of the reservoir of CBM Gas.

Opportunities

• Increasing natural gas market with introduction of City Gas Distribution in State of Jharkhand.

• High Growth of Steel, Fertilizer and Petrochemical Industries nearby which has resulted in demand of High Calorific value clean CBM Gas.

• Take advantage of national commitment to Gas Based Economy with Strategic Alliance with other Oil & Gas PSU like GAIL, IOCL for extraction and marketing of CBM Gas.

Threats

• Government Regulations in CBM Policy.

• Increase in competition from existing and new entrants

• Pricing of the CBM Gas

• Non availability of long-term Gas Sale contracts with customers.

PRESENCE OF VARIOUS COMPETITORS IN CBM INDUSTRY

Presence of several reputed companies in this CBM extraction like **Reliance, Essar, Adani** and **GEECL** has made it highly competitive and fragmented. This is expected to lead to innovative measures being taken by existing

and new players to innovate and optimise the value chain. Most of the major players are making huge investments in research and development of new technologies. They are adopting various strategies to get more land for their project so that they can extract CBM at faster pace and increase their market shares. The success of CBM Campaign on the part of ONGC will be entirely based on its strategic planning to tackle all the major challenges and competition by fellow competitors efficiently and to get CBM gas early monetised by selling it to end customers so as to make revenue through this project. ONGC will be in continuous need of Government of India's support in making needful changes in the policies regarding CBM and drastic change in marketing, sale and price determination mechanism of CBM Gas.

MAJOR CHALLENGES OF CBM CAMPAIGN OF ONGC

a) CBM gas exploration and exploitation are highly front loaded and cost intensive:

Unlike conventional oil and gas production, for producing CBM gas, it is a pre-requisite that hydro-fracture activities are completed in the well along with insertion of artificial lift pump right from beginning for dewatering purpose. Also, the per well productivity of CBM wells are low and the pressure profiles of the CBM wells are also low needing multi-stage compression for transportation of CBM gas to the end users. All these are cost intensive

operations involving huge capital and operating expenditures.

b) Land Acquisition: For commercial viability of CBM projects, more wells are to be drilled in short time for which land is needed. Land falls under state subject and acquiring land is a very difficult task involving cumbersome and lengthy procedures. Therefore, taking the state governments on board for the development of CBM blocks will help in overcoming the challenges in the Land Acquisition and will also enable ease of doing business by CBM operators.

c) CBM gas is produced in the vicinity of coal fields which is the source to coal, the cheapest and abundant available source of energy. Almost all the industries operating near the CBM blocks use coal as a fuel. These industries do not have plans to switch-over to natural gas/CBM from coal though natural gas/CBM is a cleaner source of energy and its burning leads to lesser emissions in the atmosphere when compared with coal. The main reason for reluctance on the part of industries to switch-over to natural gas/CBM is that it involves capital investments and long time period, along with associated losses per day of non- operation besides cost of CBM gas being relatively higher with respect to coal. There are also certain industrial units which use alternate fuel such as Furnace Oil, Propane & LPG as they are cheaper. Financial incentives are one such driving force to make these industries use CBM gas, which in turn will create huge demand for CBM gas

and benefit the CBM producers. It is pertinent to note that USA, the World's First Producer of CBM gas had provided tax incentives from 1978 to 2002 to boost the CBM production.

d) Contract for creation of Surface facilities in Bokaro block which is key for the processing and sales of CBM gas was awarded way back in 2017 with 18 months as completion period. But till date project is not completed due to permissions and clearances required.

e) Overlap issue of Coal blocks with CBM blocks: CBM blocks are allotted by DGH, whereas blocks for coal mining are allotted by Ministry of Coal (MoC). There have been instances of overlap of CBM blocks allotted to ONGC with the coal blocks either 'already allotted' or 'being allotted' to Coal mining entities by MoC. Because of these overlaps, the area available for CBM development gets reduced, thereby making an adverse impact on the Development and Commercial exploitation of CBM gas.

f) Issues of Statutory Clearances: The policy of 'Single Window Clearance' should be applicable to future CBM blocks to facilitate successful and timely exploration and development of CBM. Thus, CBM blocks, in future may be awarded with all pre-approved statutory clearances e.g.,Environmental Clearance, Forest Clearance etc.

g) Contradictions with respect to the regulatory framework for Gas Marketing:

As per PNGRB regulations, exclusive marketing rights is provided to authorized Government authorized (GA) entities for supply of gas to both domestic and industrial consumers. Further, NoC from the GA authorized entities is needed by the CBM gas resellers in case they have to sell gas in areas which has been authorized. Also, NoC from authorized entity or PNGRB is required by PESO for issuing PESO Clearance. On the other hand, MoPNG vide it's CBM policy dated 11.04.2014 has provided marketing freedom to CBM contractors. As the sequence of selling of CBM gas by CBM Contractors is through CBM gas resellers in GA authorized areas, the GA authorized entities are impressing upon the requirement of NoC from them. Hence, this PNGRB regulation, 2008 is in contravention to MoPNG's CBM policy dated 11.04.2014 and acts as a deterrent for the marketing of CBM gas by CBM Contractors. The solution for this is marketing freedom provided in CBM Policy must be independent of PNGRB regulation and / or suitable modifications in PNGRB regulations to avoid such contraventions which acts as a deterrent to timely and successful CBM development and production and the concept of developing a 'Gas based economy.'

IMPLICATIONS FOR BUSINESSES AND MARKETERS

Coalbed methane (CBM) industry in India could be at risk from low gas prices and infrastructure bottlenecks. Despite rich potential offered by CBM in meeting Ind ia's

supply needs, continued low domestic gas prices threaten to delay needed investment in the unconventional gas industry. Meanwhile, emerging midstream bottlenecks due to inadequate pipeline infrastructure could cap CBM production.

Sell of methane gas to nearby big industries located near to the coal belt like SAIL, Vedanta, Sindri Fertilizers Plant, Jindal, etc. for their furnaces, boilers, etc. can be a huge opportunity for both producers and marketers to explore this opportunity. On the other hand, it is an opportunity for these users to explore the usage at relatively lower costs or their process and reduce carbon footprints. However, this being a capital-intensive industry, long term contracts between buyers and sellers is paramount to achieving success. The absence of long- term contracts can jeopardise the project.

Another potential opportunity looms in the horizon. At present, when the prices are low f or importing natural gas, Indian companies should take the advantage and enter into contracts with the countries rich in natural gas resources such as Iran, Turkmenistan and Myanmar to bring CBM gas to India through pipelines.

DISCUSSION

CBM holds significant production growth potential. India boasts vast CBM reserves, estimated at around 2.60 trillion m^3 (World Coal, 2014). The government has pushed development of these resources in an attempt to offset production declines at major conventional fields. Production growth in India is severely lagging the growth in consumption, and the country has grown increasingly import dependent. From an estimated 21.07 billion m^3 in 2013, a rapid rise in gas imports has been forecast to reach 56 .33 billion m^3 by 2023.In terms of unconventional energy sources in India, CBM has a higher potential above shale. Estimated recoverable shale gas resources, although considerable, are around 1 trillion m^3 smaller than those for CBM. There are also major barriers to shale gas extraction, such as the depth of shale gas deposits, as well as much of the gas being found in populated areas. The shale gas sector in India is also significantly less advanced than CBM, with a number of licensing and regulatory hurdles barring progress.

For CBM, three crucial factors that can make or break production growth and are important for energy sector managers and executives can be addressed are a)can the initial promise of a high potential sector be sustainable in terms of production and scaling up b)will the domestic gas prices be attractive enough for entry of many players to participate and contribute to the growth of the sector and c) Can the development of midstream infrastructure in terms of pipelines be fast enough to transport CBM gas easily across long distances for many customers to switch to.

Sustaining production is a key challenge. Due to their geological make-up, CBM formations

can offer highly variable production and two wells drilled in close proximity can see radically different productivity rates. Indian coal is also of a relatively low grade. Because of this, its lower porosity and permeability can be a challenge to production. Pilot projects in general have returned relatively positive results, but on a very small scale.

Domestic gas pricing is also a major factor. Previously, CBM producers were exempted from the domestic price cap and companies, such as Essar, were reportedly charging between US$ 5.10 - 22.80/million BTU. As of 2014, CBM has to be priced in line with conventional gas; which is sold at a rate of US$ 4.20/million BTU, although this is under review. Experts estimate that a revised gas price of around US$ 8.00/million BTU would support the bulk of CBM developments, but a price lower than US$ 6.00/million BTU would see many projects become unprofitable.

In terms of longer-term production growth, midstream infrastructure poses the biggest constraint. India's Petroleum and Natural Gas Regulatory Board (PNGRB) has projected a doubling of transmission and distribution infrastructure by 2017, from 337 million m^3/day, to 721 million m^3/day, to support the increase in domestic production. In the absence of a substantial increase in gas pipeline capacity, a major midstream bottleneck on production emerging beyond 2018 may result.

The potential offered by CBM in meeting India's gas demand is clear, however, also clear are the challenges facing the development of this relatively young industry. If the challenges are met and overcome, India can benefit from a prosperous CBM sector. ONGC CBM Campaign should have industry and academic interface also as CBM extraction process is relatively new area and hence collaboration of the industry and academics globally can help ONGC to tap this gas more efficiently in India.

THE ROAD AHEAD

Though ONGC CBM Asset has taken a series of measures to enhance its capability that could assist in increasing the share of natural gas through CBM in the energy mix by 2030 and bring about India's vision of a gas-based economy, challenges remain such as-

a) ONGC though equipped with sophisticated tools & techniques used for extraction of Oil and Gas which is not very similar in case of CBM wells where very special tools and techniques are required to be adopted for such CBM Wells. The nature of the reservoirs is very different from normal Oil and Gas Wells reservoirs.

b) Pace of ONGC's land acquisition so that maximum exposure of reservoir can be achieved. It will help to enhance the production of gas and it will also lead to minimizing the cost of capital.

c) CBM can be a viable option for India only if the government takes a decisive stand consistent with the expectations of the various stakeholders. The key issues identified are an attempt to consolidate

the various issues impacting ONGC CBM Campaign and to propose limited implementable solutions. However, a concerted effort is needed by different governing bodies and parties in order to make India's vision of a gas- based economy a reality by 2030.

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In additional the buildup of the case can be attributed to several in-house newsletters at ONGC.

RESEARCH

Consumer's Response To The Role Of Technology In Marketing

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ABSTRACT

Advancement in technologies has influenced the consumer mind in a way that couldn't have been perceived in the past. A world without the internet is practically inconceivable at this point in the stage. The use of the internet has seen a spike in the last decade. Insecurities with online shopping have diminished over the period and hence, digital marketing plays a key role in promotion and advertising. This begs the question of how one can capitalize on these developments and revise their marketing ideas and strategies. This article aims to gauge this shift in consumer behaviour after the introduction of technologies in the marketing field. And also find out how the companies can adapt to accommodate the evolving technologies and reform their marketing strategies to stay relevant in the industry. To support the hypothesis, a survey is carried out to assess the consumer behaviour towards technology adoption in marketing strategies currently followed by companies. This survey also tries to gauge the impact of marketing on a consumer and how the consumer reacts to the recent trend of changes in marketing. The statistics from the survey shed light on the potential for marketers to make use of the available opportunities such as electronic media and the internet and also formulate the different strategies that a company can employ to cope up with the fast-paced industry. This work also highlights the inadequate marketing strategies that companies can avoid.

Key Words: Technology, Marketing, Digital Marketing, Consumer's response, Strategy.

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INTRODUCTION

Humans are psychologically hardwired to resist change. But fortunately, the stand against the evolution of science and technology has been futile. The following Arab proverb summarizes the outcome of this resistance: "The dog barks, but the caravan passes."

The Oxford dictionary defines technology as, "The application of scientific knowledge for practical purposes, especially in industry." Technology is disrupting the world as we know it today, in ways that seemed impossible, just decades ago. It has had diverse applications and implications based on the field of use. This has led people and establishments to change the way they operate or reconstruct the framework that has been done well by them for years.

In this paper, we restrict our purview of knowledge on technology to the management field, concentrating mainly on the marketing aspect. To understand how technology has influenced management, it is essential to understand how it has changed throughout history. This helps us gauge the scale of this change and also the trajectory of its future path.

Management science as a subject itself has undergone a drastic transformation, the pieces of evidence dating back to after the Industrial Revolution. The first prominent movement to affect management science and the roles of managers was the Industrial revolution.

Competition in business has been a key driver of success and innovation, companies have always strived to stay ahead of their competition to gain a huge portion of the market share. To keep up with changes and demands, companies have incorporated communication and information technologies as part of their business framework.

TRADITIONAL MARKETING

"The conventional forms of marketing that have been used for promotions, advertisements or campaigns by companies for years, and have a proven success rate", is known as traditional marketing. Traditional marketing has been around from the time man has come into existence. As a consequence of the world war and the country's economic conditions, the demand for products and services could not meet the needs of the consumers, since the production was limited and companies could sell every piece of their product. A few years later, after the conflicts had subsided, there was a general increase in welfare and economic stability. "Since the balance of power had shifted from suppliers to consumers due to the changes in the market share, suppliers began to use various promises to attract and persuade customers. This situation caused customers to question a product or a service before investing in it." (Karahasan., 2014) This led companies to realize that they should care more about their customers rather than their company's structure. The essence of marketing is to create value and persuade customers to invest in the product or service. So crudely put the purpose is to actively change customer perception. (Durmaz et al., 2016).

DIGITAL MARKETING

Digital Marketing referred to the "marketing of products or services through one or more forms of electronic channels and technology." This form of marketing has gained traction in recent times as people and businesses have come to realize its potential. "Digital marketing, in reality, is very much different from traditional marketing" (Varnalı., 2012). The main objective of digital marketing is to implement existing infrastructure to make profits, by incorporating strategic pricing, promotions, development and distribution of products and services.

THE COVID-19 PANDEMIC

The ongoing pandemic has taken the world by surprise. With many nations imposing lockdowns to prevent the spread of the virus, it has made us all rethink the way we go about our daily lives. Due to the imposition of the lockdown, there has been a drastic impact on many businesses, forcing them to either adapt or fail. In the last few months, we have seen new marketing campaigns leveraging the transformations that the pandemic has brought about.

A significant cohort of people across the globe has shifted to digital channels during the lockdown, a portion of them being first time users. The driving force behind this trend is to reduce the level of contact between those accessing services and products. The digital movement has been spearheaded mainly by the Millennials and Gen-Z. Experts suggest that this shift towards e-commerce is likely to remain as it is less expensive, more efficient and safer than shopping in physical stores. According to recent reports, Amazon saw a 26 per cent increase in sales in the first quarter of 2020 as compared to the first quarter of 2019 (Rushe et al., 2020).

Not much research has been done on the consumer response and consumer attitude towards the changes in the field of technology and especially digital marketing. There is no hard evidence as to many assumptions that have been made about the consumers in recent ages. This paper lays a foundation for these assumptions and also the attitude change between consumers and general behavioural aspects which can be used by companies and businessmen to come up with sustainable strategies to remain relevant in the industries. This paper takes results from the detailed survey and empirically gauges the impact of marketing on a consumer and how the consumer reacts to the recent trend of changes in marketing.

LITERATURE SURVEY

In a survey conducted, it was found that online shopping wasn't as popular as conventional shopping methods. This was due to many factors like lack of quality in products and poor services (Gupta et al., 2016). "Analysis of the Customer in the analytical, quantitative sense, is the methodical study and approach to making a customer recognize and value a product orservice, and understanding the mechanics of the process of recognition and value, the

psychology and the behaviours which are the foundation upon which the customer makes their decision to value, want, and desire" (Schmidt., 2017). Studying the behaviour and preferences of a consumer is critical to predicting the success or failure of the product in the market.

"It has also been found that social networking sites have provided a huge platform for promoting various products which can be purchased through various online networking sites". (Gupta et al., 2016). Marketing efforts can be focused on consumer and marketing channel relationships to maximize results. (Jain et al., 2017). Although many organizations use a combination of traditional and digital marketing channels, digital marketing is becoming more popular among marketers.

Digital marketing plays a crucial role in many companies. "At present, several business proprietors have an extremely inexpensive and competent method by using digital marketing to market their products or services in the society. It has no restrictions. Companies can utilize any devices such as tablets, smartphones, TV, laptops, media, social media, e-mail and a lot of others to support the company and its products and services. Digital marketing may achieve something more if it considers consumer desires as a peak priority." (Sathya., 2015).

In his research, Cha Jiyoung also found that the more people view shopping services as useful and easy to use on social networking sites, the more likely they are to search for products on such networking sites. The wide variety of customers using social networks ensures that it is possible to enter most target markets. (Cha., 2009). In his research, Shankar also revealed that many consumers rely on social media (e.g., Twitter, Facebook, Myspace, and LinkedIn) for shopping and marketing-related decisions that have become relevant through these media channels. Digital marketing tools such as search engine optimization (SEO), search engine marketing (SEM), content marketing, influencer marketing, content automation, e-commerce marketing, campaign marketing, and social media marketing, optimization of social media, email direct marketing, display ads, e-books, optical discs and games can help companies tremendously. (Shankar., 2011).

Mangold et al. (2009) indicated that social media should be considered to be an important part of the integrated marketing campaign of a company and should not be taken lightly. Small businesses are now capable of entering targeted markets at a reduced cost and can compete on an equal footing with larger companies. (Palumbo et al., 1998).

METHODOLOGY

This paper relies on the study, which plays the main focus on consumers and their behaviour. The study is in the form of a questionnaire which was developed based on careful analysis and debates on the topic at hand. The questionnaire consisted of different sections which included general shopping, factors affecting consumer behaviour, consumer

outlook towards online and offline shopping, expectations of a consumer in terms of product and personal data. The questionnaire was prepared through Google forms and short answer questions were asked to ensure unswerving responses and efficiency of time. Most of our respondents were students and young working professionals. The respondents were asked a series of carefully curated questions to ascertain their true response towards digital marketing and the technologies encompassing it. The survey was conducted online and distributed around India to as many people as possible varying from students, teachers, employees and even retired professionals. India is the most essential market for our study as we are seeing a boom in eCommerce and Prime Minister Modi's digitization has pumped up consumer behaviour towards these changes. A total of 285 people took part in the survey. The subsequent information was drafted in Microsoft Excel and charts were plotted which were investigated intricately.

HYPOTHESIS

Based on the recent observation in consumer behaviours, it won't be wrong to state that traditional marketing has taken a hit which has been further fuelled due to the covid pandemic. Many consumers would now like to prefer online channels for any information. Businessmen and businesswomen have seen significant growth in their careers through these online modes. This paper considers the following points and aims to give results that any corporations and institutes can implement.

ANALYSIS AND RESULTS

The questionnaire was initiated by catechizing the respondents regarding their access to devices that can allow them to purchase products online. Some of the options that were made available to them were smartphones, laptops, televisions and a high-speed internet connection. Based on the results, we concluded that around 95.1% of the respondents had access to a smartphone, 84.6% had access to a laptop or a PC and 76.1% had a TV at their perusal. The interesting detail here is that although 95.1% of the respondents were in the possession of a smart phone, only 75.8% had access to a high-speed internet connection. Through these results, the extent of technology usage is calculated and marketers can priorities their choice of channels.

Figure 1: Consumer Access to technology

When asked about how consumers get the knowledge of products, 82.1% of the respondents chose websites as their answer, 70.5% chose family and friends, 65.6% chose YouTube while 63.9% chose social media. A small 14% claimed that they learnt about goods through personal meetings. We can see here the growing popularity of websites and social media and it's only going to rise higher in the future.
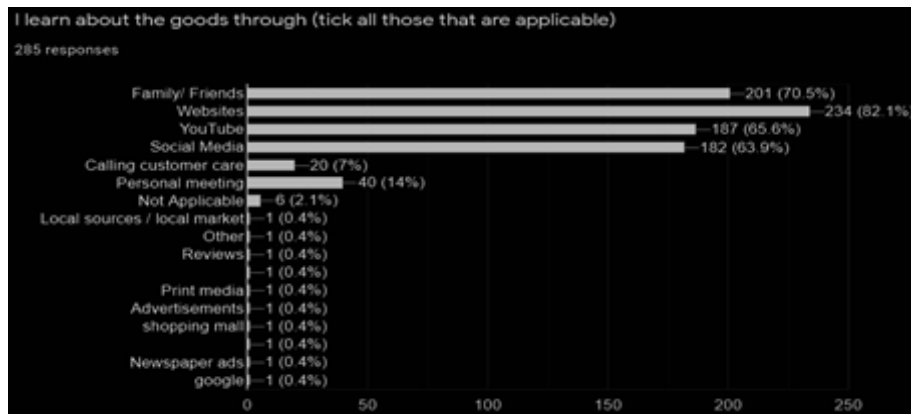
Figure 2: Channels which help consumers in product research

Next, we asked the respondents what online features they would expect from companies. The options that were available to the respondents with this question included a website, a social media page, a YouTube channel, responsive email addresses, customer care number and other relevant options. A healthy 94% showed interest in the companies having a website, while 82.5% opted for a responsive customer care number. 51.2% showed interest in a social media page while 78.2% expected a reliable email address. Low percentage in choosing YouTube channels might push us to conclude that YouTube channels are unnecessary. But YouTube is the main source of entertainment as well as knowledge for the common man and even if not expected from a consumer it should be incorporated in all companies.
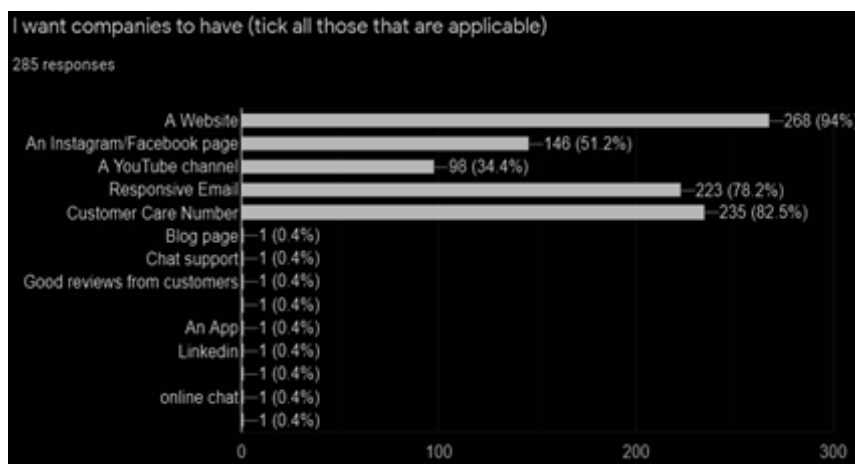
Figure 3: Online requirements expected from a company

To understand consumer requirements from a website, we asked the respondents what they expect from the websites of a company with a few generic options such as contact information, reviews, and ease of navigation. 91.9% primarily want to see contact information shown on the website, while 87.4% look for reviews. 83.2% want a website that is easy to navigate. The overwhelming majority in the responses shows the importance of maintaining websites. The company can determine if their websites contain the relevant information needed by the user from these results.
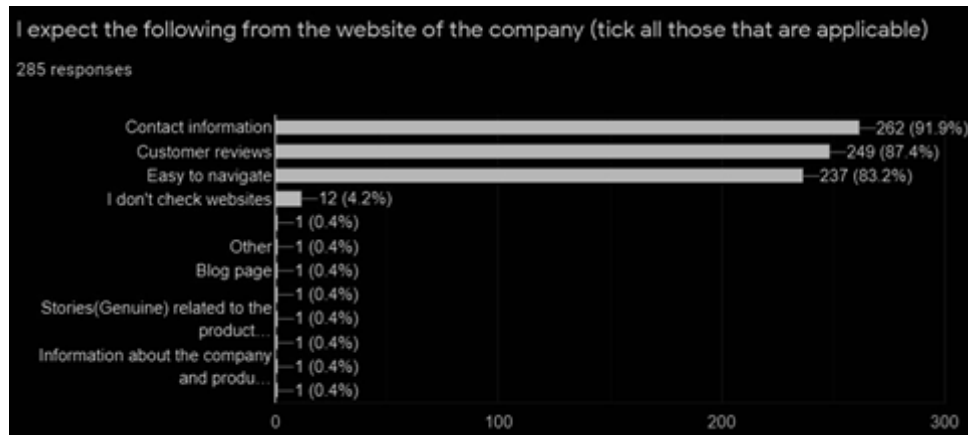
Figure 4: Website requirements from a company

To understand the average time a consumer spends on their social media we asked the respondents their average social media usage time. A good 48.8% of respondents spend at leastbetween 2 to 4 hours on social media, while 33% spend less than 2 hours. 11.9% spend more than 4 hours while a smaller percentage spend over 6 hours a day on social media. Mean of 2- 4 hours is close to the global average time spent on social media. This provides us with an estimation of general change in consumer behaviour over the past decade and how its going to affect in the future.
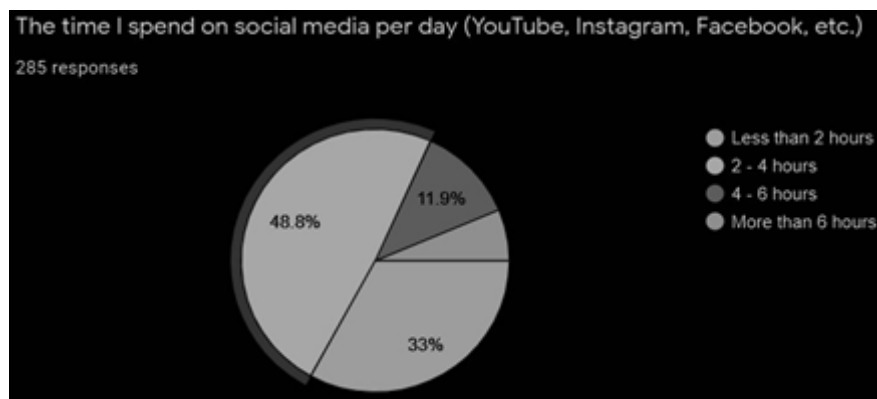
Figure 5: Average time spent on social media

It was a must to quantify the amount spent by a consumer on shopping online per month. The respondents were asked to evaluate their average monthly expenditure. A majority, 74% spend less than Rs. 5000 on shopping in one month. In our country where most of the population comes under the middle-class category, this was something which was foreseen. A very low percentage of people spend over Rs.30000 while shopping online. This gives a good estimate of the growth of e-commerce over the past few years. This also shows the growing trust among users in spending money on the internet.
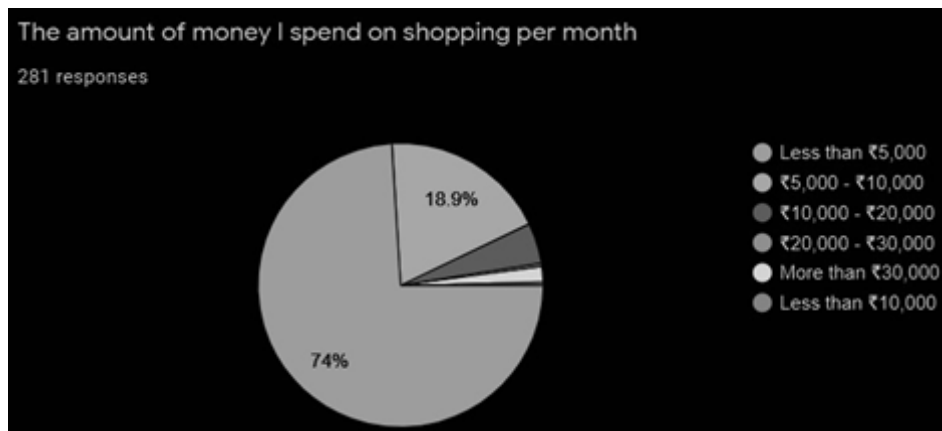
Figure 6: Monthly expenditure on online shopping

Determining the motive behind a customer's inclination towards purchasing a product online was our next objective. The respondents were asked to analyse the reason for themchoosing online shopping. 79.6% of the respondents prefer online shopping due to chances of getting better deals when compared to offline options. Deals and offers are some promotional strategies that have proven to show results in the past decades, Offline or online. The variety of options available online and preventing travelling seem to be the reasons for a consumer to buy online. Few others chose options like no requirement of carrying a wallet and no need to retain bills.
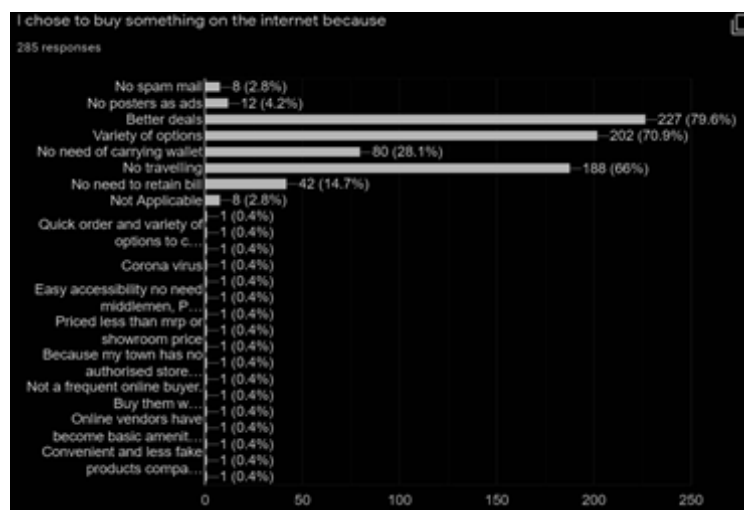
Figure 7: Reasons for online shopping

The respondents were to talk about technological influence on them through a 5 point scale with 1 being strongly disagree and 5 being strongly agreeing. Over 50% agree that technology has influenced them to buy more while 31.1% stand at a neutral point. Only a few percent of the people disagree with this fact. This direct question shows the change in consumer behaviour over the past few years.
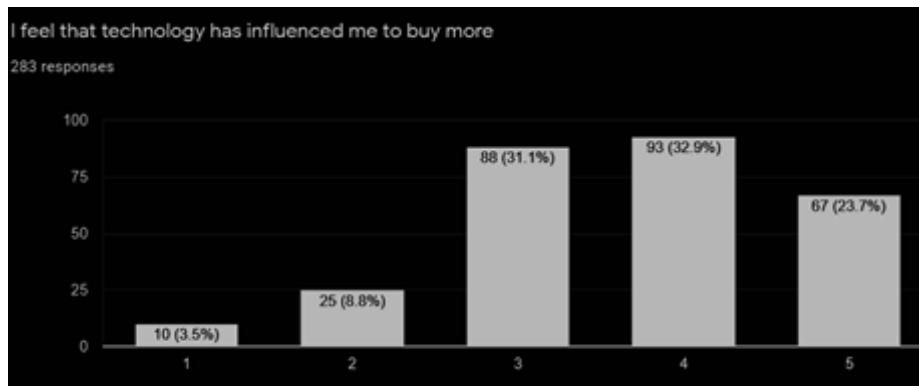
Figure 8: Influence of technology on the consumers

On the linear 5-point scale, the respondents were requested to state their thoughts on learning about goods through the internet being more useful than offline interrogation. Over 50% of the respondents agree that learning about goods on the internet is more useful, a very small percentage disagree with the same.
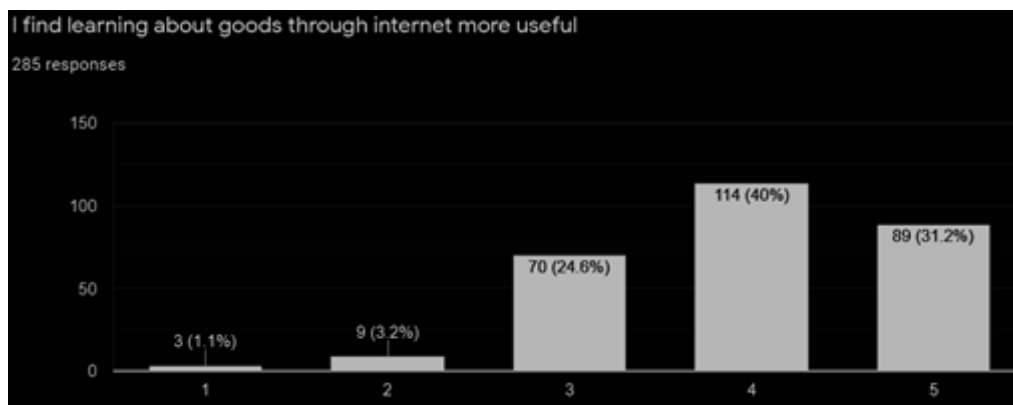
Figure 9: Role of internet in product research

The next question judged the ecommerce industry by asking the respondents their shopping behaviour online. Of the selected popular industries electronics seemed to be the most bought online industry. 88.4% of the respondents buy electronic goods online. 58.2% buy groceries and their daily needs online. Even the clothing industry seems to be a choice of option for the majority of the users to buy online. 47.7% buy sporting goods online and 30.5% buy toys. Popularity of these categories with regards to online shopping can be an effective tool for a company to design their strategy.
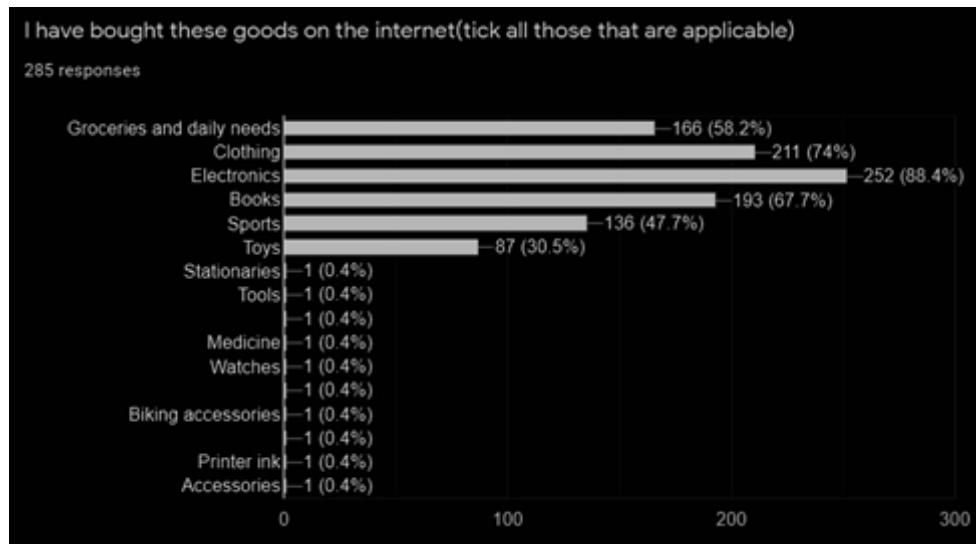
Figure 10: Products bought online

We targeted the online advertisements and questioned the respondents on the channels which they view their ads on. A healthy percent of people see advertisements on social mediaand YouTube. 74.7% go on websites while 64.2% chose television and 55.1% chose newspapers. The comparatively less percentages in online channels and offline channels is something that was expected.
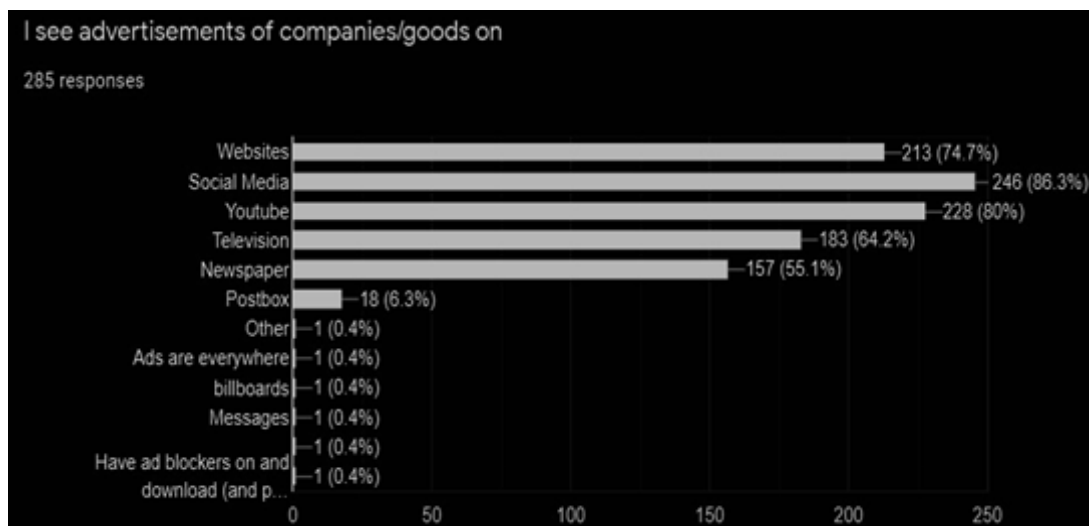
Figure 11: Channels which promote online advertisements

With the increasing advertisements online, we wanted to know the number of ads an average user sees in their daily usage of the internet. 48.1% of the respondents claimed that they saw less than 20 advertisements per day while 35.4% saw less than 50 advertisements per day. Smaller percentages of people chose a number over 100. The survey results helped in determining that there is a drop in the number of offline ads over the past decade.
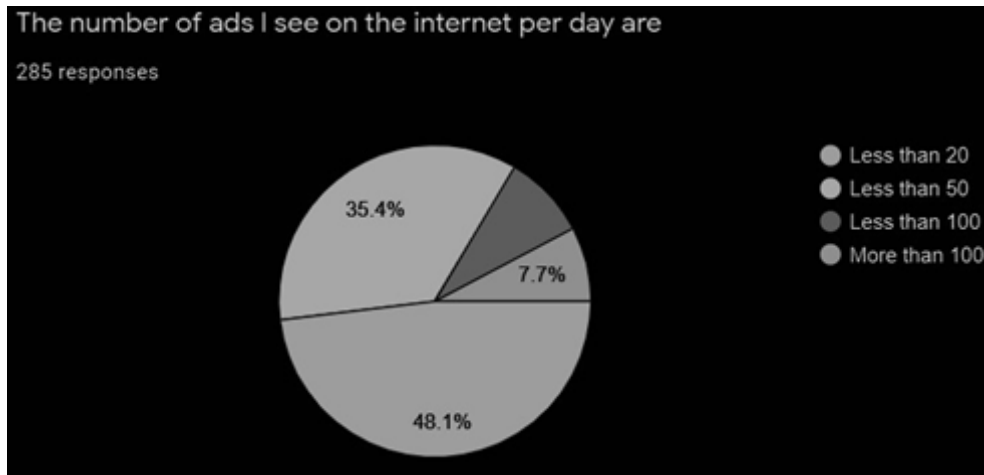
Figure 12: Number of advertisements seen by a consumer

Our aim was to judge the attitude of consumers towards the online advertisements so the respondents were asked to give their thoughts on the ads they see on the internet. Over 44.9% of the respondents chose those online advertisements annoy them. 20.7% then went onto agree that the advertisements are not useful to them. 10.2% agreed that they liked most of the advertisements while 7.4% agreed that they liked most of the advertisements. The main highlight in this result is that many of them think that online advertisements are annoying.
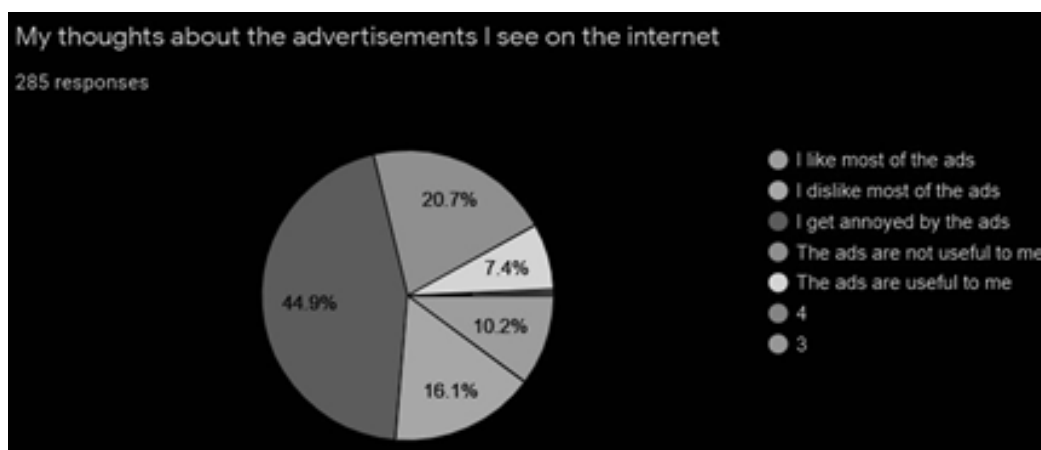
Figure 13: Consumer thoughts about online advertisements

Next the respondents were asked to state their opinions on whether they skip ads they see online through a 5-point scale with 1 being strongly disagree and 5 being strongly agree. An overwhelming majority of over 80% agreed that they skip through advertisements that they see on social media. A very small percentage disagreed with the same. Over the past few years consumers are rapidly changing their views and actions towards digital marketing which can be seen through this graph.
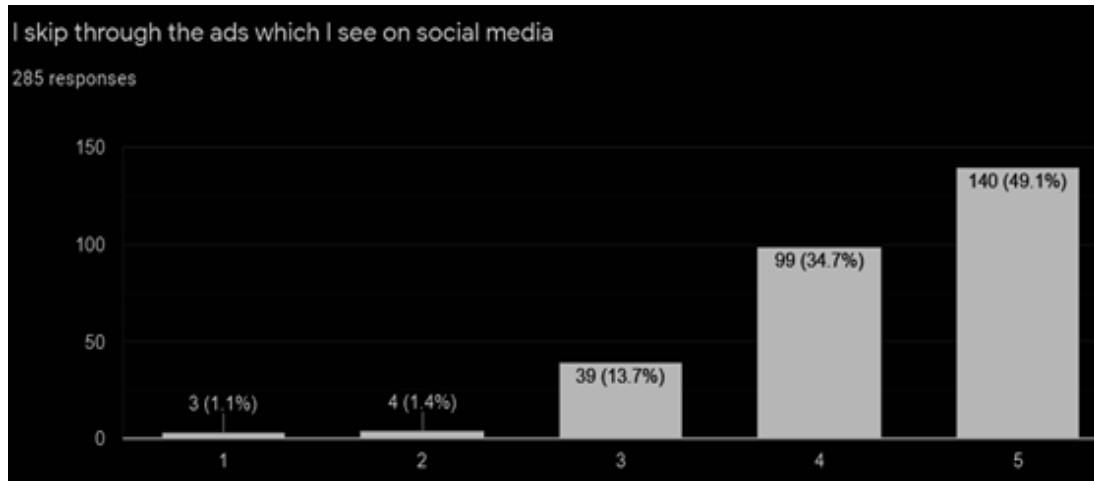
Figure 14: Consumer reaction to social media advertisements

The respondents were asked if they watch ads which are of interest to them. 54% of the respondents agree that they watch an advertisement if it is something of their interest. 36.8%chose that them watching such advertisements depends on the advertisement itself, while 9.1% disagreed with the question.1
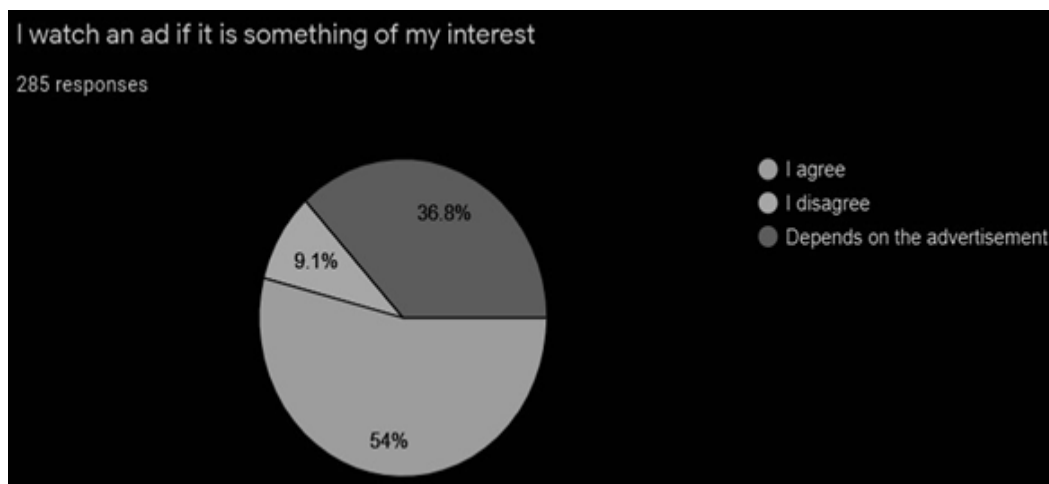
Figure 15: Advertisements on consumer interest

A five-point scale question was designed to check whether consumers click on item offers sent to their mails with 1 being strongly disagree and 5 being strongly agreed. Over half the respondents disagree that they click on an item offer in email. Only about 17.6% of the respondents agree that they click on advertisements sent to their emails
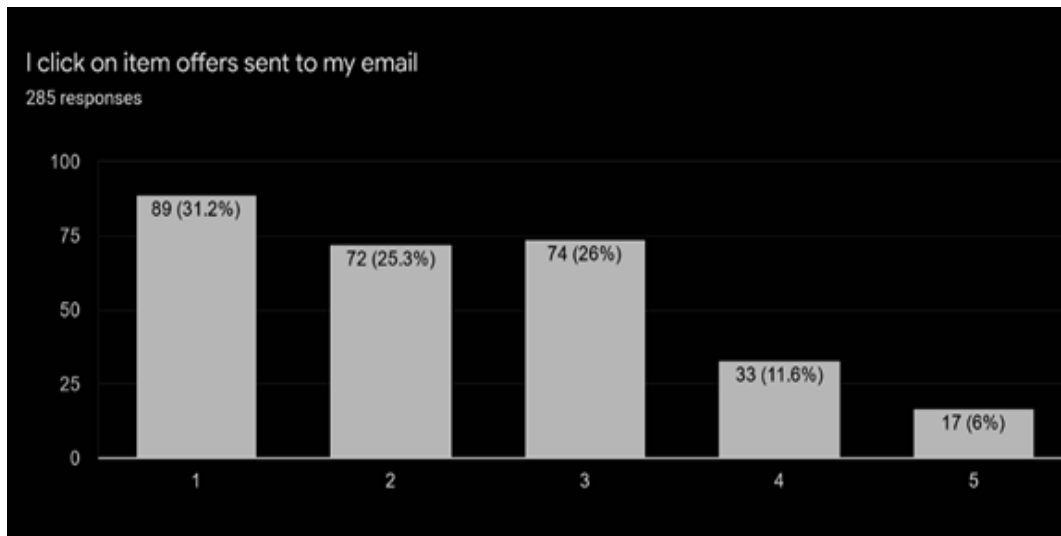
Figure 16: Consumer reaction to email advertisements

A multiple-choice question was formulated to analyse if certain choices reduce their likelihood of buying a product. Bad reviews turned out to be the most influencing factor inconsumer purchase. 90% of respondents choose to not buy a product if it has bad reviews over the internet. Online presence and popularity of the company also amount to the impact it has on consumers' behaviour towards buying a product. 35% of respondents prefer the companies to have websites.
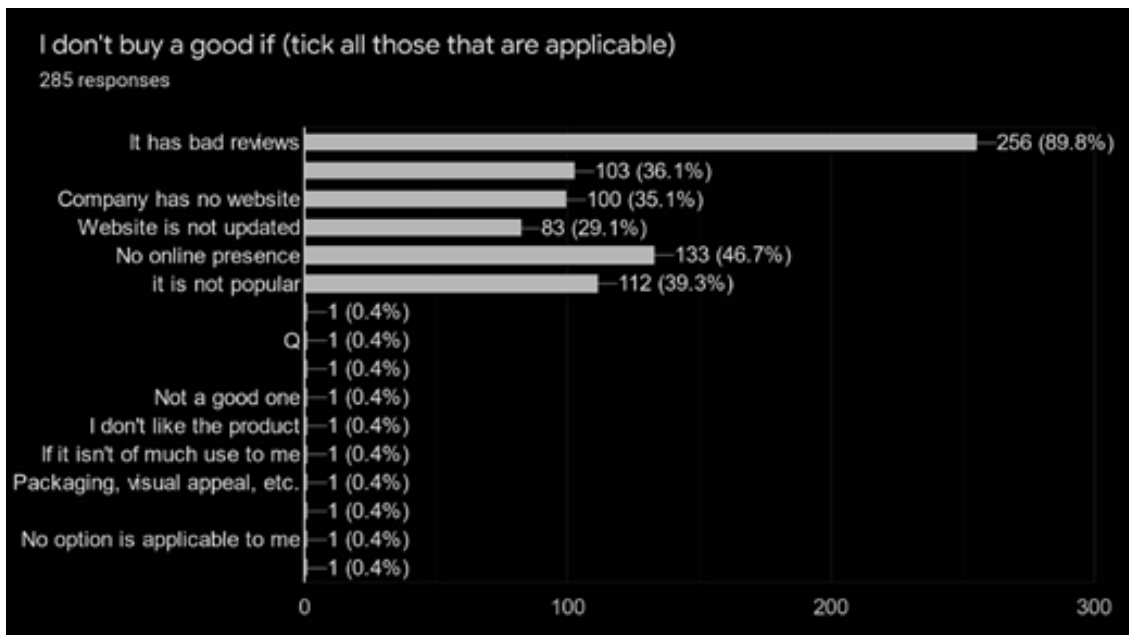
Figure 17: Factors influencing sale of a product

DISCUSSION

The result of our survey shows that a majority of the populace has access to devices such as smartphones and laptops. There is an increase in smartphone usage in the past couple of years and focusing marketing efforts on these technological channels would prove advantageous to a company. Marketing efforts can be proposed into a few of the channels that incorporate technology like social media, websites, call centres, etc, which are further emphasised by the data presented in our results. Hence, the status quo companies must conform and focus on these technologies to a greater extent to stay relevant and maintain a competitive edge in the market. The data also points out that consumers are not only interested to learn about a company's products and services but are also interested in exploring the company's online presence. The focus has shifted from brand image to brand positioning on the internet. Hence, a company that has an online presence helps change the consumer's perception of the company. However, having a website alone isn't sufficient. The website must satisfy the consumer by including the basic requirements like customer reviews, contact information and easy navigation. The data collected shows that people highly rely on information acquired from the internet, in the form of reviews and ratings, before investing in a product or service. This shows that companies should not only focus on product development to ensure the success of their product and service but should also maintain good public relations and customer

service to better connect with their target audience.

According to the survey result, a majority of the respondents spend 2-4 hours on social media. Hence, marketers should curate their advertisements in a way that they don't utilise a lot of the customer's time, but also caters to the users' specific interests. This result shows the importance of a quality advertisement and the need to formulate advertising campaigns to target interested customers and not mass advertisements as this can backfire, leading to negative public reviews as well. Even with the onset of online advertisements, many users tend to skip the ads they see over the internet. An interesting fact to note is that the majority of these users either get annoyed by these ads or find them unnecessary, only a handful find them useful. This user behaviour reiterates the importance of advertising to the target audience. These changes can be brought about by leveraging technology such as IoT, artificial intelligence and big data.

The responses show that customers are not very responsive to email marketing, which is a form of digital marketing, as people generally tend to ignore marketing content. People also look favourably at companies that have an online presence as it communicates a sense of Genuity and connects to the user. If a company does not have an online presence, customers generally doubt the credibility of the company. The survey data reflects that people factor in product and service reviews while making a purchase decision, as consumers tend to scroll past a product if it has negative reviews. Hence an online

presence of an organisation is crucial in these times when face to face quality check and communication is losing the essence.

Our results also quantify the study of four C's by Philip Kotler in his book marketing 4.0 (Kotler et al., 2016). The connected marketing mix (The Four C's), changes the culture where the customers were viewed as passive objects of selling techniques. In this reality, both the company and the customer obtain commercial values and transparency.

Encapsulating all our findings, we can say that the surge in the usage of digital devices has shown a prominent shift in consumer behaviour and the focus is now on present technology such as social media, websites and other similar channels available readily. They are using these technologies to find out about a company's products and services that strike their interest and have shifted their attention which was primarily focused on the quality and availability of a product available offline, to the online presence of a company and what it has to offer through digital means. A consumer's expectations have significantly increased in a way such that he expects some necessities from a company's online presence. The availability of information onthe internet in the form of reviews and ratings remarkably influences consumer purchase behaviour. Consumers have started to spend more time on social media and their expectations from the advertisements seen in this medium have increased as well. Mass advertising proves to be more damaging to the popularity of a company than useful, as it is disliked by a consumer. All sorts of promotional activities seen on the internet are often just skipped today, as they lack specificity. Looking at the current consumer behaviour, promotional activities on social media need to be carefully considered with all their implications before being implemented. Consumers are shifting towards the online forum for all kinds of shopping, they are unresponsive towards email marketing and don't prefer aimless marketing that is done on social media. They are captivated by only those kinds of advertisements that intrigue them.

FUTURE SCOPE OF RESEARCH

Companies should be implementing modern marketing technologies such as Big Data and Artificial Intelligence to analyses consumer data and target specific audiences. A company must have an online presence as it helps change the consumer's perception of it. Marketers should curate advertisements that don't utilise a lot of the customer's time. Businesses marketing campaigns should cater to the users' specific interests. Future research must explore if the consumer behaviour has changed or remained the same during and post the pandemic

LIMITATIONS

The Data collected from the survey are based on 285 respondents only. The survey was not conducted on individuals who belong to rural areas; A major portion of the respondents are from the urban city. The survey responses might have been influenced by external factors. The concluded results cannot be generalised as data was collected from only a sample. The Research findings may or may

not hold in the future due to the dynamicity of the environment.

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Relationship Between The Key Variables And Prices Of Housing Properties

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ABSTRACT

Real estate is one of the most profound industries which actively contributes to the overall upliftment of an economy. Since prices of housing properties determine the major earnings of the sector, it has been observed that there are several factors including variables which influence the prices of the real estate housing properties. However it is important to find out how the relationship exists between the different influencing variables and the property prices. In this paper we have analyzed the relationship between the variables (dependent and independent variables) and the predictors of the final housing prices.

Design/Methodology: *The data here have been collected through primary data sources. The statistical tools used for data analysis and interpretation are - Correlation and Regression through which the actual relationship between the dependent and independent variables has been determined. Also the predictors of the housing property prices have been determined with the help of regression analysis.*

Findings: *There lies a significant relationship between factors like legal documents, project amenities, promotional activities, eco-friendly amenities and the prices of the housing properties. However, there are 7 independent variables from all the 6 major factors that act as the predictors of the property prices.*

Research Implications: *The current work will help to identify the relationship between the various variables along with the extent to which the different independent variables influence the prices of housing prices. Also the study will help to understand the trend of which variables influence the housing prices maximum.*

Key Words: *Real estate sector, Housing properties, Housing prices, Predictors, Inferential statistics.*

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INTRODUCTION

Among different research works, there have been different studies conducted with respect to the real estate sector. This sector is one of the most recognized sectors in the global scenario. This industry comprises 4 broad sub sectors - Housing, Hospitality, Retail and commercial. The development related to this sector is dependent on factors like demand for official spaces as well as both urban and semi-urban constructions. Among the 4 sub sectors, the housing sector covers a huge part of the entire industry. The Indian real estate sector has witnessed a constant demand and growth for both official and residential constructions. The mission of the current Indian government with respect to this industry is to provide affordable housing properties by 2030. The objective of the paper is to find out the relationship that exists between the independent variables which influence the housing property prices and the dependent variable *"Price"*. An extended study will help to find out the major predictors of these housing prices which will help to understand the trend of quoting the final property prices.

REVIEW OF LITERATURE (ROL)

Different researchers have conducted various studies related to the real estate industry. Conceptual studies have been done regarding the history of the sector in the papers *(P.M. Firstenberg et. al. 1988[4], W.C. Wheaton 1999[15], Hudson-Wilson et. al. 2003[10], Hudson-Wilson et. al. 2005[9]).*

At different points of time, authors have worked on models which help in the development of the real estate market and at the same time to identify the factors which influence the real estate price. Some of the research conducted related to this subject area are *(S.A. Holland et. al. 2000[8], M. Burinskiene et. al. 2011[1], E. Cherif and D. Grant 2014[2]).* In the paper *(G. Madhushree and M. Amaresha 2020[5]),* detailed work has been conducted on the behavioural aspects of real estate customers while considering housing purchase decisions. Similar work has been taken up in the papers *(M. Kamal & S.A. Pramanik 2015[11], N. Singh & M. Gupta 2020[14]).* On the other hand, in the paper *G. Madhushree and M. Amaresha (2021)[6]* a study has been conducted regarding the perception of real estate builders with respect to the various criteria relating to housing prices. It has been found that there are various variables which significantly influence the real estate housing property prices. Few studies conducted in this regard are *(G. Madhushree and M. Amaresha 2021[7], J. Mirkatouli 2018[12], Y. Zhang et. al. 2012[16]).* However, very few researches like *(J. Okunev et. al. 2000[13], A. Din 2001[3])* have been conducted relatedto the relationship that exists between individual independent variables and housing prices. The detailed ROL shows that there lies a research gap in the area where a comprehensive study has been conducted regarding the relationship that lies between all the significant variables and the housing prices. Also the predictors

have not been studied in a systematic manner as recorded in the ROL of this paper.

NEED OF THE STUDY

The current study will give an idea to prospective real estate home buyers regarding the various factors including variables which significantly help to determine the housing prices. Also, this study is a systematic analysis of the predictors of the housing property prices which will help the real estate builders in promotional purposes and quote the final housing prices.

RESEARCH METHODOLOGY

The motivation of the paper is to find out whether any relationship lies between several independent variables influencing housing prices and the dependent variable 'Price'. For this purpose a detailed analysis has been done in the paper *G. Madhushree and M. Amaresha (2021)*[7] to identify the different variables which affect the real estate housing prices. However, the current research is a step ahead to find out if there exists any kind of correlation between the two types of variables and which variables are the predictors of the housing prices. The statistical tool used for this purpose is Inferential statistics. This has been divided into 2 steps - Correlation and Regression analysis.

DATA ANALYSIS AND INTERPRETATION

The data analysis section has been divided into two steps: Correlation and Regression analysis. Based on the findings of the paper *G.*

Madhushree and M. Amaresha (2021)[7], significant variables have been identified which affect real estate housing property prices. Through this paper we will be able to find out whether any relationship lies between those independent variables and the property prices. It will also help us to determine the degree of such a relationship that exists between the variables. The data analysis is based on data collected for 400 project samples. From the above stated paper, it has been found that there are 6 major factors which affect the housing prices of the real estate industry. These factors are: Legal documents, Project amenities, Public amenities, Promotional activities, IT/Industrial hub and Eco-friendly amenities. Apart from IT/Industrial hub, all the other factors have been categorised into 5 different variables. These are considered as the Independent variables. On the other hand the price of the housing properties have been considered as the Dependent variable. In the following steps below, the correlation between the different factors and price have been analyzed. Also the relationship between the individual variables under each factor with housing prices have been analyzed.

CORRELATION ANALYSIS

a) Correlation Analysis Between Legal Documents And Price Of The Property

H_0: *There is no significant correlation between legal documents and property prices.*

H_a: *There is significant correlation between legal documents and property prices.*

The first factor identified which influences the housing prices of real estate properties is

Legal documents. The legal documents have been categorized into 5 independent variables: Commencement Certificate (CC), Encumbrance Certificate (EC), Occupancy Certificate (OC), Khata Certificate & Extract (KC & E) and Title Deed (TD). The null hypothesis states here that there lies no significant relationship between the overall legal documents and property prices. Whereas the alternative hypothesis states that there lies a significant relationship between the legal documents and the housing prices.

Table 1: Descriptive Statistics		
	Mean	Std.Deviation
Legal Docs Total Score	6.36	0.921
Price	92.23	69.470
Table 2: Correlation between legal documents and property prices		
		Price
Legal Docs Total Score	Pearson Correlation	-0.188
	Sig. (2-tailed)	0.000
	N	400

Table 3: Correlations between individual legal documents and property prices						
		Commencement Certificate	Encumbrance Certificate	Occupancy Certificate	Khata Certificate & Extract	Title Deed
Price	Pearson Correlation	-0.087	-0.044	-0.128	-0.084	-0.081
	Sig. (2-tailed)	0.082	0.382	0.010	0.095	0.105
	N	400	400	400	400	400

From the descriptive statistics highlighted in Table 1 we find that the average score of the legal documents is 6.36 with an average price of 92.23. The value of the standard deviation calculated is 0.921. From Table 2 we find that the Pearson correlation value derived is -0.188 which indicates that there lies a low negative correlation strength between legal documents and property prices. On the other hand the significance value of 0.000 is less than 0.05. Through this we can interpret that there lies a significant relationship between the legal documents and property prices. However, the negative Pearson value indicates that the correlation is negative in nature. Thus the null hypothesis is rejected here as we find that there lies a significant relationship between legal documents and housing prices.

From Table 3, we are able to find the correlation that exists between the individual legal documents and the property prices. Here we find that apart from OC, there lies a weak negative relationship between all other legal documents and the housing prices. Also the significance values calculated for all other legal documents apart from OC is greater than 0.05. This indicates no significant relationship lies between the other legal documents and the property prices. On the other hand, the significance value derived for OC is 0.010 which is less than 0.05. From this we can interpret that there lies a significant relationship between the availability of OC and the property prices. However, the Pearson correlation value of -0.128 indicates that there lies anegative correlation between OC and housing prices. This is because it has been observed that many projects have not provided OC to their customers even after several months of completion of the projects. The prices are hiked by the builders whenever they provide the OC to their customers. Thus customers are found to be casual in obtaining the OC as a priority as they know that they would receive the document in the future without paying extra price for it.

b) Correlation Analysis Between Project Amenities And Price Of The Property

H_0: *There is no significant correlation between project amenities and property prices.*

H_a: *There is significant correlation between project amenities and property prices.*

The second factor which has been found to influence the real estate housing properties is Project amenities. The project amenities have been categorized into 5 independent variables: Power Backup, Children Play Area, Gym Facility, Club House / Common Area and Senior Citizens' Corner. The null hypothesis states that there lies no significant relationship between the project amenities and the property prices. The alternative hypothesis states that there lies a significant relationship between the project amenities and the property prices.

Table 1: Descriptive Statistics		
	Mean	Std. Deviation
Legal Docs Total Score	6.36	0.921
Price	92.23	69.470
Table 2: Correlation between legal documents and property prices		
		Price
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	Sig. (2-tailed)	0.082	0.382	0.010	0.095	0.105
	N	400	400	400	400	400

From the descriptive statistics highlighted in Table 1 we find that the average score of the legal documents is 6.36 with an average price of 92.23. The value of the standard deviation calculated is 0.921. From Table 2 we find that the Pearson correlation value derived is -0.188 which indicates that there lies a low negative correlation strength between legal documents and property prices. On the other hand the significance value of 0.000 is less than 0.05. Through this we can interpret that there lies a significant relationship between the legal documents and property prices. However, the negative Pearson value indicates that the correlation is negative in nature. Thus the null hypothesis is rejected here as we find that there lies a significant relationship between legal documents and housing prices.

From Table 3, we are able to find the correlation that exists between the individual legal documents and the property prices. Here we find that apart from OC, there lies a weak

negative relationship between all other legal documents and the housing prices. Also the significance values calculated for all other legal documents apart from OC is greater than 0.05. This indicates no significant relationship lies between the other legal documents and the property prices. On the other hand, the significance value derived for OC is 0.010 which is less than 0.05. From this we can interpret that there lies a significant relationship between the availability of OC and the property prices. However, the Pearson correlation value of -0.128 indicates that there lies a negative correlation between OC and housing prices. This is because it has been observed that many projects have not provided OC to their customers even after several months of completion of the projects. The prices are hiked by the builders whenever they provide the OC to their customers. Thus customers are found to be casual in obtaining the OC as a priority as they know that they would receive the document in the future without paying extra price for it.

Correlation Analysis between Project Amenities and Price of the Property

H_0: *There is no significant correlation between project amenities and property prices.*

H_a: *There is significant correlation between project amenities and property prices.*

The second factor which has been found to influence the real estate housing properties is Project amenities. The project amenities have been categorized into 5 independent variables: Power Backup, Children Play Area, Gym Facility, Club House / Common Area and Senior Citizens' Corner. The null hypothesis states that there lies no significant relationship between the project amenities and the property prices. The alternative hypothesis states that there lies a significant relationship between the project amenities and the property prices.

Table 4: Descriptive Statistics		
	Mean	Std. Deviation
Project Amenities Total Score	3.83	1.254
Price	92.23	69.470

Table 5: Correlation between project amenities and property prices		
		Price
Project Amenities Total Score	Pearson Correlation	0.200
	Sig. (2-tailed)	0.000
	N	400

		Presence of Power Backup	Presence of Children Play Area	Presence of Gym Facility	Presence of Club House / Common Area	Presence of Senior Citizens' Corner
Price	Pearson Correlation	0.063	0.112^{*}	0.170^{**}	0.187^{**}	0.155^{**}
	Sig. (2-tailed)	0.207	0.025	0.001	0.000	0.002
	N	400	400	400	400	400

Table 6: Correlations between Individual Project Amenities and Price

From the descriptive statistics highlighted in Table 4 we find that the average score of the project amenities is 3.83 with an average price of 92.23. The value of the standard deviation calculated is 1.254. From Table 5 we find that the Pearson correlation value derived is 0.200 which indicates that there lies a low positive correlation strength between project amenities and property prices. On the other hand the significance value of 0.000 is less than 0.05. Through this we can interpret that there lies a significant relationship between the project amenities and property prices. However, the positive Pearson value indicates that the correlation is positive in nature. Thus the null hypothesis is rejected here as we find that there lies a significant relationship between legal documents and housing prices.

From Table 6, we are able to find the correlation that exists between the individual project amenities and the property prices. The Pearson correlation of all the amenities derived in this section is less than 0.3 which indicates that the strength of relationship is weak for all the variables. However, the significance value derived for all the project amenities apart from

power backup is less than 0.05. This indicates that there lies a significant positive correlation between all the project amenities and the property prices (apart from power backup). Thus it can be interpreted that an increase in the availability of all the other project amenities other than power backup will lead to an increase in the housing prices.

c) Correlation Analysis Between Public Amenities And Price Of The Property

H_0: *There is no significant correlation between public amenities and property prices.*

H_a: *There is a significant correlation between public amenities and property prices.*

The third factor which has been found to influence the real estate housing properties is Public amenities. The project amenities have been categorized into 5 independent variables: Shopping Mall, Hospital, School, Bus Stop and Railway Station. The null hypothesis states that there lies no significant relationship between the public amenities and the property prices. The alternative hypothesis states that there lies a significant relationship between the public amenities and the property prices.

Table 7: Descriptive Statistics		
	Mean	Std. Deviation
Public Amenities Total Score	14.39	2.886
Price	92.23	69.47

Table 8: Correlation between public amenities and property prices		
		Price
Public Amenities Total Score	Pearson Correlation	-0.032
	Sig. (2-tailed)	0.517
	N	400

Table 9: Correlations between Individual Public Amenities and Price							
		Price	Nearest Shopping Mall	Nearest Hospital	Nearest School	Nearest Bus Stop	Nearest Railway Station
Price	Pearson Correlation	1	0.032	-0.090	-0.071	0.081	-0.056
	Sig. (2-tailed)		0.527	0.071	0.159	0.105	0.267
	N	400	400	400	400	400	400

From the descriptive statistics highlighted in Table 7 we find that the average score of the project amenities is 14.39 with an average price of 92.23. The value of the standard deviation calculated is 2.886. From Table 8 we find that the Pearson correlation value derived is -.032 which indicates that there lies a low negative correlation strength between public amenities and property prices. On the other hand the significance value of 0.517 is greater than 0.05. Through this we can interpret that there lies no significant relationship between the public amenities and property prices. Thus the null hypothesis is accepted here as we find that there lies no significant relationship between public amenities and housing prices.

From Table 9, we are able to find the correlation that exists between the individual public amenities and the property prices. The Pearson correlation of shopping mall and bus stop is positive and less than 0.3 which indicates that the strength of relationship is weakly positive. The Pearson correlation value of hospital, school and railway station is negative. This indicates that the relationship is weakly negative. However, the significance value derived for all the public amenities is greater than 0.05. This indicates that there lies no significant correlation between all the public amenities and the property prices. Thus it can be interpreted that any change in the advantageous location of the projects to the nearest public amenities have no significant impact on the prices of the housing prices.

d) Correlation Analysis between Promotional activities and Price of the Property

H_0: *There is no significant correlation between promotional activities and property prices.*

H_a: *There is significant correlation between promotional activities and property prices.*

The fourth factor which has been found to influence the real estate housing properties is Promotional activities. The promotional activities have been categorized into 5 independent variables: Social media, Real Estate Expo, News papers, Tours for Prospective Customers and Real estate websites. The null hypothesis states that there lies no significant relationship between the promotional activities and the property prices. The alternative hypothesis states that there lies a significant relationship between the

promotional activities and the property prices. From the descriptive statistics highlighted in Table 10 we find that the average score of the promotional activities is 2.16 with an average price of 92.23. The value of the standard deviation calculated is 1.189. From Table 11 we find that the Pearson correlation value derived is 0.167 which indicates that there lies a low positive correlation strength between promotional activities adopted by the projects and property prices. On the other hand the significance value of 0.001 is less than 0.05. Through this we can interpret that there lies a significant relationship between the promotional activities and property prices. Thus the null hypothesis is rejected here as we find that there lies a significant relationship between promotional activities and housing prices.

Table 10: Descriptive Statistics		
	Mean	Std. Deviation
Promotional Activities Total score	2.16	1.189
Price	92.23	69.470

Table 11: Correlation between promotional activities and property prices		
		Price
Promotional Activities Total score	Pearson Correlation	0.167
	Sig. (2-tailed)	0.001
	N	400

Table 12: Correlations between Individual Promotional activities and Price						
		Social Media	Real Estate Expo	News papers	Arranging Tours for Prospective Customers	Real Estate Websites
Price	Pearson Correlation	0.007	0.241	0.226	-0.006	
	Sig. (2-tailed)	0.892	0.000	0.000	0.912	

From Table 12, we are able to find the correlation that exists between the individual promotional activities and the property prices. The Pearson correlation of social media is 0.007 which indicates that there lies a weak positive correlation with the prices. Moreover the significance value of 0.892 is greater than 0.05. This indicates that there do not lie any significant relationship between social media and property prices. The Pearson correlation value of tours for prospective customers is negative. This indicates that the relationship is weakly negative. The significance value of 0.912 is greater than 0.05. This indicates that there lies no significant correlation between tours arranged for prospective customers and the property prices. In case of real estate expo and newspaper, the Pearson value of 0.241 and 0.226 is moderate as they are close to 0.3. This means a moderate positive relationship

lies between the two variables and property prices. On the other hand the significance value of both the variables are less than 0.05. Thus we can interpret that there lies a significant relationship between the adoption of real estate expo, newspaper and housing prices. However, it has been found that all the projects considered in our sample have adopted some or other real estate website for promotional purposes. Thus no value has been derived from Pearson correlation test and to identify the significance level.

e) Correlation Analysis between distance from nearest IT/Industrial Hub and Price of the Property

H_0: *There is no significant correlation between nearest IT/Industrial Hub and property prices.*

H_a: *There is significant correlation between nearest IT/Industrial Hub and property prices.*

Table 13: Descriptive Statistics		
	Mean	Std. Deviation
IT Hub	2.92	1.538
Price	92.23	69.47

Table 14: Correlation between IT/Industrial Hub and property prices		
		Price
IT/Industrial Hub Total Score	Pearson Correlation	-0.025
	Sig. (2-tailed)	0.625
	N	400

The fifth factor which has been found to influence the real estate housing properties is the distance from the nearest IT/Industrial hub. The null hypothesis states that there lies no significant relationship between the nearest IT/Industrial Hub and property prices. The alternative hypothesis states that there lies a significant relationship between the nearest IT/Industrial Hub and property prices.

From the descriptive statistics highlighted in Table 13 we find that the average score of the IT/Industrial Hub is 2.92 with an average price of 92.23. The value of the standard deviation calculated is 1.538. From Table 14 we find that the Pearson correlation value derived is -0.025 which indicates that there lies a low negative correlation strength between the IT/Industrial hub and property prices. On the other hand the significance value of 0.625 is much higher than 0.05. Through this we can interpret that there lies no significant relationship between the nearest IT/Industrial Hub and property prices. Thus the null hypothesis is retained here.

f) Correlation Analysis between Eco-friendly Initiatives and Price of the Property

H_0: *There is no significant correlation between eco-friendly initiatives and property prices.*

H_a: *There is significant correlation between eco-friendly initiatives and property prices.*

Table 15: Descriptive Statistics		
	Mean	Std. Deviation
Eco-friendly Initiatives Total Score	2.38	1.369
Price	92.23	69.47

Table 16: Correlation between Eco-friendly Initiatives and property prices		
		Price
Eco-friendly Initiatives Total Score	Pearson Correlation	0.308
	Sig. (2-tailed)	0.000
	N	400

Table 17: Correlations between Individual Eco-friendly Initiatives and Price						
		Home Designed with Natural Ventilation	Sewage Treatment Plant	Energy Conservation System	Rain Harvesting System	Solar Lighting in Common Area
Price	Pearson Correlation	0.362	0.18	0.171	0.159	0.176
	Sig. (2-tailed)	0.000	0.000	0.001	0.001	0.000

The last factor which has been found to influence the real estate housing properties is Eco-friendly Initiatives. The eco-friendly initiatives have been categorized into 5 independent variables: Home Designed with Natural Ventilation, Sewage Treatment Plant, Energy Conservation System, Rain Harvesting System and Solar Lighting in the Common Area . The null hypothesis states that there lies no significant relationship between the Eco-friendly Initiatives and the property prices. The alternative hypothesis states that there lies a significant relationship between the Eco-friendly Initiatives and the property prices.

From the descriptive statistics highlighted in Table 15 we find that the average score of the Eco-friendly Initiatives is 2.38 with an average price of 92.23. The value of the standard deviation calculated is 1.369.

From Table 16 we find that the Pearson correlation value derived is0.308 which indicates that there lies a strong positive correlation strength between Eco-friendly Initiatives adopted by the projects and property prices. On the other hand the significance value of 0.000 is less than 0.05. Through this we can interpret that there lies a significant relationship between the Eco-friendly Initiatives and property prices. Thus the null hypothesis is rejected here.

From Table 17 we are able to identify the relationship that exists between the individual eco-friendly initiatives taken by the projects and the property prices. The individual Pearson correlation values of each initiative highlight that apart from homes designed with natural ventilation, there lies weak positive correlation between the other eco-friendly initiatives and the property prices. On the other hand the significance value derived for all the eco-friendly initiatives is less than 0.05. Thus we can observe that there lies a significant correlation between all the eco-friendly initiatives and the property prices.

Regression Analysis

The second part of the Inferential statistics includes Regression analysis. This analysis will help us to identify the predictors of the housing prices considered in our research work. Multiple regression analysis has been adopted here in order to identify the model which will fit the overall study. The total no. of independent variables including the super built up area of the properties is 27. In order to identify the most significant independent variable that influences the housing prices, the Backward Elimination regression model has been adopted. Through this process the less significant independent variables have been eliminated in each step and only the most significant independent variables have been retained that are the actual predictors of the housing prices.

From Table 18 it is derived that through the Backward Elimination Regression model,

7 independent variables are there which significantly influences the housing property prices. This process includes the elimination of insignificant variables through the help of 20 steps which has been technically termed as the *ITERATIONS*. The independent variables included in the table show that their individual significance values are either less than 0.05 or very close to 0.05. Thus we have derived the significant independent variables that majorly influence the property prices. Also we have been able to get our final Multi regression model which is highlighted in Figure 1.From the figure we are able to highlight the significant independent variables which influence the dependent variable- "Prices of the housing properties".

		Unstandardized Coefficients		Standardized Beta Coefficients	t	Sig.	Collinearity Statistics	
Iteration	Independent Variables	B	Std. Error				Tolerance	VIF
20	(Constant)	1.259	0.040		31.756	0.000		
	Super Built-up Area	0.0004	0.000	0.721	25.424	0.000	0.892	1.121
	Home Designed with Natural Ventilation	0.038	0.018	0.083	2.111	0.035	0.469	2.134
	Energy Conservation System	0.039	0.022	0.071	1.736	0.083	0.426	2.345
	Khata Certificate & Extract	-0.025	0.014	-0.049	-1.734	0.084	0.886	1.129
	Title Deed	-0.023	0.012	-0.056	-1.885	0.060	0.825	1.211
	Real Estate Expo	0.064	0.018	0.124	3.614	0.000	0.608	1.645
	Presence of Club House / Common Area	0.066	0.015	0.123	4.357	0.000	0.900	1.112

Table 18: Coefficients
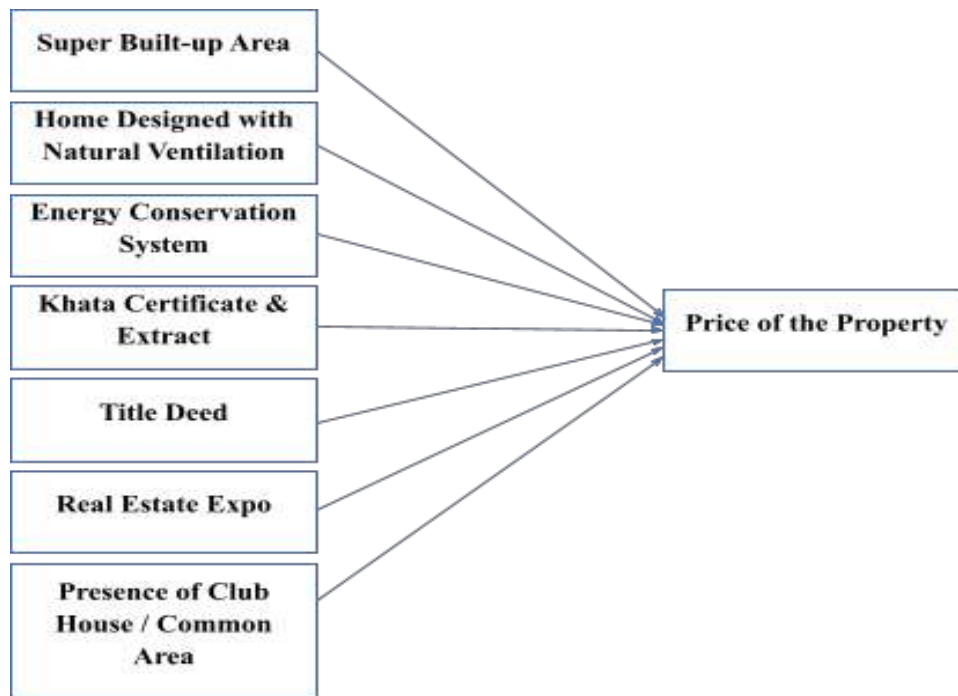
Figure 1: *Final multiple regression model*

Thus The Equation Derived From The Regression Model With The Help Of Beta Value Is As Follows:

Log of Price of the Property = 1.259 + 0.0004 * Super Builtup Area + 0.038 * Home Designed with Natural Ventilation + 0.039 * Energy Conservation System – 0.025 * Khata Certificate & Extract – 0.023 * Title Deed + 0.064 * Real Estate Expo + 0.066 * Presence of club house / common area.

From the equation above we are able to find the changes in the housing property prices due to 1 unit change in the 7 significant independent variables. Thus we can observe that 1 unit change in the Super built up area, Home designed with natural ventilation, Energy conservation system, Real estate expo and Presence of club house/common area has led to an increase in the log of price with respective units. On the other hand, 1 unit change in the Khata certificate & Extract and Title deed has led to a decrease in the log of price at their respective units. The R square value derived from the Regression model is highlighted in Table 19.

Table 19: Model Summary					
Iteration	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
20	0.848	0.719	0.714	0.11183	1.927

An acceptable value for the R Square model is 0.6. On the other hand any model beyond 0.6 is considered as good. In Table 19, the value of R square is 0.719 which is considered as a good and acceptable value. This also highlights that the 7 independent variables considered in our study are able to manage the variances that exist here. The value of the Durbin- Watson test highlighted here is 1.927 which is very close to 2. A standard value of 2 means there exists no autocorrelation in the analysis. Thus it can be interpreted that there lies no autocorrelation in our study.

CONCLUSION AND DISCUSSION

The objective of the study was to identify if correlation exists between the 6 significant factors and prices of housing properties along with the independent variables under each factor. Also the motivation of the study was to determine the key predictors of housing prices. From the detailed data analysis, we have found that there lies a significant relationship between overall factors like: legal documents, project amenities, promotional activities and eco-friendly amenities provided by the real estate builders. However, from the individual analysis we find that independent variables like- Home Designed with Natural Ventilation, Sewage Treatment Plant, Energy Conservation System, Rain Harvesting System, Solar Lighting in Common Area, Presence of Children Play Area, Real Estate Expo, Newspapers, Presence of Gym Facility, Presence of Club House / Common Area, Presence of Senior Citizens' Corner and Occupancy Certificate have significant

relationship with dependent variable 'Price'. The Regression analysis has helped to identify the key predictors of housing prices. Through the Backward regression model we have derived that there are 7 predictors of housing prices. These are- Super Built-up Area, Home Designed with Natural Ventilation, Energy Conservation System, Khata Certificate & Extract, Title Deed, Real Estate Expo and Presence of Club House / Common Area. Thus we find that the independent variables from different factors associated with the real estate industry help in the prediction and influence the housing property prices.

LIMITATIONS

The study is based on the factors influencing the prices of housing property prices which are residential in nature. The sample collected here is exclusively based on the property dimension of 3 BHK. The objective behind this is to cover the overall aspects of property purchase decisions related to the common family structure.

FUTURE SCOPE OF RESEARCH

The current research is a threshold to identify the major factors that help to determine the final housing property prices. Through this future studies can be conducted to identify the impact of sales of housing real estate properties when the identified predictors of prices are taken into concern. Also there is a huge scope of research to find out the impact on the purchasing behaviour of real estate buyers when the major factors recognized by the builders are considered.

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Learnings from Pandemic – Setting up & Adoption of Analytics driven Supply chain centre of excellence

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ABSTRACT

The present crisis has severely impacted supply chain in every industry. This disruption has been particularly crippling for the small scale and micro small scale industries. As a lesson from the pandemic, there has been a growing consensus that supply chains need to be better prepared for the next crisis. While it has been pointed out by management experts that big data and analytics will improve supply chain performance and resilience, the benefits have not been realized as adoption of big data and analytics in supply chain has not been to the desired level. Companies are adopting data and analytics driven centre of excellence for supply chain management to improve adoption and impact. This research argues that data and analytics driven centre of excellence need to be based on behavioral framework for adoption. By mobilizing the framework of "Unified Model of Adoption and Use of Technology", the research probed the key factors of successful adoption. The research concludes that some of the key success factors for an analytics driven supply chain centre of excellence are "aligning with the key metrics of supply chain efficiency", "developing new business models", "developing the data and model building capabilities", "involving the frontline", "driving business value", "capturing the impact quickly", "top management vision", "creating a startup like culture", "developing data driven organizational culture" and "creating demand pipeline". The research presents an actionable road map on how the centre of excellence should act on the key factors for successful adoption.

Key Words: Supply chain, Big Data , Analytics in supply chain, Resilient supply chain, Analytics driven Centre of excellence, Unified model of Adoption and Use of Technology

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INTRODUCTION

Need and purpose for the research

The economic turmoil caused by the pandemic has exposed many vulnerabilities in supply chains. Various studies have brought out the strong impact the pandemic has had on supply chain and emphasizes that companies need to be better prepared for future crisis.

The pandemic has severely affected supply chains of Micro, Small & Medium Enterprises (MSMEs) and questioned their survival. MSMEs are the bedrock of India's economy, contributing upwards of 30% to the country's economy and one of the biggest employers. India's dream of becoming a 5 Trillion USD economy cannot be fulfilled without vibrant MSMEs. So their wellbeing is of utmost importance.

The purpose of this research is to present to the companies the perceived benefits of latest data and analytics tools on supply chains. The research aims to present a roadmap to the companies on how to make supply chains resilient and recover from the impact of pandemic.

The opportunities and the issue in adoption

Supply chain experts believe that big data and analytics in Supply chain will improve resilience in supply chain. However questions remain about adoption of big data and analytics in supply chain.

As a response to the disruption in supply chain, most companies in India are setting up a centre of excellence headed by a senior management person. The companies believe that supply chain centres of excellence will drive adoption of best practices in data and analytics, build resilience and help to come out of the crisis faster.

The concept of Centres of excellence is not new, but it is essential that this dedicated organizational unit entrenches use of analytics, leverage data scattered around the organization, build models using Artificial Intelligence and Machine learning, develop necessary skill and awareness within the organization and build linkage with the Information Technology and business.

After the pandemic crisis dissipates, there will be some companies, that have learnt from the crisis and adopted data and analytics in their supply chain. They will not have to operate blind when next crisis strikes and will be winners in the long run.

Contribution of this research:

This research proposes that the centres of excellence need to be based on understanding of the behavioural aspects of adoption of information technology. For this, a conceptual robust study is expected to help in understanding the critical facilitators and barriers to successful adoption.

The research mobilizes the established framework of "Unified Model of Adoption and Use of Technology" to probe what are the key factors of adoption of analytics driven supply chain centre of excellence. This study has theoretical significance as it extends the conceptual framework to discover the success factors of adoption of data and analytics in

supply chain. This will also reduce the gap between research and practice.

The study also has practical significance. Companies (particularly the vulnerable small-scale industries), the trade bodies and the government at large will develop an understanding of how data and analytics centre of excellence in supply chain can make companies more resilient and collaborate to drive adoption.

For India to quickly come up to the standards of export driven supply chain and replace China, the implementation of success factors of adoption of analytics driven supply chain centres of excellence may be the enabler.

Table 1: Definition of Key terms used in this research

Key Terms	Definitions
Supply chain	The supply chain is a bidirectional flow of information, products and money between the initial suppliers and final customers through various stakeholders. Supply chain management includes planning, implementing and controlling the flow of information, products and money.
Big Data	Refers to the 3Vs (i.e. Volume, Velocity, Variety) of data which is captured for actionable insights.
Analytics in Supply Chain	Can be defined as tools and techniques that are employed to harness external and internal data, for gaining insights to improve supply chain efficiency
Resilient supply chain	Supply chains which sustain their operations without interruptions. They have the ability to weather disruptions posed by events like pandemic. They also have the capacity to recover quickly from disruptions emerging from various sources.
Analytics driven Centre of excellence	The idea behind this is to create an organizational entity that can foster cross-functional engagement of key stakeholders, unlock data across the organization, advance application of advanced analyticsand add value to organization's performance.
Unified model of Adoption and Use of Technology (UTAUT)	It is a consolidated model to study Technology adoption, proposed by Venkatesh et al., 2003.

Source: Developed for this research

LITERATURE SURVEY

Literature on perceived benefits of analytics on supply chain management

Cecere (2016), Bowersox & Daugherty (1995) and Hofmann(2017) in their research brings out that big data and analytics may help in solving some of the problems ailing the supply chain

Raju et al (2011) researched the impact of internet on distribution, which is a key part of supply chain. The authors' two papers studied the impact of adopting internet on the organization and on the distributors respectively.

Roy (2020) did a research on the perceived benefits of analytics on supply chain management and compared with existing literature. The results are tabulated and the literature is perused for a conceptual understanding.

Table 2: Perceived benefits of analytics in supply chain management

Key Conclusions	Previous Literature
Analytics will improve planning by better predicting market trends	Hahn & Packowski (2015) - four types of use cases of analytics in supply chain (i) monitor and navigate (ii) sense and respond (iii) predict and act (iv) plan and optimize.
	Business analytics may help in increasing organization efficiency, using different analytical methods to forecast market trends, reduce the operating cost and increase the profits by using mature supply chain systems (Hoole, 2005; Hedgebeth, 2007).
	DeAngelis (2017)- The company Hanesbrands uses analytics to sense supply chain issues in time.
	Kwan (1999) - information technologies allow firms to quickly and accurately share demand data, sales projections and production schedules,
	Luu et al. (2017) - analytics provides adopting firms greater flexibility and responsiveness in the face of a constantly changing environment.
Analytics will improve planning by automating demand planning	Leveling & Otto (2014) - analytics is resulting in automatic ordering if demand is recognized.
Analytics will impact Sourcing by improving procurement decisions	Innamorato et al (2017) - analytics support better sourcing decisions. Rozados & Tjahjno (2014) - analytics is providing visibility on aggregated procurement patterns.
Analytics will improve Sourcing by leading to	Panchmatia (2015) - analytics gives information on firms spending pattern and return on investment.

better vendor relation management	Ahlawat & Martinez (2016)- analytics helps to monitor quality
Analytics will help in reducing inventory	Hofmann (2017) - relation between adoption of analytics and reduction of bullwhip effect. Deloitte & MHI, (2014) - analytics may produce breakthrough insights that can help supply chains reduce costs and risks whilst improving operational agility and service quality
Analytics will improve order handling	Zhong et al (2014) - analytics support shop floor logistics planning and scheduling. Zhong et al (2017), Zhong et al (2015) - analytics is supporting in building intelligent shop floor logistics system Rozados & Tjahjno (2014)- analytics has led to better inventory sensing capability and material handling and packaging.
Analytics will improve order fulfilment	Aronow & Johnson (2016)- 26 % of the respondents say that better customer service is a driver of adoption of analytics. Sanders (2014)- analytics has optimized supply chain segments and made it focussed to meet customer demands
Analytics will improve logistics management	Bubner et al (2014)- analytics could speed up delivery times of goods and increase the utilization ratio of distribution capacities. Spiegel et al (2013) - predictive analytics can help to ship goods prior to the customers' order to reduce delivery time

Source: Developed from Roy (2020)

Perusal of papers discussing impact of pandemic on supply chain is presented as Table 2:

Paper	Key findings
Ahmad & Schroeder (2001)	Environmental uncertainty leads to greater technology adoption as companies need accurate information to respond.
Aylor et al (2020)	There is a sense of urgency to build resilience in supply chain
Cecere & Denman (2020)	Companies that have Supply chain centres of excellence are more likely to improve book value of the company
Choi et al (2020)	After the Covid 19 crisis dissipates, there will be firms that heed the lessons of this crisis and ensure they do not have to operate blind when next crisis strikes. These companies will be winners in the long run.
Davenport & Dasgupta (2019) Davenport, et al (2020), Davenport & Redman (2020)	How to set an AI Centre of Excellence To fight the pandemics, companies need for better data Companies need a comprehensive data strategy
Govindarajan and Bagla (2020),	As Covid 19 disrupts global supply chains, companies will turn to India
Kaplan et al (2020)	Unforeseen risks often arise out of distant events at company's suppliers. These risks which go undetected materialize very rapidly on an enormous scale.
Ramirej et al (2020)	For decades firms have focussed on supply chain cost, however Covid 19 has made it painfully clear, this does not improve efficiency
Shih (2020)	The economic turmoil caused by the pandemic has exposed many vulnerabilities in supply chains. Managers everywhere should use this crisis to take a fresh look at their supply networks, take steps to understand their vulnerabilities, and then take actions to improve robustness. The disruption in supply chain is going to continue for many months and will be exacerbated by fear, shortage gaming and difficulty in restarting.
Susan et al (2020)	Companies having resilient supply chains reduce EBIDTA impact of a disaster by 23 per cent. The studies have also found that prevalent

	statistical forecasting based on historical data, trends, seasonality have been found to be deficient for supply chain planning and demand forecasting during disaster times.
Simchi-Levi et al (2015) Simchi-Levi & Simchi-Levi (2020)	Developed two new parameters for improving the analytics capability. • Time to Recover (TTR): Time for a node in supply chain to return to full function after a disruption. • Performance Impact (PI): Impact of a disruption for the duration of TTR on a given performance measure It would go a long way in ensuring that shortages which has happened in last few months won't happen again

Source: Developed for this research

Studies on barriers to adoption of data and analytics in supply chain

Schoenherr & Speier-Pero (2015) and Harrington & Gooley (2017) in their studies highlighted the barriers to adoption as inability to screen and identify most suitable data, lack of integration of data warehousing initiatives , data security, lack of top management commitment, unclear business case or value, high cost of developing solutions, lack of employee training to use the solutions, limitations in current applications to meet business objectives, uncertainty about value.

Technology adoption model

Davis (1989) in his studies found that explaining information system acceptance and use through technology acceptance models have great research and practical value. Various technology adoption models were proposed (Fishbein & Ajzen, 1975; Bandura, 1986; Compeau, 1999; Davis, 1989; Ajzen, 1991; Moore & Benbasat, 1991; Venkatesh & Davis, 2000; Venkatesh et al, 2003.

Venkatesh et al, (2012) has proposed the conceptual framework of the Unified theory of acceptance and use of technology (UTAUT), incorporating all the technology adoption models. UTAUT has been used in this research.

The constructs of UTAUT to predict the critical success factors and barriers of acceptance have been explained below:

• Performance Expectancy**:** Performance expectancy is defined as the degree to which adoption of the service will provide benefit. This influences behavioural intention to adopt.

• Effort Expectancy: The efforts needed to render usage experience free from any hardship, which in turn may encourage behavioural intention to adopt.

• Social Influence: If peers or persons of authority recommend as useful, such suggestions could affect behavioural intention to adopt. Such referrals may reduce the risk perception of the application.

• Facilitating conditions can make adoption behaviour less difficult by removing obstacles to adoption and continued usage.

The Literature survey points that there is a gap in study of impact of Analytics driven Supply chain centres of excellence through an information system acceptance and use model. There is a gap in existing literature on the measurement items of the constructs of Technology adoption model for study of data and analytics in supply chain. Developing the measurement items will help in understanding the factors for successful adoption of Analytics driven Supply chain centres of excellence.

RESEARCH QUESTIONS

Literature survey of the important aspects of supply chain and perusal of the UTAUT model leads to the following research questions

- What are the Performance expectancy parameters which impact adoption ?

- What are the Effort expectancy parameters which influence adoption?

- What are the Social influence parameters which drive adoption?

- What are the Facilitating conditions parameters for adoption?

- How can Analytics driven supply chain centre of excellence influence the parameters for "Performance expectancy", "Effort expectancy", "Social influence" and "Facilitating conditions" ?

RESEARCH METHODOLOGY

Development of Questionnaire:

A questionnaire was used to collect data for this study. The initial questionnaire has been tested by a panel consisting of experts who have had experience in researching various supply chain and analytical initiatives. The experts were asked to comment if the questions were relevant and also if they were properly understood. The final questionnaire has been made incorporating the expert feedback. The close ended questions are on a five point Likert scale. These were used for data analysis. The respondents were assured that individual or company level responses will not be published. Only the aggregate results will be published. Thus the ethical dimension of this research was ensured.

Profile of the Respondents: The feedback was taken from Industry practitioners. Completely filled up questionnaires consisted of responses from Five Chief Executive officers, Eight Business Heads, Nineteen Chief Supply chain officers, Seven Strategy Heads and Eighteen Chief Information officers from firms of various sizes across India i.e. total Fifty seven responses were considered. The industries covered were Electric Switchgear industry, Steel Industry, Industrial Products industry and Construction Industry. On account of the present situation and sensitivity of the data, a convenience sampling method was used.

In this research, the measurement models for constructs "Performance Expectancy", "Effort expectancy", "Social influence" and "Facilitating Factors" have been subjected to confirmatory factor analysis with data from the questionnaire survey. Structural equation modelling package AMOS 18.0 has been used for confirmatory analysis. The standardized

regression weights of the measurement items with the corresponding construct has been evaluated along with the critical ratio. The standardized regression weight of over 0.3 and the critical ratio of over 1.96 is considered acceptable for this research.

RESEARCH FINDINGS

A) Factors for Performance expectancy of Analytics driven supply chain centre of excellence:

The respondents opined that the Analytics driven supply chain on excellence is expected to

i) Improved Availability to Promise

The respondents felt that the real time visibility may reduce the gap between promise and availability and this improve customer satisfaction.

ii) Improved Order fulfilment

The respondents felt that data and analytics will improve fulfilling the complete order and not in parts, which improves customer satisfaction.

iii) Improvement in Working capital Management

The respondents felt that as data and analytics helps matching demand to supply, the working capital management is expected to improve with adoption.

iv) Improved Order to Cash cycle

The respondents were of the opinion that increased adoption of data analytics will positively impact coordination and processing, which will improve the order to cash cycle

v) Improved face time with vendors and customers

The respondents believed that adoption of data and analytics will reduce the time wasted in follow-ups', and will free time to improve face time with vendors and customers to understand the market better.

vi) Develop new business models

The respondents strongly felt that adoption of data analytics will help in developing innovative business models. It will also help to develop platform based models, which were not being done before.

Table 1 Final Measurement items for Performance expectancy

	Description of Measurement Item	Standardized regression weights	Critical ratio
1	Improved Availability to Promise	0.6	2.1
2	Improved Order fulfilment	0.54	2.2
3	Improvement in Working capital	0.56	2.3
4	Improved Order to Cash cycle	0.48	2.1
5	Improved face time	0.51	2.2
6	New business models	0.55	2.3

Source: Developed for this research

B) *Factors impacting Effort expectancy of Analytics driven supply chain centre of excellence.* Robust Data and "Model capabilities in the organization, will reduce the perceived "Effort expectancy" and make adoption easier.

i) Data Sourcing

The respondents felt that understanding which kind of data can create new insights and developing processes to ensure such data is sourced internally and externally, will make data analytics easier to adopt.

ii) Data Quality

The respondents opined that once the data sources are formalized, analytics driven supply chain centre of excellence needs to focus on data quality. This will make adoption easier.

iii) Data Governance

The respondents felt that it is important to have policies that outline the oversight structure and enforcement mechanisms for effective data governance. This will help in adoption.

iv) Data Prioritization

The respondents advised that analytics driven supply chain centre of excellence should prioritize data based on their level of criticality and impact for the organization. This will facilitate adoption of analytics.

v) Data security

The respondents felt that protection of networks, computers, programs, data from unintended or unauthorized access, change or destruction, and maintaining confidentiality for organization, its customers and its vendors are of paramount importance. Robust data security will drive adoption.

vi) Follow best practices in model development.

The respondents strongly felt that Analytics driven supply chain centre of excellence should follow best practices in model development by facilitating collaboration among data scientists and business persons. Sandboxes should be developed which have connection to the data lakes. This will reduce the perceived efforts and drive adoption

vii) Deploy descriptive, predictive and prescriptive models using latest machine learning techniques

The respondents felt that data scientists in Analytics driven supply chain centre of excellence should play consultative role in model quality control and updating. This will help un adoption.

viii) Single enterprise platform

The respondents adviced that the models should run on a single enterprise platform. The respondents strongly felt that key success factor is transiting from the disparate silos into one platform.

Table 2. Final Measurement model for effort expectancy

	Description of Measurement Item	Standardized regression weights	Critical ratio
1	Data Sourcing	0.65	2.1
2	Data Quality	0.57	2.8
3	Data Governance	0.55	3.3
4	Data Prioritization	0.54	2.4
5	Data security	0.66	3.4
6	Best practices in model development	0.61	2.7
7	Latest machine learning techniques	0.64	2.5
8	Single enterprise platform	0.67	2.9

Source: Developed for this research

c) *Improving Social Influence of Analytics driven supply chain centre of excellence improves adoption.* These measurement items are explained below

i) The Supply chain analytics solutions need to be implemented with the front line in mind.

The respondents advised that idea generation for data analytics use cases need to be derived from field and operations experts i.e., the frontline.

ii) Analytics driven supply chain centre of excellence should understand the business and economic drivers

The respondents opined that Analytics driven supply chain centre of excellence needs to align the use cases to the business drivers for the organization.

iii) Analytics driven supply chain centre of excellence should focus on Process improvement

The respondents discussed that analytics driven supply chain centre of excellence needs to monitor the process improvement, not just focus on the data analytics algorithm.

iv) Analytics driven supply chain centre of excellence ability to deliver impact quickly

The respondents felt that if impact of data analytics solutions is delivered quickly, that will accelerate adoption.

v) Top Management vision

The respondents said adoption increases when top management champions the opportunities, aligns them to the business strategy and drives a roadmap from use case to incorporating in business, adoption improves.

i) Inspire nonmembers of Analytics driven supply chain centre

The respondents felt that if supply chain centre of excellence succeeds in making nonmembers excited to be part of the data analytics journey at organization, adoption will be positively impacted.

ii) Encourage nonmembers to advocate for idea

The respondents felt that if nonmembers who have identified a business case are encouraged and the solution is prioritized, the adoption of data analytics increases.

Table 3 Final Measurement model for Social Influence

	Description of Measurement Item	Standardized regression weights	Critical ratio
1	Ideas from Front line	0.68	1.99
2	Understanding Drivers	0.73	3.03
3	Process Improvement	0.65	2.22
4	Quickly deliver impact	0.54	2.45
5	Top Management vision	0.77	2.89
6	Inspire non members	0.55	2.42
7	Prioritize ideas	0.57	3.12

Source: Developed for this research

Facilitating conditions: The measurement items are discussed below:

i) Data driven culture

The respondents felt that developing a culture that fosters data-driven and agile decision making will drive adoption.

ii) Set up a "start-up like" environment

The respondents strongly advised that setting up a start-up environment, which will sustain after the initial hype, celebrate wins and break department silos, will drive adoption.

Plan "exit strategy"

The respondents advised that having an "exit strategy" of handing over model to business will ensure adoption.

Creating Demand

The respondents also advised that creating demand for data analytics solutions, from the business will drive adoption.

Table 4 Final Measurement model for Facilitating conditions

	Description of Measurement Item	Standardized regression weights	Critical ratio
1	Data Driven Culture	0.77	2.21
2	Start-up like environment	0.52	3.21
3	Exit Strategy	0.54	2.88
4	Create Demand	0.55	2.30

Source: Developed for this research

DISCUSSIONS

Model 1: Final model for Adoption of Analytics driven supply chain of excellence
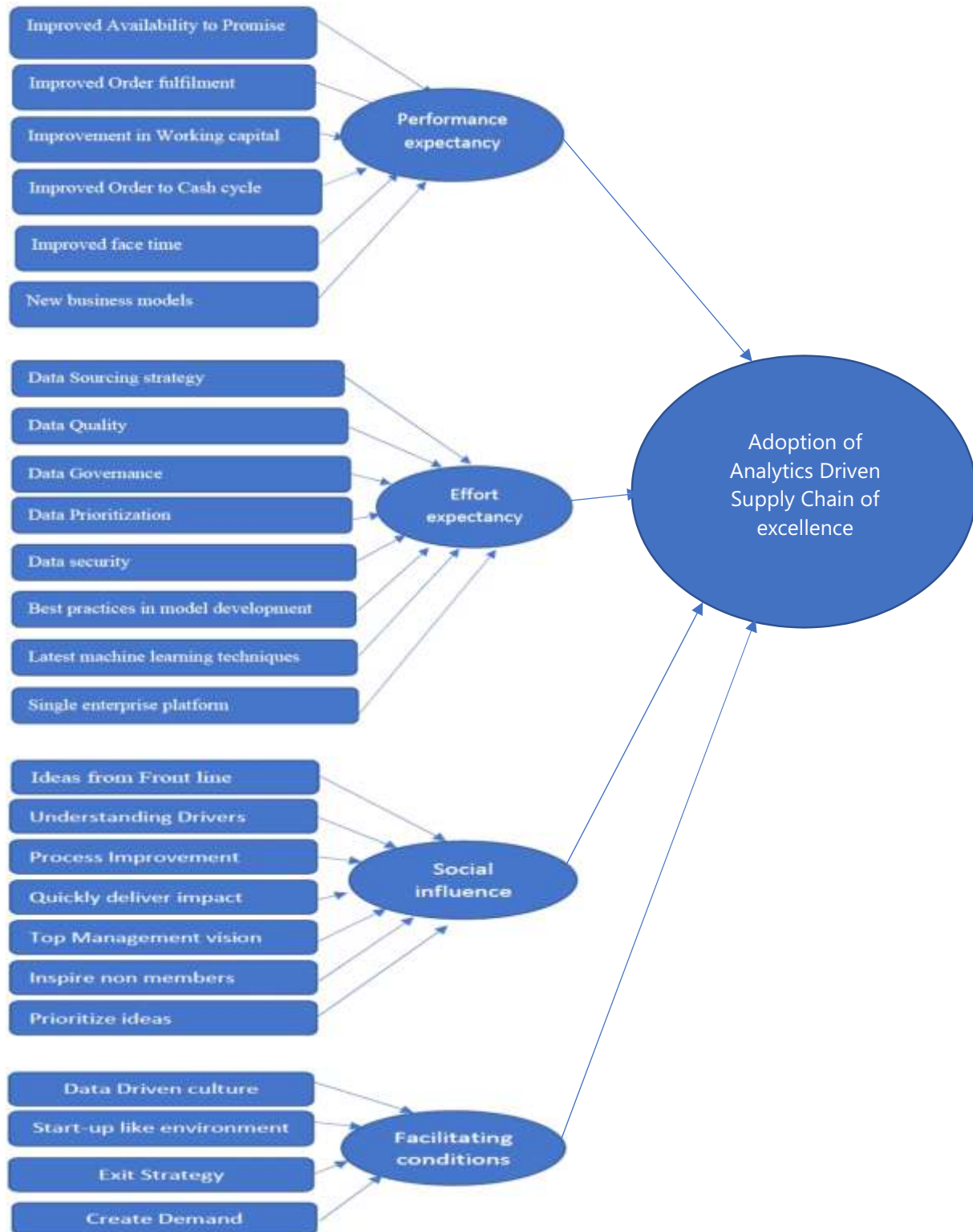
Source: Developed for this research

With insights from the research, the final model for adoption of Analytics driven supply chain centre of excellence is presented. The conceptual model driving the behavioral intention to adopt data analytics driven supply chain of excellence, is compared with results from existing literature.

The findings of the UTAUT construct "Performance expectancy" tally with the previous research of Accenture (2015), Cecere (2015), Garmaki et al (2016), Heaney (2013) and Raju et al (2011). The respondents felt that data analytics needs to be perceived as improving Business value by improving sales performance, supply chain performance, customer service, consumer experience and resilience in critical times. Data analytics should also be perceived as helping business open new business models. This finding is similar to findings of Davenport (2013) and Ittmann (2015). The respondents felt that Analytics driven supply chain centre of excellence should encourage adoption by improving these perceptions.

The findings on the UTAUT construct " Effort expectancy" are consistent with the findings of Davenport (2013), Kiron et al (2013), Lee et al (2009). However further insights that improved "Model capability" positively impacts the construct "effort expectancy", is a contribution of this research.

Absence of single enterprise platform has made it very difficult to establish benchmarks and measure impact. This may adversely impact effort expectancy posing risk to successful adoption.

The findings of the construct of UTAUT "Social influence", positively impacting adopting analytics in supply chain are in line with research conclusions of Azvine (2005), Chen et al (2015), Davenport (2013), Fawcett & Waller (2014) and Kohavi et al (2002).

The respondents felt that to improve adoption, data analytics solutions need to be perceived as developing solutions with frontline staff in mind and focussed on the business issues.

The respondents felt that adoption of data analytics is positively impacted if there is stewardship from the top management.

This construct of UTAUT "Facilitating conditions" throws light of the fact that developing the analytics driven culture of the organization will act as facilitating condition of adoption. These research findings is a contribution of this research.

The respondents felt that developing a data and analytics culture will drive adoption. For this Analytics driven supply chain centre of excellence needs need to test and learn in collaboration with business, develop training for organization -wide data literacy.

The respondents strongly advised that Analytics driven supply chain centre of excellence needs to set up a start-up like environment , develop talents and skills with training and inspiration sessions. They need to develop internal training program for organization-specific processes and advocate career progression opportunities for business persons who are trained in data analytics.

There was a gap in existing literature on validated measurement items for the constructs performance expectancy, effort expectancy, social influence and facilitating conditions which influence adoption of data analytics. The measurement items were validated using a robust statistical tool. The theoretical contribution of this research is that it extends the framework of UTAUT for study of data analytics adoption in companies.

CONCLUSION

Apart from the theoretical contribution, this research has practical significance. This strongly brings out that Analytics driven Supply chain centre of excellence will deliver all round benefits if adopted by organizations.

Companies will understand the key success factors of effort expectancy, social influence and facilitating conditions which are needed to increase the adoption of data analytics.

It may encourage Industry associations and Educational Institutes to setup data analytics driven Supply chain centre of excellence on a platform level. This will help overcome the resource constraints, particularly in MSMEs and small companies, and make them adopt data analytics.

LIMITATION OF STUDY AND FURTHER RESEARCH DIRECTION

A data and analytics driven supply chain may vary across industry, location, geography (Aylor et al, 2020). Hence the structural model of UTAUT need to be tested across various industry groups. This cross industry research might unravel different relationships between the constructs in the structural model. The theoretical and practical implications of the findings may be used to develop industry specific strategies for successful analytics driven supply chain.

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Leading The Team Into A Post Pandemic World- A Case Study On Mobilizing And Facilitating In The New Normal

Prachi P Hingorani*

ABSTRACT

Having a vision and sharing with other, is what leading means. Only when a leader is able to inspire others, it is possible to share a common goal towards which to direct the efforts and dedication of the entire team. According to an article written in Harvard Business Review, by Hubert Joly (May 8,2020), he states How companies and leaders approach the three phases of this crisis and treat all their stakeholders, starting with their employees and their human needs are the things and moments that matter for their employees, contributing to the level of attachment/commitment the employees will have to the company in the future and to the ability of the company to excel coming out of the crisis.

Some researchers are trying to conduct research on post-pandemic leadership and the impact on business performance but there is a need to identify the current strategies and plans used by leaders to mobilize and facilitate the work post pandemic, in order to have a new normal at workplace, keeping in mind the individual and the organization as a whole. The paper explores the current strategies and procedures implemented by the leadership post pandemic in their organization. The planning, preparation and implementation done by the organizations to overcome the pandemic situation and adapt new ways of working and analyzing the effectiveness of the techniques used. The procedures designed by the leaders to operate smoothly in the new normal.

Key Words: leader, leadership, pandemic, strategies, procedures, new normal, organization, mobilize, facilitate, Human Resources, team leader, Department, cooperation

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INTRODUCTION

Leading is to have a vision and sharing the vision and insights with the employees. Dedication and efforts are shown by the employees only when they are inspired, motivated and enthusiastic to work. The number of challenges that the pandemic has brought in, the organisations must consider the needs and desires of employees at all levels, along with their personal spaces. Safety at workplace is the utmost important factor to be considered, however, it is also important to address needs such as the want for truth, stability, connections, self-esteem, growth, and development during the crisis.

Crises Management and developing various techniques/methods for employees to work should be the main important objective of the organisations during this pandemic time. The age group of employees should be considered, the age group of people in their homes should be kept in mind. The type of health issues that the employees and their family members have should be kept in mind while drafting the rules and regulations. A deeper understanding of workers needs has to be made.

According to First Nations people leading the way in COVID-19 pandemic planning, response and management, the important factor is to ensure all stages of the pandemic are considered with equal importance and are proportional to the risk of disease in communities. The employees initially met three times per week and currently meets twice weekly via digital video or teleconference.

Leadership is a result of collaborative action between the leader and the stakeholders. True leadership is the combined and unified action of leaders and followers, working together to achieve common goals and objectives. If this is carried out in a correct manner and form, these collaborations of relationships and trust will dictate the outcomes and performance of an organization in a positive way, as recommended by Kathryn Washington in his journal, leading through crises.

Virtual teams should be made according to the geographical dispersion of team members. A virtual team helps the organization by combining experience and expertise of each member without limitations in terms of location or time. At the present time, when organisations are trying to reduce cost, virtual teams help in reducing the cost of travel and relocation by allowing the hiring and on boarding to be basis the candidates and recruiter's location virtually. Virtual teams and connection also helps the organization to connect better with each employee and share experiences and challenges being faced in the work.

CONTRIBUTION

Several things happen in the organization which we cannot control or predict, human resources department and leaders of the organization are thrown into a series of unknown events and unpredictable situations, which they have to deal with and draft several techniques to overcome from the same successfully. Thoughtful sense making has to be carried out, when an incident does not correspond to the understanding of leaders. This demands an urgent need of making sense, so that the organization becomes capable of acting and adjusting to the new situation. It

helps in designing several ways for the future unpredicted situation and occurrences as well. This study helps in identifying the immediate ways of working followed by the organisations to carry on their work during this pandemic. By analyzing the basic techniques used, organisations can implement better ways of working in future to handle the stress of pandemic.

Leaders should continuously modify their roles based on the market trends and transformation, they should keep on seeing and identifying the new technological opportunities and translate them into business and organizational opportunities, such that the organisations are up to date according to the new market trends and events. Inclusive management, active leadership, cascading decisions and empowerment should be given followed. They should also provide strong governance and help in execution of the transformation forward. Also, a favorable organizational culture should be made.

NEED OF THE STUDY

Some researchers are trying to conduct research on post-pandemic leadership and the impact on business performance but there is a need to identify the current strategies and plans used by leaders to mobilize and facilitate the work post pandemic, in order to have a new normal at workplace, keeping in mind the individual and the organization as a whole.

OBJECTIVES OF THE STUDY

➢ To understand the current strategies and plans used by leaders to deal with the pandemic

➢ To examine the effectiveness of the strategies used

➢ To bring out the effective strategies that can be implemented

REVIEW OF LITERATURE

According to an article written in Harvard Business Review, by Hubert Joly (May 8,2020), he states How companies and leaders approach the three phases of this crisis and treat all their stakeholders, starting with their employees and their human needs are the things and moments that matter for their employees, contributing to the level of attachment/commitment the employees will have to the company in the future and to the ability of the company to excel coming out of the crisis. During this pandemic, it has become relatively important for organisations to overcome the impact of crises and managing the work accordingly.

According to Jessie, in her journal specifies that the position held by leaders is essential for corporate growth, job promotion and development of employees. Leadership styles affect the organizational engagement and happiness of employees in the organization. Ineffective management and leadership is a primary cause of employee dissatisfaction and this will lead to low level of corporate growth and organization performance. Pandemic has severely affected various organisations across the globe, but it is quite important for the organisations to have a strong creative leadership coordinating with the human resources department to manage the work and keep productivity of the organization in mind.

According to Routledge, book written on Leading Positive Organizational Change, Virtual organization design has to be created to work in accordance with the dynamic situation which pandemic has shown to all the type of organizations, they conducted research globally, where 99 percent of the respondents have the belief that white collar staff can work virtually/digitally, while as per the requirement and nature of work, people required to work practically in the organization or factory are required to come and work. Digital literacy has become relatively important for smooth and uninterrupted work during the pandemic

RESEARCH QUESTIONS

➢ How is the work of organisations impacted by the pandemic?

➢ What measures are taken to overcome the present situation, such that it does not impact the organisation's productivity?

➢ What are the strategies of mobilizing and facilitating implemented to overcome the stress created by the pandemic?

➢ How are employees adapting the new ways of working?

➢ Are the new ways of working keeping the interest of employee as well as organisation in place?

HYPOTHESES

➢ Culture of an organization is helping in facilitating the relationships

➢ Digital literacy is helping in facilitating the organization's performance.

➢ Crises Management is helping in uninterrupted work.

➢ Efficient Agility helps in facilitating the intended tasks.

CONCEPTUAL FRAMEWORK

The below framework is the base for research, helps us knowing the factors and parameters that the leaders are mobilizing, in order to facilitate the individual work and overall organization performance. This conceptual framework was arrived by studying the major factors across the industries affecting the mobilization and facilitation of an individual and an organization as a whole.
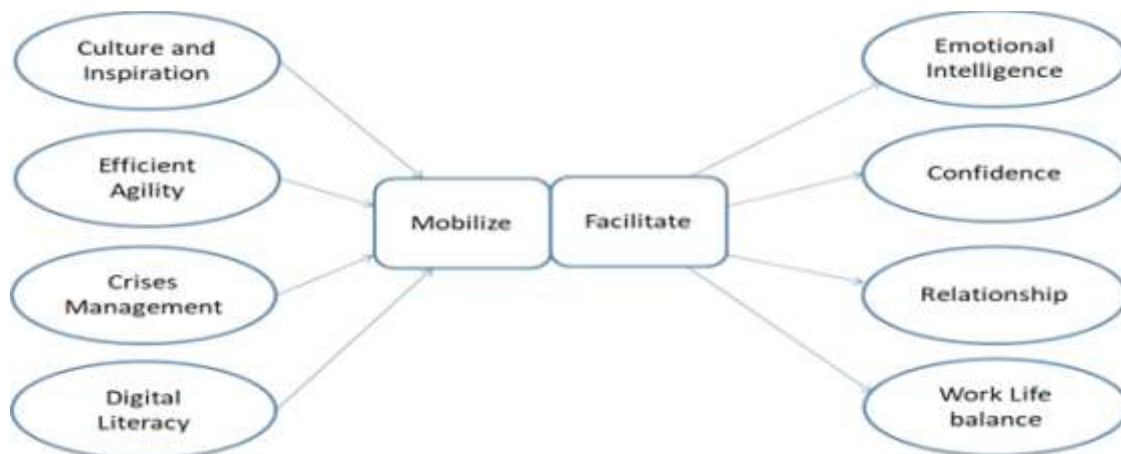
Source: Leadership Models: The Theory and the Practice | Sergio Caredda

Figure 1

Planning, preparation and implementation of several methods and policies have been carried out by Human Resource department of the organization along with the team leaders so as to meet the organizational goals and objectives and the safety, security, well-being and work life balance of employees.

To facilitate the work, several parameters are mobilized to suit the current situation. Purpose to mobilize has been identified, which includes engagement activities, culture of the organization, inspiration for the employees and solidarity. Efficient agility includes momentum, responsibility, collective intelligence and coaching of talents. Crisis Management takes into consideration, leading through uncertain situations, endurance and prioritization of important tasks. Digital Literacy is data driven, managing the big and complex data on cloud, making the workplace digitally sound, increasing the cybersecurity and digitally transforming the data as per the requirement. These parameters are considered by the organisations to mobilise so as to carry out their work smoothly and flawlessly.

Once the organization has decided to mobilise different activities and parameters, it becomes prepared to facilitate those parameters in the real organizational world to carry out the activties and tasks.

By giving proper attention to culture and inspiration, it helps in boosting the self-confidence of employees, refreshes their mindfulness, individuality, sincerity, stability and resilience. It also helps in facilitating the relationships between the Human Resource department, team leaders and all the employees of the organization. Employees working remotely tend to become less motivated and enthusiastic while they do not find any appreciation given to them. So, during this pandemic situation, it was difficult for the organisations to find the right platform to reward and appreciate their resources, hence they started conducting digital town halls to appreciate and reward their employees. This helps in boosting their confidence and enthusiasms, therefore making them feel more connected.

Work life balance is an important factor in corporates, as due to market competition and pressure, employees tend to work more and neglect their personal life and spaces. So, during this pandemic, several polies were brought in about the work life balance for employees so that the right and proper work environment, along with giving time to the personal life of employees was maintained. This also helped the organisations to achieve satisfactory employee experience level.

A survey (40 employees) was conducted to find out the level of cooperation between Human Resource department, team leaders and the employees of the organization.

According to journal, Leading in crises, "written by Donna Ernst, Leading the team and managing within any crisis can be overwhelming to the "most seasoned" leader. Seeing the current crises situation, leader should make smart decisions and cooperate and collaborate with their teams. Strategic

planning should be thoroughly done in accordance with , on the spots decision making.

Out of 40 employees, 33 (25 Agree+8 Strongly Agree) employees reported that the level of cooperation between HR, team leaders, employees and other departments in their organisations depicted during the pandemic situation is at satisfactory level, however if the cooperation between departments is increased in the longer run, it will add to better organizational outputs, profitability and employee productivity. Cooperation in an organization can be improved if there is strong interconnection, partnership, joint effort and team work between Human Resource and other departments of the organization.
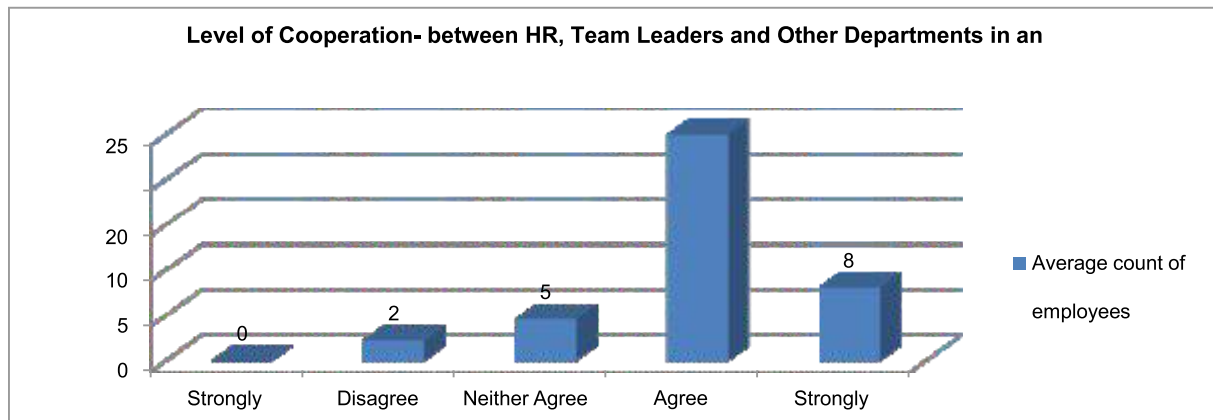
Graph 1: Level of Cooperation- between HR, Team Leaders and Other Departments in an Organisation

planning should be thoroughly done in accordance with „on the spots decision making.

METHODOLOGY

Case study on HCL technologies ltd, Hero MotoCorp, Proctor and Gamble and few small enterprises are included to showcase the strategies used. The analysis of the pandemic situation, plans and procedures followed to overcome the stress and maintain safety along with keeping the individual and organization's performance in mind. These organisations were selected as per convenience sampling, offices/factories were bases in NCR. In the extended study, would widen the scope of research.

Case studies on cooperation between Human Resources, team leaders and other departments of the organization in mobilizing and facilitating the individual work and overall organization work in the new normal.

HCL Technologies Ltd.

HCL Technologies Limited is an Indian multinational information technology organization headquartered in Noida, India. It provides software services to various organisations around the world. During pandemic, as all other organisations started working remotely, HCL Technologies also developed ways and means to productively carry out the work remotely. It has 150,000 employees operating in 44 countries.

At the time, when pandemic was at peak, the organization developed and various digital

solution for different activities/processes that the organisations follow. Also, the current policies were modified to suit the pandemic situation in the interest of the individual resources and the organization as a whole.

Mobilizing Culture And Inspiration

As the pandemic created a huge situation of panic around the world, it became a situation of utmost pressure for the organization to carry out the work and keep employees motivated to work. So, HCL started online engagement activities to keep its employees motivated and happy. Every Friday became a „Fun Online Fridays, where, the Human Resources department planned various online events for all employees to participate. Employees, team leaders would connect over the Skype/ Microsoft teams to drive various engagement activities. This helped in making employees feel connected and motivated.

Efficient Agility

As training is a very essential function in an organization, face to face training was not possible during the pandemic situation. So, to continue with the training, all the learning modules were converted to e-learning online training modules for the employees to successfully complete the different courses of the training. The training used to run online and Human Resources department would then clarify all the doubts that employees had. This helped the organisation to smoothly run the training and development activities,

Crises Management

Early in the pandemic situation, when every employee started working remotely, it was a bit difficult for the organization to control and lead the work, so as to fulfill the customer requirements and deliver flawless service. So, as an IT organization, it started using more of online/digital services to conduct several meetings and solve various customer problems as when they were solved face to face before.

Digital Literacy

Few services which employee uses are run only on the broadband network of the organization, however in the start of pandemic, it became very difficult for the organization as the work started getting impacted because the employees were unable to use various services/softwares from their own network.

So, seeing the situation, the IT team created VPN services for those softwares to be used at home smoothly and such that the work should not get impacted.

Emotional Intelligence

By running more of employee engagement activities and giving freedom to employees to carry out their own personal work as well during office hours and accepting the new normal way of working, Human Resources department and leaders of the organization motivated the employees to have their individuality, in turn, this helped in maintain efficient emotional intelligence within the organization.

Confidence

By the cooperation from Human Resources department and team leaders, employees developed a sense of stability and confidence to carry out the work and day to day activities, it actually helped the organization to attain the overall business outcomes with improved productivity and efficiency.

Relationship

Human Resources department worked closely with the team leaders for various other departments to increase the team spirit of the employees, so that they feel more motivated to work and carry out the day to day activities. This helped in boosting confidence of the employees and making them happy and connected.

Work Life Balance

During pandemic, when working remotely started as a new normal, the work life balance of the employees were affected drastically as they had to work on odd hours as well to meet the requirements. Seeing the stress and improper work life balance of employees, Human Resource department designed a way out to maintain stress free working for employees. Every employee was given a particular shift for working and over and above that the work had to be done on the next day. The same expectations were set with the client.

These little efforts helped HCL Technologies to mobilize and facilitate during the pandemic and become habitual to the new normal by bringing out new ways of working. Human Resource department cooperated with the team leaders to make the new normal flawless and smooth. Regular surveys are carried out with the resource, so as to identify the gaps and the areas of improvement.

Hero Motocorp

Hero MotoCorp Limited is the largest two wheeler manufacturer in the world. It is an Indian multinational motorcycle and scooter manufacturing company with its headquarters in New Delhi, India. It has around 8600 employees.

During the start of pandemic, when the whole world was in severe panic, Hero MotoCorp designed initial techniques to deal with the situation as being a manufacturing company, remotely working was not completely possible.

Mobilizing Culture And Inspiration

At the start of the pandemic, Human Resource department and team leaders took several immediate measures to make their office premises, manufacturing units and dealership areas safe and protected. There was a leadership team formed by human resource team to take care of the situations on real time basis and take appropriate steps/measures as necessary with the evolving situation.

Efficient Agility

The organization responsibly took the initiatives to deal with the situation and also implemented the steps that will not harm the business performance and outcomes. Human Resource department bought a new

policy for Covid19, all non-essential travel for employees starting first week of March should be discontinued, whether it is domestic, international, official or personal travel. Provision for employees to work from home on alternate days was also started, so that the number of employees at one point of time should not be too many. This was valid for all employees in support functions. However, engineers and staff involved in manufacturing units had to come every alternate day and several precautions were taken to protect them.

Digital Literacy

Since the start of pandemic, the company stopped having face to face physical meetings of more than 10 employees, meeting were carried out using online services/applications. All the employees and customers were screened and sanitized before entering the premises. Digital interface like teleconference and video conferencing is being used frequently for most business meetings with employees and customers. Biometric check-in and check-out have also been stopped at all locations of the company.

Facilitating Confidence

Human Resource department in cooperation with the team leaders of the company, drafted policy on the work behavior of employees and the office policy during covid19, which included the steps and precautions that were mandate for the employees to follow while they were working from home and for those employees who physically were working from office. This helped in boosting self confidence level of employees when they had

the proper plan to follow instead of vaguely coming the office and not knowing what to do.

Emotional Intelligence

Human Resource department in cooperation with the business leaders launched an Artificial Intelligence enables ChatBot to address queries from employees on various aspects of covid19, in order to prevent the spread of any false information.

Relationship

As a part of the proactive engagement with employees, Hero MotoCorps Chairman Dr. Pawan Munjal addresses the entire organization through a digital Town Hall on Monday evening of every new month, assuring employees of the unstinted support of the organization at this challenging time. On every Town Hall– digitally accessed by employees in various locations across India, Bangladesh, Colombia, the US and the UAE on their handheld devices/mobile phones and laptops - he also communicated all the initiatives taken by the Company to ensure the well being of employees and their families.

Work Life Balance

To improve and enhance the employee experience, Hero MotoCorpbought out 24/7 online expert for its employees working in manufacturing units to answer their doubts and queries in a better and professional manner, along with reducing the number of employees at a given point of time in the unit.

These initiatives helped MotoCorp to smoothly run its operations without

hampering the business and customer expectations.

Proctor & Gamble

Headquartered in downtown Cincinnati, Ohio, The Procter & Gamble Company (P&G) is an American multinational consumer goods corporation, founded in 1837 by William Procter and Irish American James Gamble. It manufactures wide range of personal health/consumer health, and personal care and hygiene products.

For mobilizing and facilitating in the pandemic situation, P&G, kept the work on and helped in manufacturing more of those products which are helpful to maintain the safety and sanity of employees and people around the world. Being a manufacturing of fast moving consumer products manufacturer, the company had to carry out the work uninterrupted. It maintained proper hygiene in the factory and manufacturing units, called the workers on alternate shifts, carried out most of the work digitally, the employees who could have managed to work remotely and there was not work hamper, they were allowed to carry out the work from home.

Face to face meeting were converted as digital meetings, the human resource department of the organization made it sure to engage and boost employees by planning every Friday digital activities and interacting with employees, this helped in reducing the stress created by the pandemic and made employees feel connected to each other. This helped in turn boosting the employees and their individual

performance, in return helping the organization to attain the goal and objectives smoothly.

A small medical office was made at every manufacturing unit to keep a check on the health of their workers and maintaining safety if any worker was found unwell. The main aim of their leadership was to keep their own employees safe first and then only they can manufacture products to keep the people of the world safe. The leadership in cooperation with the human resource department at different global locations cooperated to bring in policies regarding the medical offices that were set up in all manufacturing units, policies regarding digitally working from home and working in shifts. Also, involving human resource department to keep the employees motivated and connected. Rewards and recognition ceremonies were also carried remotely with the help of digital media to keep employees delighted and appreciated.

Facilitation of these factors helped the organisation to attain the goals smoothly.

DISCUSSION

Dynamic organisations and change management are the most successful parameters for an organization to sustain itself and carry out its work flawlessly during the pandemic situation. It is very essential for organsiations to keep their policies flexible and dynamic, so that they are able to update the rules and regulations maintained in the policy per the situation. Employee engagement activities and giving freedom to employees to carry out their own personal work as well during office hours and accepting the new normal way of working,

Human Resources department and leaders of the organization should motivate the employees to have their individuality, in turn, helping them in maintaining efficient emotional intelligence within the organization.

Online/digital services should be used to conduct several meetings and solve various customer problems instead of face to face meetings. Digital interface like teleconference and video conferencing should be used frequently for business meetings with employees and customers. Biometric check-in and check-out should also be stopped at all locations of the company.

Human Resources department should work closely with the team leaders for various other departments to increase the team spirit of the employees, so that they feel more motivated to work and carry out the day to day activities. This will help in boosting confidence of the employees and making them happy and motivated.

IMPLICATIONS

At present, when it is almost a year to the pandemic situation, organisations have developed various ways and techniques to deal with the crises. It is very important for the corporate sector to accept the changes that the pandemic situation has brought in and take actions according to the changing situations.

The new normal of working from home is accepted by most of the organisations and leadership has developed various plans and strategies to manage the work in new normal, so that the individual performance in accordance with the organizational goals is not hampered. Human Resource department has proved to be really helpful in supporting the leadership across the organisations to drive the work smoothly.

Strategic planning is an important parameter to manage; it has to be dynamic to adjust as per the situation. Various tests performed helped us in analyzing partnership between the teams, especially with human resource department is important and helpful for the cooperation between various departments. Human Resource department in cooperation with the team leaders have developed various plans and policies to manage the work of the organization basis the dynamic scenario that the pandemic has shown. Various mobilizing techniques are drafted by the corporate sectors to facilitate the work in new normal.

FUTURE RESEARCH

This study will prove to be useful for researchers planning to do further research on the post pandemic leadership. Initial steps and procedures that the organisations have followed during the start of pandemic will become the base for identifying more innovative ways and procedures that can be used by organisations to implement in their day to day work, keeping in my both the individual and organisation's interest.

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An Icon Of Pizzas: Dominos In India- A Case Study

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ABSTRACT

India Domino's is India's market leader having the highest pizza market outside the United States with nearly 72% market share and is working towards doubling the market size by creating pizza as a meal-time replacement. This case study ascertains how Domino's pizza, people's favourite pizza brand in the United States adapted to the Indian market and captured its evolving customer base. This study considers various factors that have helped Domino's achieve their position in the Indian market. The intriguing feedback process that Domino's conducts with the young customers, the product development process carried out with its team before introducing a new product in the market is studied. In a country where data charges are reliable and smartphones are accessible to a wide range of people, the influence of introduction of newer version of the consumer-friendly mobile application in online food ordering and its ability in addressing long-standing issues is discussed in detail to determine how the mobile application was successful in achieving increased sales and customer satisfaction. This case study also examines the role of marketing in introducing and developing localised product ranges and customised Indian flavorous with innovative additions to suit the evolving tastes of its consumers residing in every part of the country. Quick and reliable superfast delivery, digital advertisements and marketing campaigns used to communicate value for money offerings and safety measures undertaken to capture wide range of audience is also studied.

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INTRODUCTION

Western culture has greatly influenced the Indian society. This is evident in the food that people consume, clothes they wear and lifestyles they lead. And one of the foods that have captured the likes and preferences of Indians include the pizza. According to Pizza Power 2013 Report, countries such as U.S., India, Russia, Brazil, and China are seen as emerging pizza markets in the world. Pizza market is worth Rs 1,500 crores in India and has been advancing at an annual growth rate of 26%. In the pizza market, Domino's has captured over 55% of the share in the organized pizza market and 70% in the home delivery category and is continuously observing a huge growth ("Pizza market in India", n.d.).

India is Domino's largest market outside the United States to reach the 1000 store-mark. 1 in every 7 outlets set up in the world is found in India. With the help of Jubilant Bhartia group, a part of the Jubilant Food Works limited, India's largest food service company, Dominos has attained a huge growth rate in terms of profitability and revenue ("Jubilant Food Works Ltd", 2020).

India's middle class and young population are growing swiftly, and this has led to the success and boom in the fast-food industry. Everyone, especially those residing in the urban cities in India, lead a hectic lifestyle and prefer fast food over fine dining on a regular basis. This is because of the quick service, localised menu, affordable price, online ordering and easy accessibility to the outlets. To satisfy a customer on all the above factors, Domino's undergoes significant changes in its product development process taking into consideration, the most important parameter, feedback.

Before launching a product in the market, it is important to connect the customers to the new products before they are distributed by building interest and excitement around the product and marketing helps in achieving this. Marketing plays a significant role in helping a company reach their target audience by understanding the customer needs and implementing what they desire. It spans the entire process of delivering a product or service to a customer, from choosing which products to sell, where to sell them, to how to price and promote them. This paper has two main sections. The first section highlights the product development process carried out before introducing a new product in the market by taking into consideration the user-friendly application and modified Indian menu. The contribution of marketing in helping Domino's reach out to its customer base is discussed in the second section.

RESEARCH METHODOLOGY

The nature of study is Secondary data research. Secondary data research is a research method that utilizes existing data. This existing data includes all the research materials that are published in research journals, news articles and reports. The data for this case study is collected from research paper, case studies and through web research on various articles. The data obtained is analyzed and checked for plagiarism using Microsoft word and Plagiarism checker.

FRAMEWORK

This paper consists of two main sections. The first section discusses about the product development process carried out by Domino's before introducing a new product in the market. This section is discussed in detail by laying emphasis on the importance of user-friendly application and modified Indian menu. The contribution of marketing in helping Domino's reach out to its customer base is discussed in the second section. Marketing strategies adopted by Domino's in order to reach their customers is explained by considering the following five factors, localized flavours, location, superfast delivery, means of communication and advertisements (television, Search Engine Optimization, Social Media Marketing) and the affordable pricing. The limitations of the case study followed by the future plan of Domino's is also discussed.

Product Development at Dominos

New products or services are considered as lifelines for every company in alleviating the company's sustain ability. Developing a product or improving an existing service is not just beneficial for the company, but the customers too. It is the stage-gate of every company as it helps in developing new innovation, adding additional features to the existing product and driving a lot of consumers.

Domino's has their new product innovation lab at its World Resource Centre in Ann Arbor, called as Domino's innovation garage. Product innovation is carried out at this lab before a product is introduced in the market.

Various Domino's innovation teams make their trial and error in order to develop a new idea in the area of product development to take their brand to the next level. The 33,000-square-foot, two-story building accommodates 150 Domino's team members and provides collaboration work spaces, fully-functioning pizza theatre and rooms for private meetings. Project-based teams use the pizza theatre to develop and test new technology such as a carry out tracker and ordering kiosks in a store setting. They also have dedicated space for developing delivery technologies and strategies like GPS delivery tracking system. Domino's innovation garage is the root of ideas for a product ("Domino's Pizza Creates Innovation Lab", 2019).

Domino's believes in the rule of letting the customers design the product. The company considers teenagers as their natural target audience as they greatly influence the product development team at Domino's by sharing their views on taste and various flavours that are on high demand. This feedback process is carried out to ensure they retain the interest of teenagers not just in India but across all the stores spread over the world. The company studies their demands, preferences and the popular local tastes before introducing a new flavour. Considering their opinion, further process is carried out in phases- Initially a team of nutritionists bring in a product offering after thorough study of the current market. The product is then sent for internal panel approval. If the product is accepted by the panel's "assessors" and "tasters", it is sent to the product development team. The process here is crucial. The product development team

examines the new product systematically in terms of the ingredients used, quality of food and finds out whether it satisfies the existing standards or not. Once, the final product is developed, chefs at Domino's taste test the newly developed product before introducing it to its customers (Arvind Nair, 2019).

Development of User-Friendly Application

Domino's was the first pizza chain to introduce online and mobile ordering in the world. More than half of the staff at Domino's headquarter work on software and analytics. India is a mobile-first country and a lot of people only use their mobile to access the Internet. It is expected that there will be at least 810 million smartphone users in India by the year 2021.

Domino's has a huge customer base ranging from travellers who are in a hurry, looking for a satisfying meal of high quality to office-goers who are keen on taking a break from their routine meals. This target audience according to them are in the age group of 16 to 35. The second category of their target audience comprises of families, teenagers and children. With the aid of television channels such as Hungama and Cartoon network, Domino's has succeeded in targeting school-going children who contribute to high orders everyday usually between 3 pm and 6 pm ("Rakshit Hargave", 2019).

Since majority of their target audience use internet on their smart phones, Domino's has focused on their App and mobile ordering trying to make it simple for small screen users to complete their orders. The customer

metrics are better while ordering online as customers have the menu in front of them. A lot of Domino's competitors are still serving desktop/PC experiences to users.

Previously Domino's had very poorly designed website and App User experience (UX). They saw it as a matter of urgency as they did not want to lose their customer's attention and bought help from APPINVENTIV to redesign their website and app UX. APPINVENTIV firststarted talking to a number of Domino's customers and then entered the process, to know what exactly was happening from once we enter the app till the time of checkout. They found out that the design was not attention grabbing enough, customers faced difficulties in ordering and there were also little issues like fetching of location that were turning off the users. After they found out the issues, they started with the redesigning of their App and website. It was done one element at a time as they did not want any existing customers to face any inconvenience. They did a thorough analysis of the users' movements. After the redesign Domino's saw a jump of 23% conversion rate. Using the Domino's App users can select pizza crust of their choice, choose the size, customize pizzas with topping, and order sides and even beverages. After adding the items to the cart, customers can check-out by making online payment. Users can even track live status of their order. According to Anand Thakur, CDO, Jubilant FoodWorks, once a pizza is added to the cart, the probability sets to 60 percent that the order will be placed. Selecting the address for the order delivery increases the probability to 80 percent. The system now

sends the order to the restaurant. Finally reaching the payment option, the probability gets as high as 95 percent. The order will be half completed by the time the whole payment process is completed.

Now the App is Rated highly at 4.4 on Google Play store, the application is claimed to be the lightest in the industry. AI-based forecasting model is used by Domino's. This model tells the system whether a customer will actually place an order or not. Domino's India came up with an innovation last year (2019) where the customers just have to long press the application icon and their last order will be processed again. They have also launched Alexa voice skill where the full-fledged order flow and delivery update is given through the virtual assistant ("How Our Refined UX", n.d.).

Menu Makeover

Having access to pizza is like having access to the rest of the world feeling we are a part of the global consumer culture. Domino's has made a lot of improvement in the past 20 years by including soft and tasty crust, providing more and bigger toppings, more cheese and herbier tomato sauce made from imported Californian tomatoes. On observation, Domino's has improved its crust to avoid any leftover and implemented the use of less paneer in vegetarian pizzas as recommended by their consumers (Singh, 2017). Thin crust pizza was introduced at low cost as a low-calorie diet. Their famous cheese burst pizza comes with a combination of classic Indian spices like sesame, ginger, garlic, chilli

pepper and parsley, chives and celery-Western style with Indian touch ("How Domino's Reinvented", 2013). The new "Pizza mania" uses real mozzarella and seasoned cheese blend which basically suits Indian taste. Cinna Strix, a best-selling internationally popular dessert which equalled the likes of pizzas was introduced in the year 2003 to the Indian menu to satisfy the dessert- loving customer base ("Rakshit Hargave", 2019). Domino's has come up with "Sicilian wheat treat pizza" that has a healthier crust and few calories considering Indians familiarity to wheat ("Domino's Pizza Creates Innovation Lab", 2019). The company uses best quality 100% real mozzarella cheese which is prepared from real milk. Their signature cheese burst pizza is made from best quality mozzarella cheese and real cheddar cheese and other dairy products that scores high on health ("Domino's Pizza's Assurance", n.d.).

Plant proteins have influenced consumers all around the world. To introduce Indian consumers to the plant-protein wave, Domino's has come up with "Unthinkable pizza", which is the first Indian plant- protein based pizza to introduce Although this latest offering is 100 % vegetarian, it possesses sensory properties of chicken ("Domino's Introduces New 'Chicken-Like' Pizza",2020). The company uses only fresh and quality raw materials, restricting the use of frozen items as ingredients in the pizza making process (Mansor et al., 2014). The ingredients used in making pizza are of high quality and sourced from Food Safety Management System

(FSMS) certified vendors. Domino's Pizza also strictly follows global standards in maintaining good quality, safety and hygiene over all its outlets and adheres strictly to the guidelines issued by Food Safety and Standard Authority of India (FSSAI) ("Domino's Pizza's Assurance", n.d.).

As an additional contribution to the product development process, Domino's has created its own machine. Their cheese distributor is one such apparatus that helps in even distribution of food particles, especially cheese over a base food, pizza. Dough preparation apparatus and stackable dough are other such inventions that have been added to its list of patented products ("Patents Assigned", n.d.).

Marketing as an important tool in identifying and reaching the target audience

Nowadays companies structure themselves intelligently putting product development and marketing together in order to better serve their customers. Marketing's job is to know what the customer wants and product development's job is to create it. Marketing is an important part of the product development process which is carried out to ensure the products reach a wide range of audience. Without effective communication between the two we can end up with great products that nobody wants. The role of marketing in helping Domino's reach its target audience through the newly developed products is presented using certain key factors which have been discussed in the upcoming sections.

Localizing Flavours And Balancing Tastes

Pizza is a cross cultural food that appeals to Indians mainly because of its toppings and dough that can be compared to Indian roti and subzi (vegetables). According to Advani, the Indian palate is definitive and people are choosy. With this thought in mind Domino's started to localize its flavours to favour its customers residing across various regions of the subcontinent (Singh, 2017). Chicken is customer's choice of meat in India. This is an alternative to sausage(pork) and pepperoni which are popular in the US (Nitish, 2020).

Domino's has specialized its menu and introduced different flavours in different regions of India after having understood the likes and preferences of pizza-loving audience who are looking for a perfect blend of Indian spices. Sardines, Deluxe chicken with mustard sauce attracted the East. Mumbai loved Chicken pudina. Makhani Paneer, Butter Chicken, Chatpata Channa masala was confined to the North. The "Taco-Indiana" dish draws inspiration from the Northern region which is famous for parathas and kebabs ("How Domino's Reinvented", 2013). Chicken Chettinad, mutton ghongura captured Southern region (Manashwi, 2020). Research has also shown that spicy raw banana pizza is one of the takes for South Indian customers ("How Domino's Reinvented", 2013). Also the new Pizza mania uses real mozzarella and seasoned cheese blended with flavours suitable for Indian customers ("Domino's Pizza's Assurance", n.d.). Domino's is also ensuring not to over localize their menu as few Indians have a premium on Western and as a result, they have been carefully balancing their menu with a perfect

mix of Indian and western tastes to suit the Indian-western audience.

Picking Locations

Domino's is currently running 1325 stores across India and holds the largest market share outside the United States ("Jubilant FoodWorks Ltd", 2020). Its focus on localised service and customer demands has led to opening of more outlets in places where their surveys indicatedmaximum audience attraction. 75% of outlets in India offer both take-away and delivery while the rest offer both dine-in and delivery (Manashwi, 2020).

Site selection is significant for every restaurant as it is a contributing factor which helps in achieving increased sales. The selection of outlets is carried out considering, customers accessibility to that location and feasibility of faster delivery. The site selection process involves finding locations where largest number of buildings can be easily accessed within 10 minutes. Also, during peak hours' mock runs are carried out on motorbikes to finalize the location (Bansal, 2015). This position principle ensures pizzas are of the same standard quality wherever they are delivered or bought ("Rakshit Hargave", 2019). Improved dine-in experience at easily accessible locations have helped Domino's observe a huge growth in the food market industry.

Domino's operates three types of stores in the Indian subcontinent. Traditional stores are the retail shops found generally in shopping malls. These stores are positioned at a place where there is parking facility available for its

customers and its delivery vehicles. Non-traditional stores that can be found in airports and stadiums which offer take away service. The third type, Transitional stores are found at locations where there are fewer consumers. There is a customization in the food menu to suit the store's location. One can find Domino's not only in big cities but also in small towns like Panipat, Karla, Patiala. Delhi has the highest number of outlets followed by Mumbai (Manashwi, 2020). Domino's provides good dine-in experience even in small cities to target the family audience who prefer eating out.

The pizza restaurant chain is known for impressing its local customers who are influenced culturally. Gujarat is one of the important regions in India where people prefer hard-core vegetarian food. According to former CEO, Ajay Kaul many Indians refrain from consuming non-vegetarian food during the Navratri festival and have a liking towards veg-only menus at restaurants. Ahmedabad is a city that comprises of a good number of Jain population who are culturally strong and strictly adhere to their religion. People here are mainly cosmopolitans who prefer brands that are globally influenced. A recent study reveals that Gujarat is a market of mainly vegetarian consumers (Raja, 2018).

Domino's, based on customer's feedback has implemented the decision to go full-veg across all its restaurants in Gujarat. This decision was implemented only after running vegetarian- only restaurants for a period of time. Customer's response turned out well. Domino's was also appreciated for protecting

religious sentiments. Since 2015 Navratri festival, Domino's has been serving culturally influenced vegetarian pizzas in entire state of Gujarat and across manyIndian states. With this new move, Domino's saw huge sales during the festival. Since then, Domino's set up permanent vegetarian outlets across the state. The other selected restaurants are in Madhya Pradesh, Delhi, Chhattisgarh, Uttar Pradesh, Rajasthan, Haryana. This is the first time for a global pizza chain to roll out such an initiative (Gogri et al., 2019).

Detailed and Superfast Delivery

Quick service is one of the significant factors in food business. People tend to prefer restaurants that serve good quality food well within the required time by maintaining a proper delivery procedure. The delivery process has to be detailed as it is an important parameter in helping a company serve higher number of customers which ultimately converts into increased sales and hence profits. Domino's allots 8 minutes for each delivery. A buffer of seven minutes is provided for unanticipated traffic and bad roads (Bansal, 2015). A scientific survey of traffic was carried out in order to find out the possibility of delivery within 30 minutes. Domino's usually hire their senior managers to inspect the heavy traffic conditions on their motorbikes and thereby calculate the feasibility of 30-minute delivery ("SWOT Analysis Of Domino's", 2020). The deliveryman, generally called SDP (Safe Delivery Person) and his manager decide the route map for delivery. Hand-drawn maps are prepared by the district managers to determine the streets to be taken in areas without route maps. SDPs are required to be aware of every

street, choke point, roadblock, traffic signal, pothole and construction sites in their delivery sector. Their motorbikes are well oiled and can navigate faster even on cluttered roads during heavy traffic (Bansal, 2015). Domino's employees are advised to ride their bikes below 40kmph which is still impressive as Domino's considers their safety as their prime importance. Few of the Domino's bikes also has speed control unit in order ensure safe ride of its employees ("SWOT Analysis Of Domino's", 2020).

Domino's focuses on delivering quality food to its consumers quickly and reliably. Domino's achieves this feat by offering superfast delivery guarantee. The 30 minutes guarantee offers pizza to its consumers within 30 minutes from the time an order is placed. If the delivery takes more than 30 minutes, pizza is delivered free of cost (Sachdeva, 2020). 99% of the deliveries are made within the given time. Domino's is the only pizza chain that offers 30 minutes or free delivery option. Domino's Pizzas now comes in visibly-pleasing blue and white packaging. The pizza boxes are designed in such a way, to ensure the pizza packed inside remains hot till the time customers receive it.

On March 24, 2020, India announced 21 days' lockdown due to the onset of coronavirus outbreak. Domino's instead of closing its stores across the country brought zero contact delivery and pickup to its customers. According to Domino's website, they have taken certain strategic steps to prevent the spread of coronavirus by making sure that employees of their company pass medical tests and temperature screening is also carried out during entry of employees into the restaurant.

Delivery bike boxes and pizza delivery hot bags are sanitized every four hours ("Zero Contact Delivery", n.d.). Employees follow a 20 second hand wash and sanitization protocol to ensure safe delivery. The company has also unveiled its new digital campaign, 'Kitne dino se Domino's nahi khaya'. This campaign aims at strengthening the feeling of safety and trust among its customers. 'Order karna safe hai' is another campaign which is used to show its audience that it follows all the safety protocols listed above. All these improvements have been made without increasing the price to offer value for money to its consumers ("Domino's Pizza", 2017).

Reaching People

Domino's researched its target audience well enough. The research revealed that a mix of hip Western culture and familiar Indian values in its marketing messages would resonate with Indian consumers. The advertisement spend by Domino's is close to 10 crore rupees. Ten percent of the turnover is spent on press, print and television amounting to a total of 20 crores ("Rakshit Hargave", 2019). Video advertisements are made in several Indian languages to also cover the rural audience living in different parts of India (Rashmit, n.d.).

Television

Targeted sponsorship, above-the-line advertising and digital investment has helped Domino's stay ahead in the Indian pizza market. Domino's has undertaken some special initiatives to target school children and one of them is offering two pizzas' for Rs.100. They have reached children through their advertisements on Hungama and Cartoon Network. The company made a comeback during the recent FIFA World Cup season on Ten Sports by launching a series of advertisements. This campaign is based on the theme, "Hungry Kya", which has become synonymous over the period of time. Domino's with their new advertising campaign, "Hungry Kya?" is delivering hot and fresh pizza within 30 minutes. Through this campaign they have successfully positioned themselves in the Indian market ("Arvind Nair", 2019).

Although the tagline goes well with the power idea, "Khushiyon Ki Home delivery", the advertisement has a serious tone. Domino's in India has been positioned as a fun-time meal for the younger generation. Through this advertisement Domino's has broken that proposition and proved that they can also net the not-so young consumers (Manashwi, 2020).

Search Engine Optimization

Good Search Engine Optimization helps in improving and increasing a website's visibility for relevant searches. It is the process where online content is optimized to show particular keywords as a top result in the search engine. This helps in driving a lot of traffic to the company's website. Strong SEO is very important for every brand.

As per the Search Engine Optimization audit result, Domino's has obtained a Domain Score of 92 for their website. The use of Meta Title has proved to be strong since they have used relevant keywords in the title. The Meta

Description is also relevant as they have used appropriate keywords that conveys clearly on what they have to offer. The web page contains an updated site map and the use of H1 and H2 headings makes it easier to know what exactly the page contains. With a very good SEO score, it is clear that Domino's has a SEO friendly website and the SEO team is doing their best to reach out to as many people as possible (Rashmit, n.d.).

Social Media Marketing

Identifying and reaching people has become a lot easier with the advent of social media. Through social media marketing every brand has been successful in establishing an easier connect with the audience, driving website traffic and also achieving increased sales. Domino's has excellent response on various social media platforms like Facebook, Twitter, Instagram. This is mainly because of two factors. Handling customers messages and offering discount coupons through their social media handles to attract customers (Nitish, 2020). Domino's is very active in uplifting the feedback from customers and helps in resolving their queries as quickly as possible. In order to constantly engage its customers, Domino's unveils timely offers, special vouchers, festive discounts and contacts frequent customers through phone calls. Moment marketing, in the form of videos is also used to reach audience on various social media platforms (Rashmit, n.d.). Apart from Google search ads, Facebook and Instagram ads are also employed to reach out to the target audience.

Domino's also uses heavily printed media such as flyers promotion – for serving customers who have less access to social media (Mansor et al., 2014). Email and SMS marketing are used for remarketing and communicating the order confirmation messages. Also, their digital marketing campaigns use hashtags and slogans which are used to create an emotional connection with the audience (Rashmit, n.d.)

Affordable Pricing

Domino's is trying to attract the middle and lower middle class who are interested in going out for an outing especially during festive season and want cheap and best family restaurant. Domino's would be most preferable. Domino's does not offer very high-class ambience or amusement in their outlets and hence the establishment cost is low for the dealers and the price of pizza is very reasonable for the consumers. Domino's is serving some of the lowest priced pizza in India. Price varies across various regions of subcontinent (Mansor et al., 2014). Special menu has been launched in towns with a price of Rs.49. Domino's is currently launching everyday values on medium-sized pizzas. A plain cheese pizza in India is priced at Rs.99 ($1.47 USD) compared to the UK price of Rs.582 ($8.62 USD) or the US price of Rs.340 ($5.04 USD) ("SWOT Analysis of Domino's", 2020).

Over the last few years Domino's had been constantly increasing their prices without offering value for money. BOGO (Buy One Get One free) offers on particular days

delighted the customers but they also complained of paying full price for pizza on certain days. Customers were also of the opinion that they were offered special discounts on days they did not want to order. As a result, Domino's discontinued the BOGO offer and introduced the new value-for-money medium-sized pizzas (Singh, 2017). By offering weekly deals, festive season discounts and anniversary offers, Domino's has succeeded in capturing its audience.

DISCUSSION

This case study discusses in detail the product development and the marketing and advertising of Domino's India in order to reach its target audience. The study helps us in understanding how Domino's managed to reach its audience, both rural and urban audience by customising its flavours according to the Indian menu, how opening outlets in small towns and easily accessible areas help them reach their target audience. This study also discusses how Domino's manages to reach their online customers and make superfast delivery possiblewithin a time of thirty minutes, how Dominos has reached their target audience through television, Search Engine Optimization and Social Media Marketing. Also this case study helps us in understanding how affordable pricing plays an important role in order to satisfy the target audience.

This case study can help businesses and marketers on determining their target audience, implementing customer-favourable features in the product, making the product easily accessible to the customer, promoting the product through various channels like television and Social media platforms through Search Engine Optimization, Social Media Marketing and also pricing the products after thoroughly understanding the requirements of target audience.

LIMITATION

In this review-based case study, the success of Domino's in the Indian market has been discussed without considering their down fall, although they had experienced many failures during their growth in the subcontinent. Also, the competition between Domino's and other pizza brands, and the profits made by Domino's during various fiscal years are not considered in this study.

CONCLUSION

Domino's is a Pizza brand with solid universal nearness. Its income has likewise risen strongly over the recent five years. With 1325 outlets operating across India, and every outlet offering the same tasty pizzas that everyone loves, Domino's has shown everyone that standardization of taste and quality is well achievable no matter how big a brand is.1000 operational stores and the goal of setting up 1000 more in another 5 years, Domino's has shown what it looks like to be successful. Different articles, case studies and surveys were studied to determine how Domino's was and is able to retain the top position among all the fast-food chains. Domino's is providing good quality food products. Even though the product range is not wide, its product line is quite impressive.

It includes meals for both vegetarian and non-vegetarian and satisfied both section of customers. Domino's has achieved in maintaining its consistency in taste and quality. The new, improved pizza has struck the right chords with the customers. Customers are also satisfied with the price range advertising and promotional activities. By offering their products at affordable prices and by continuously introducing value for money offers, Domino's has satisfied its customers.

Domino's is constantly striving to make their mark during the pandemic by delivering groceries and essentials to customer's doorstep as stepping out to buy groceries and essentials was a huge challenge in front of the people. With this initiative Domino's helped in serving a wider community by supplying essential items without people having to step out of their homes. The new "Zero contact delivery" allows the customers receive their food without coming in contact with the delivery staff. With all these developments and safety protocols in place, Domino's India will hopefully re-establish itself as the ultimate pizza brand in the country.

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A Study On Factors Determining Professional Elderly Care Services And Its Future Prospects In India

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ABSTRACT

Rapidly growing aging population is a major challenge to the health systems throughout the world. Elderly care services like assisted living, nursing care is on the rise to assist the growing aging population. Professional elderly care services provide various types of health care services to the people in developed countries and to some extent in India. The present study is about finding the major factors which influence PECS services in India and to analyze its impact on availing PECS. The study is conducted in Hyderabad city of India with respondents as income earners above 20 years of age. To find out structural relationship among the variables SEM is applied to the data. The findings of the study reveal that awareness about the services plays a vital role to avail the services, irrespective of family conditions.

Key Words: *: Chronic diseases, Co-morbidities, Psyco emotional concerns, Community services, Entrepreneurial opportunity.*

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INTRODUCTIONS

Elder care, also referred as senior care, geriatric care, is specialized care that is designed to meet the needs and requirements of senior citizens (above 65 years) at various stages. The term elderly care is broad, which encompasses everything from assisted living and nursing care to adult day care, home care, and even hospice care. The ageing population in this world tends to show chronic diseases, physical disabilities, mental illness and other co-morbidities. Health related problems of elderly population cannot be viewed in isolation. Factors like social concern, maltreatment towards elders, poor knowledge about health risk, psycho emotional concerns, financial constraints, and many more, shows a detrimental impact on the health of elderly. (Saurabh Ram Bihar Lal Shrivastava, 2013). Those who require support will be provided with services like housekeeping, nursing care and many more services like prepared meals etc. as desired. Care services include, people who need frequent nursing care and have considerable difficulty in coping with the obligatory activities of daily living (dementia). In the developed countries like USA and Japan, Long term care Insurance services are available to the citizen of the nation, with the objective of providing greater autonomy of the fragile elderly in their daily life (Miyashita, 2012). Elders who face health problems and want services provided at their homes, who live away from their children and need longer duration of medication monitoring avail support/care services. A range of health care services are provided to patients in developed countries under home health care services, which range from nursing care to specialized medical services (HOPKINS).

1. Home care services include doctor care where doctor visits patients place to diagnoise and treat illness.

2. Nursing care services, in consultation with doctor a nurse will setup a plan of take care which includes administering medication, looking after health of a patient and other health support like dressing, intravenous therapy etc.

Countries in the west are giving priorities to the health care system, to help seniors live full, independent lives in the comfort of their own homes. There is an entire section of health care, geared to providing seniors with help in day-to-day activities at home such as transportation to and from doctor's appointments along with many other activities that are essential for their health and well-being. (Christensen, et.al.,2011)

Professional elderly care services in India -

In India at-home health care services provided for elders consider, seniors who do not have their siblings with them to take care and in few instances away from them or busy with their daily activities because of which they cannot spend time for support, and because of many more reasons could not able to get the support of family members but are in need of assistance are availing above services. Firms like EMOHA ELDER, TRIBECA CARE, ANVAYAA are providing services like Nursing care, which includes

services like administering medication and injections, blood sugar monitoring, ECG recording, vaccination, monitoring vital signs, etc. apart from these specialized services like Geriatrics Care and Physical Therapy, Holistic Stroke Rehabilitation, Dementia Care and many more services with the prescription of the doctors. Apart from this Professional care service organizations are providing full time care services which include full time home attendees who help elders convalesce at home, physical assistance services for elders who need nonclinical physical assistance, services like regular health checkups and certain other services like pain management and physiotherapy etc. few otherorganizations went a leap ahead by providing recreation services for elders like senior travel, senior events. With these home services the elderly get treated in a happier and livelihood environment around family and friends with which they can be recovered faster.

REVIEW OF LITERATURE

One of the most concomitant issues in modern India is health care services for rapid ageing population, with inadequate social security system and low public expenditure in health sector. In a study with the objective to find out prelevance of physical dependence among elderly in Uttarakhand, India , it is observed that 28% of the study population were found to be physically dependent on their family members for their daily activities and among them 68% of them have moderate to higher dependency. (Preeti Usha, 2020). In another study conducted to know Assessment of physical disability using Barthel index among elderly of rural areas of district Jhansi (U.P), India. It is

observed that 23.4% of the respondents are physically disabled to perform their daily activities. (Gupta S, 2016). In a study on factors affecting the choice of healthcare between public and private services among the elderly population in India, it is observed that elderly from upper caste with high levels of education, large family size, high income group and needs surgery are preferring private hospitals while patients with higher duration of hospitalization, chronic diseases and high economic dependence are preferring public inpatient services. (Chatterjee C.Nayak N. C, 2019). In another study on barriers in utilization of public health services by elderly slum dwellers in Jaipur city, it is observed that majority of the elderly slum are unaware about the health care services thus act as a barrier in availing services. Other barriers include behavior of service providers; amenities at the health facility, convenience for attendants restrict them to avail services (Barriers in Utilization of Public Health Services by Elderly Slum Dwellers in Jaipur City, 2020). All the above studies throw light on the importance of Elderly care services for the people in India in the years to come.

RATIONALE OF THE STUDY

Aging is a natural process. Individuals who attain a chronological age of 65 years and above are considered as elders (WHO, 2013). There is a drastic growth in the elderly population with improvement in health-care services. It is projected that by 2025 the elderly population throughout the world will be 1.2 billion and subsequently 2 billion by 2050 (Dr.P.Puska, 2013). Further it is estimated that 75% of the

elder population will be in developed and developing nations, thus emphasizing the necessity of preventive health-care and medical needs of elder population. India which is second populous country in the world with more than billion population, has 112 million elder population (Adhikari, 2017). Statistics shows that the rate of older population is growing three times higher the rate of growth of population as a whole. With the time, many changes had taken place within the life of people and society. In joint Hindu undivided family culture, all the family members use to be united and in majority cases male goes for work and women use to be at home to take care of the children and other family member needs. As the culture and system has changed with the economy, there emerged the nuclear family system where parents and children got separated, by living separately within the place, or other parts of the country, in few cases other parts of the world, leaving the elderly parents alone to live on their own. In this process the children who would like to provide a better health care amenities and facilities to their parents, plan for care workers. On the other hand the children themselves think and plan for their future (after retirement). They intend to lead a life style where they need someone to attend them by not being dependent on their siblings. In the light of the above an effort is made to find out the factors influencing Professional elderly care services (PECS) services in India. The findings of the present study will help the currentbusiness/societal organizations and prospective entrepreneurs to gain awareness about the factors influencing PECS services,

through which they can take decisions accordingly while starting or moving ahead in their respective businesses.

OBJECTIVES OF THE STUDY

· To identify the key factors influencing the professional elderly care services in India.

· To analyze the impact of the factors on the prospects of professional elderly care services in India.

HYPOTHESIS

· H_1: PECS has a significant relationship with awareness about services/ awareness about the services will show impact on PECS.

· H_2: PECS has a significant relationship with family conditions/ Family conditions of the prospect will show impact on PECS.

· H_3: PECS has a significant relationship with willingness to avail service.

METHODOLOGY

The present study is descriptive in nature and the primary data for the study is collected through self-administered questionnaire with groups of questions related to the demographic characteristics, family conditions, awareness about PECS, willingness to avail PECS, and PECS prospects. The questionnaire is designed based on strong theoretical and empirical literature. The questionnaire is administered among the family heads who are income earners, aged above 20 years. A simple random sampling technique is used to collect the data from the respondents of Hyderabad city during the period March 2020. Hyderabad city is one of the fastest growing metropolitan city with an estimated

population of 12.24 million in India (population of Hyderabad 2019). A total of 316 respondents were contacted and collected the data personally. The data thus collected is analysed and interpreted using SPSS 19 software. A model showing relationship between identified factors influencing PECS and its strength of relationship with PECS was developed and is tested using the AMOS Software. The three factors derived through factor analysis are awareness about PECS, willingness to avail services and family conditions. The study will test the influence of three factors on PECS prospects.

Table-1 Demographic profile of the Respondents

Dimensions	Category	Frequency	Percentage
Gender	Male	214	67.1
	Female	105	32.9
Age	20-30 Years	80	25.1
	31-40 Years	82	25.7
	41-50 Years	70	21.9
	Above 50 Years	87	27.3
Educational Qualification	UG	112	35.1
	PG	122	38.2
	Any Other	85	26.6
Occupation	Self Employed	89	27.9
	Govt.Employee	80	25.1
	Private Employee	70	21.9
	Any other	80	25.1
Income	< 1 Lakh	79	24.8
	1 Lakh to 3 Lakh	122	38.2
	3 Lakh to 5 Lakh	60	18.8
	Above 5 Lakhs	58	18.2
Nature of family	Nuclear Family	100	31.3
	Joint Family	112	35.1
	Single/Independent	107	33.5
If joint family, dependent parents	Both father and mother	31	27.7
	Only father or mother	81	72.3
Size of family	2 Members	115	36.1
	3-4 Members	175	54.9
	5 and Above	29	9.1

Source: Primary data

RESULTS

Out of the 316 respondents, majority of them are male (67.1%), aged between 31-40 years, self employed with PG as qualification, earning around 1 to 3 lakhs per annum and is living jointly with their parents with 3-4 members in a family, majority with single parent. Confirmatory factor analysis (CFA) was performed to assess the unidimentionality, reliability and validity of the measurement model. Goodness of fit indices approach is performed to evaluate the measurement According to Nunnally (1978) the calculated cronbach's alpha for the proposed scales should have a threshold level of 0.7. Values of the proposed scales ranges from 0.932 to 0.958 in case of Cronbach's alpha thus considered to be reliable. (Nunnally, 1978)

Table-2 Reliability measures

Construct	Cronbach alpha	Cronbach's Alpha Based on Standardized Items	Number of items
Awareness (AW)	.958	.958	8
Family conditions (FC)	.932	.932	5
Willingness to Avail service (WAS)	.925	.925	5
PECS prospects	.952	.952	5

Goodness of fit indices: the regression weights of measurements items should be more than 0.7 and from the results it is observed that all the items have more than recommended levels. However few measurement items of AW 2,3,5,6,7 &8, FC 1,2 &3 and PCES 1,2&4. are having the highest values. The measurement model is rerun with the above items and researcher finally derived the CFA model as depicted in figure -1. After rerunning the model by correlating the problematic items the outcome model enhanced the goodness of fit indices and established a better fit to the data. The final measurement model after rerunning the model by correlating the superfluous items indicated that GFI, RMSEA are 0.938 and 0.05 respectively. NFI, CFI values are 0.900 and 0.920 which are within the acceptance levels. The AGFI value is 0.913 which shows better fit of the model. From the above it is concluded that all the values are within the prescribed norms. Also it is observed that c²/df values for the above model is 2.537 which is within the standardized norm of 1 and 3. The established GOI effectively fitted the data. The standard residual values of the measurement model is within the prescribed limits of ±2.58 andcritical ratio is above 1.96. Thus to sum up from the above findings it is confirmed that the model is fit to the statistics and no more modifications are required for the model. Thus the model is based on uni-dimentionality.
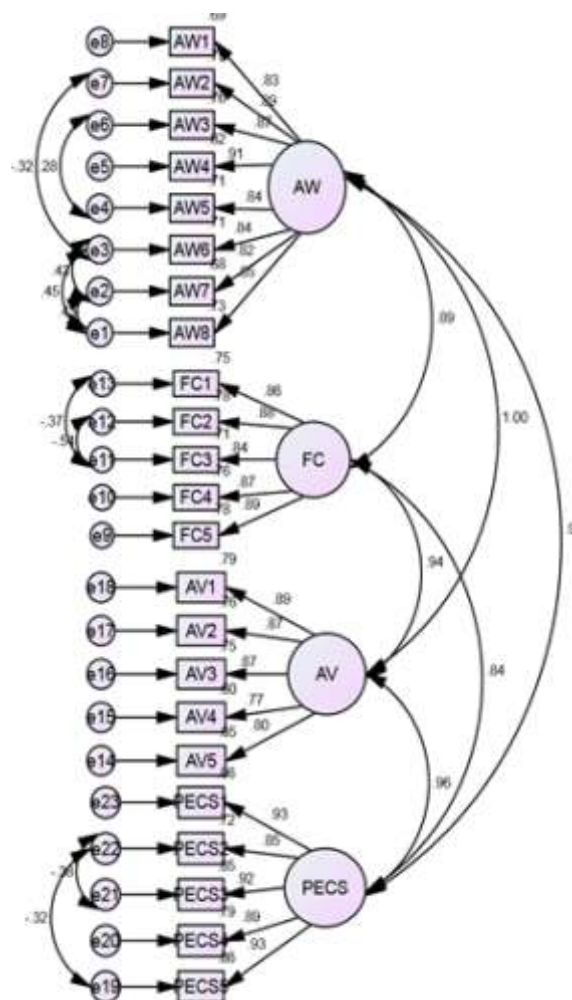
Figure-1 CFA model

Table-3 Revised CFA model

	Absolute Fit Measures					Increment al Fit Measures		Parsim ony Fit Measur es
	(χ²)	(D f)	(χ²/df)	(GFI)	(RMS EA)	(NF I)	(CF I)	(AGFI)
Criter ia			1<χ²/D F<3	• 0. 90	” 0.05	• 0. 90	• 0. 90	• 0. 90
Obtai ned	975.465	215	2.537	.938	.005	.900	.920	.913
(χ²) = Chi-square; (Df) = Degrees of freedom; (GFI) = Goodness ofχNote : (fit index; (RMSEA) = Root mean square error of approximation; (NFI) = Normated fit index; (CFI) = Comparative fit index; (AGFI) = Adjusted goodness of fit index								

Convergent & discriminant validity to examine the convergent validity for the above measurement items CR and AVE is ascertained. Both CR and AVE values should be more than

>0.7. results shown in the table-4 are above and the CR values is more than AVE values. The rule of thumb to measure the discriminant validity is AVE > MSV, and the results shown from table-4 says that the AVE values are more than MSV. Table 5 depicts inter-construct correlations with AVE values shown diagonally and square inter construct correlations are other than diagonal values.

Table-4 Convergent validity

	CR	AVE	MSV
PECS	0.957	0.816	0.802
AW	0.957	0.735	0.659
FC	0.939	0.755	0.735
AV	0.924	0.710	0.691

Table-5 Inter construct relations

constructs	PECS	AW	FC	AV
PECS	**0.903**			
AW	0.964	**0.858**		
FC	0.839	0.886	**0.869**	
AV	0.958	1.004	0.936	**0.843**

Structured model evaluation and Hypothesis testing: the following segment presents model evaluation and hypothesis testing formulated based on theory. Hypothesis H1, H2, H3 were tested to find out relations between inert builds. The hypothetical model is build into two variable classes, one is endogenous and other is exogenous. The exogenous variables are awareness about elderly care

services, family conditions of the respondents and avail of services. The professional elderly care services are endogenous variable. Coefficient estimates are very signficiant part of Structural model measurement. As it was given by Hair et.al. 1998 in his book on multivariate data analysis that if the critical ratio (CR) value is great than 1.96 for a estimated regression weight, then the parameter coefficient is significant at 5% level (Hair,

1998). In the present study out of the three estimates, the critical ratios of two estimates are above 1.96 (awareness and avail services) thus proved to be statistically significant at 5%. But for the familyconditions the CR value is less than 1.96 (0.139) and thus proved to be statistically insignificant. The final structural model is depicted in fig.2 and the parameter estimates are given in table-7.

Table -6 Fit measure assessment of structural model

|	Absolute Fit Measures					Increment al Fit Measures		Parsimony Fit Measures
	(χ^2)	(D f)	(χ^2/df)	(GFI)	(RMS EA)	(NF I)	(CF I)	(AGFI)
Criteria			$1<\chi^2/DF<3$	• 0. 90	” 0.05	• 0. 90	• 0. 90	• 0. 90
Obtained	992.462	285	2.738	.938	.002	.982	.901	.913
(χ^2) = Chi-square; (Df) = Degrees of freedom; (GFI) = Goodness ofχNote : (fit index; (RMSEA) = Root mean square error of approximation; (NFI) = Normated fit index; (CFI) = Comparative fit index; (AGFI) = Adjusted goodness of fit index								

Fig -2 Final structural model
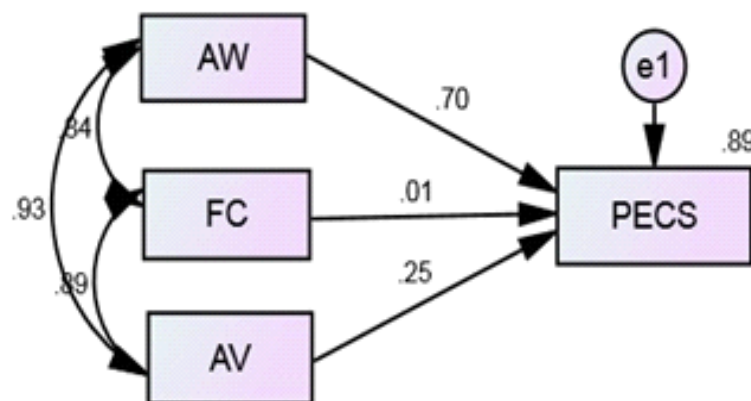
Table-7 Parameter estimates

	Estimate	S.E.	C.R.	P	Label
PECS <--- AW	.741	.056	13.300	***	
PECS <--- FC	.006	.044	.139	.889	
PECS <--- AV	.268	.068	3.956	***	

Table -8 Hypothesis testing

Constructs	Codes	Hypothesis	%HWD (ù)	Hypothesis supported
Awareness	AW	H_1	0.70	YES
Family condition	FC	H_2	0.01	NO
Availing services	AV	H_3	0.20	YES

The outcome of the final model shown in table-8 indicates that two out of three hypothetical paths between independent (exogenous) and dependent (endogenous) variables are significant. Example the speculation among PECS and awareness about services with CR estimation of 13.30 and PECS, avail of services with CR estimates of 3.956 shows that the respective t-values of both the estimates did not surpass the cutoff point i.e., (>1.96) which is mandatory forstatistical significance. Thus rejecting the null hypothesis and accepting the alternative hypothetical statement, i.e., H_1 and H_3 are proved to be true with standard estimates of 0.70 and 0.20. the speculation among PECS and family condition with CR estimation of 0.139 shows that the t-values surpass the cutoff point, thus accepting the null hypothesis and rejecting alternative hypothesis H_2.

DISCUSSION

The increasing aging population in India will lead to rapid growth in the demand for elderly health care services. This demand is going to the reflected in the years to come, with the development of life sciences and increased span of living.

Knowledge of services plays a vital role for usage

Knowledge about elderly care services, increases the utilization. In a study by Hokes et.al (1983) on differences among black, Hispanic and white people, on knowledge about long term care services, it was found that less knowledge community services were the cause of less utilization among African Americans and Ricans than whites Americans, thus concluding that knowledge of resources in the form of services were more important predictors for service use (Holmes, 1983). In other study by social service researchers reasserted that lack of knowledge about community services are the cause of low utilization rates among ethnic elders (Harel, 1987) (Lee, 1988) (Spence, 1991). Awareness leads to utilization of services. Ancient India majorly consists of joint families, wherein two to three generations

of people live together and the elderly were taken care by their children. With the globalization and urbanization, families were divided as people for various reasons got separated with their parents and started living independently, thus nuclear families were emerged. With the fast changes taken place in the society the perspective of individuals about their health and well being had also changed and started thinking about availing of elderly care services after attaining 65 years of age and above.

From the study it is proved that there is no significant relationship between family conditions and demand for PECS services. The PECS services do not depend on the type of family, the size of family members. Irrespective of family type like combined or nuclear family, there is going to be a demand for professional elderly care services in the days to come. Hence, family conditions will not affect much of the PECS services. Given the services the present generation people show willingness to avail the services for them and their families in the future. As the present generation people are good enough to plan ahead for the future given an opportunity, they show willingness to avail the services in the future. With the growth in the income levels of people and willingness to avail the elderly care services for them and their family, creating an awareness all about the service will act as a change factor for the existing business and an opportunity to start with for the new business.

IMPLICATIONS OF STUDY

The present study results highlight the importance of creating awareness about the PECS services through advertising and other media to the target audience in a sensible manner. The results of the present study also highlight the willingness to avail PECS services in the future to them and to their dependents by the respondents show that there is a prospects for PECS business in the years to come. Certain insurance plans for post retirement to some extent will help the individuals financially for their post retirement expenses, but it will not be a perfect substitute for PECS services. A thorough understanding of the system that prevails in the development markets and well chalk out plan to the Indian customers will certainly help the entrepreneurs to become successful.

FUTURE RESEARCH

The present study tried to find the prospects of the PECS services considering three influencing factors. There are other factors like economic status of the family, health insurance, region, education levels, family size, religion, living arrangements etc. will also influence the prospects of PECS business in India. A research considering above aspects will enhance the prospects of PECS services and can become comprehensive. Further the present study had concentrated considering only the people of metropolitan city in the southern part of India, the views of the people who lives in

ties -2 cities and suburban places in India will also become critical to know about the prospects of PECS services.

CONCLUSION

Among all the factors which influence the PECS services two factors are considered to be paramount. Factors like awareness about services and willingness to avail services on its availability are the factors which determine the future demand for professional elderly care services. The corporate should take inputs from the developed markets and the ones which operate within India (with limited services) to start the PECS services by providing awareness and show an opportunity to avail, with the motto of earnings through service. The present study made it clear that irrespective of family conditions, people are ready to avail the opportunity. Corporates have to come with various types of plans for varied categories of people, to cover all sections of the society and thus can increase their scale of business prospects. Indian government, considering the surmountable challenge ahead in the years to come, should come out with some plan for the aging population and for their secured living like in Japan. This will reduce the burden of the people and can lead a peaceful life with out much thinking about the future.

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Flash Sales And The Idea Of Scarcity: A Double-edged Sword

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ABSTRACT

Flash sales help online portals to push sales and profits temporarily by creating a false sense of scarcity of the products. However, often an inability to procure a product due to its limited quantity as propagated by flash sales, may influence consumer perceptions and negatively buying behaviour. This alteration in behaviour could be temporary or permanent and forever affect the brand's reputation in consumer's minds. There has been limited research on how flash sales may lead to negative consumer responses due to their inability to buy products that they need. This paper aims at converging the concept of scarcity with flash sales, and then discuss the possible negative outcome responses by customers when they are unable to get better off a flash sales. The study shows that consumers not only feel dissatisfied when they are unable to get their hands on the product they need but may feel and express anger towards the brand, leading to brand switch and in some cases activism.

Key Words: : Flash sales, Scarcity Marketing, Sales Promotion, Limited Quantity Sale, Limited Time Sale, Artificial Scarcity

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INTRODUCTION

Flash sales have often been seen as an effective promotion strategy that has been used in y online portal o create interest and convert purchases. The scarcity aspect in flash sales ensures that there is a sense of accomplishment in the customers after getting their hands on the product. This sense is known to make the customer feel happy and often helps build a strong relationship with the brand or portal. However, there is a second side of the story, which is about the customers who are unable to acquire the product due to the limited time or limited quantity aspect of the flash sales. Often, more customers are unable to get the product of their choice than those who are.

And just like the acquisition of these flash sales products create a sense of accomplishment, the inability to get these products to fuel sentiments that are not positive. Customers may feel a sense of rejection or anguish which may alter their overall consumer buying behaviour for that product category, brand, or portal.

This paper looks at the convergence of the scarcity marketing construct with flash sales to see how insights from scarcity marketing can be applied to flash sales. Further, the paper discusses the impact of flash sales on negative consumer perceptions and intent. It has been widely cited that there is limited research investigating how consumers react when they are unable to obtain items that are advertised using scarcity appeals in terms of limited quantity (Biraglia, Usrey, & Ulqinaku, 2021), and through this research, we attempt to bridge that understanding gap.

Scarcity Marketing

The use of product scarcity as a technique to improve the market performance of a product is a well-researched topic in marketing and consumer research. While scarcity is an economic problem reflecting a gap between limited resources and unlimited wants or demand, it has a psychological bearing on the consumers too (Shi, Li, & Chumnumpan, 2020). Thus, scarcity of products has often been used by the sellers to influence people's perceptions about a product, its performance, and its usefulness (Shah, Shafir, & Mullainathan, 2015).

To execute this practically, sellers try to create and show a temporary scarcity of products deliberately. This manifested scarcity then helps them push the overall demand of the product, which in turn stimulates customer enthusiasm for a limited period. This leads to a spur in the purchase by the consumer and thus higher volume realized for the seller (Mittone & Savadori, 2009).

This deliberate attempt at limiting supply or restricting the environment for purchase is the core of scarcity marketing that stimulates consumer (John, Melis, Read, Rossano, & Tomasello, 2018). Deliberate scarcity of a product is known to influence price, sales promotions, product popularity, and purchasing behaviour, .which, in turn, helps in improving the performance of the product concerned (Deval, Mantel, Kardes, & Posavac, 2013; Song, Yi, & Huang, 2017).

Shi et al. (2020) consolidated various economic theories to scarcity and mapped

them to product marketing. Firstly, scarcity as a marketing tool was explained with the help of commodity theory which suggested that the consumers always look for uniqueness in what they buy (Brock, 1968). Second, consumers are often trying to avoid conflicts with their surroundings and aim at conforming to what has been laid out as a standard, thus conformity theory as proposed by Jones (1984)

Third, scarcity was explained with the help of the consumer's attempt to avoid regret in the future, with the help of regret theory (Loomes & Sugden, 1982). Finally, the choice availability and freedom to choose what and when a customer wants something was explained to discuss the idea of scarcity with the help of reactance theory ((Brehm, 1966).

Interaction between these theories helps generated insights about the consumer behaviour on the response towards product scarcity and subsequent perception about the product. For example, Shi et al. (2020)argued that the uniqueness of a product or desire to own something unique, and conformity or desire to conform to the set standards are competing consumer needs. Thus the consumer's need to differentiate oneself from others and the need to assimilate oneself with others, while both define their response towards product scarcity, are technically competing for traits (Brehm, 1966). Thus the perception and response to product scarcity work differently in the context of different consumer needs. In the context of desired uniqueness and conformity, Amaldoss et al. (2005) argued that the consumer's desire for

owning a unique product pushes the prices and subsequently profits up. However, the need for conformity by customers pulls the prices and subsequently the profitability down.

The consumer's desire to avoid regret in the future has been explained by Loomes and Sugden (1982) with the choice decision. They argued that product scarcity often requires consumers to choose between buying the product now and risking missing out on the opportunity to own that product. Therefore, those consumers who are inclined to avoid regret in the future shall choose to buy a product now. And this is not necessarily due to the utility but, rather, because of the feat of not being able to purchase it in the future (McKinnon, Smith, & Keith, 1985).

Restricted offers on time, product quantity and stock accentuates this behavior where the customer decides out of the fear of missing out on the opportunity to purchase the product in the future (Sterman, 2015).

The behavioral freedom that consumers desire is about the freedom of choice. Consumers would want to have a choice about choosing any product, any time, and any given quantity as a freedom of choice. Scarcity of product, unintentional or deliberate threatens this freedom (Brehm, 1966). Thus, when this freedom is restricted or threatened, it automatically increased the consumer's motivation to obtain it as soon as she can (Clee & Wicklund, 1980; Lessne & Notarantonio, 1988). Flash sales are an emerging e-commerce practice, in which an e-

commerce platform offers a product or service at a substantial discount for a limited time (Shi & Chen, 2015).

The deep discount is often made to an extent that makes the product appear to be much cheaper than it would be without the flash sale (Martínez-de-Albéniz, Planas, & Nasini, 2020). For e- commerce companies, flash sales are often responsible for the increase in revenue, as fell increased trial of newly launched products due to higher discounts offered to the customers (Joshi & Domb, 2017). Kannan et al. (2016) argued that flash sales are conducted by e-tailers to increase visitors to their main website. This in turn not only increases daily sales for the products that are on flash sales, but also for those products which are not on discounts which will ultimately able to increase the revenue of e-commerce companies (Hertanto, Herman, & Edi, 2020).

Flash sales have been able to make up for the lack of 'thrill' of shopping in the online medium as compared to the physical interaction with products at a shopping mall. These are based on offering customers, featured products, albeit in lower quantities for an extremely limited or restricted time band. Customers may typically get only a few minutes (sometimes seconds!) to complete their purchase before the time or the stock runs out (Cho & Trincia, 2012). The core of flash sales as a technique to offer attractive prices through deep discounts, but with a limited period was first adopted by the French e-commerce company, Veepee in 2000. The objective however was entirely

inventory driven as the supplier wanted to offload excess inventory, without damaging the brand image (Hertanto, Herman, & Edi, 2020).

Specifically, in e-commerce, flash sales have been identified as short-term promotional pressure applied to achieve pre-defined objectives that include promoting, pushing, and distributing goods at a deeply discounted price (Piccoli & Dev, 2012; Sigala, 2013). This definition established flash sales as a sales promotion technique, which is in line with the traditional definition of sales promotion given by the American Marketing Association. Lee and Lee (2012) supported this perspective in their research on electronic distribution channels, as they argued that flash sales are used for time-limited heavy discounts for advancing and adding to the purchase intentions of the products.

Flash sales are conducted for multiple objectives, but the primary objective remains to be commercial, that is to pump up the sale for a particular product in a limited period while building curiosity around it (Agrawal & Sareen, 2016). E-tailers aim at stimulating the fear of missing out (FOMO) among customers that manipulates the purchase intent of customers by creating a sense of urgency for the product and boost customer conversions (Jain, 2017). Since the duration of flash sales is limited, it is often classified as a sales promotion, which in turn itself is the par to promotion mix (Agrawal & Sareen, 2016).

Some of the other reasons for adopting flash sales techniques are to– increase the overall volume of transactions on the e-commerce website,

stimulate product sales, especially the newly launched, increase brand awareness about specific brands, and finally to increase sales (Hertanto, Herman, & Edi, 2020).

Another perspective on flash sales is proposed by Najjar (2011), who argued that as customer behaviours and the technological environment around them change, e-commerce websites need to employ innovative offerings like flash sales among others. This was further explored by Adey and Phelan (2015) who too identified flash sales as a source of competitive advantage. However, this definition does not satisfy the criteria laid down for something to be a source of competitive advantage by Day and Wensley (1988). This is because neither flash sales can be sustained over some time (which would then violate the very definition of it is a limited period event), and that it can be easily imitated by the competitors.

Thus, flash sales are more acceptable as a sales promotion technique, than as a source of competitive advantage. However, a temporary competitive advantage due to a flash sale may not be denied. This conclusion is in line with the postulations by a majority of researchers (Zhang, Zhang, Cheng, & Hua, 2018).

Further, the elements of flash sales discussed thus far, are also in line with the definition of sales promotion and its elements as firmly established by researchers (Meo, Abbas, Sajjad, Bukhari, & Hameed, 2014; Sinha & Kim, 2012; Soni, 2013).

RESEARCH OBJECTIVES

The objective of the research paper is to understand the convergences as well as divergences between scarcity marketing and flash sales techniques. Further, we attempted

to extract information about the positive and negative outcomes of flash sales, both on consumers, as well as that of the e-commerce companies. We finally discuss the managerial implications of the insights generated during the aforesaid research. Thus following research questions were answered through this research:

- Do scarcity marketing and flash sales as a sales promotion technique converge?

- Do flash sales in any way invoke negative emotions from the customers?

- Should managers use flash sales as a sales promotion technique without considering the potential negative emotions and responses from the customers?

RESEARCH METHODOLOGY

A systematic review was conducted to identify and analyse 66 research papers that were published in business and management journals between 1966 and 2020. The literature was broken into a thematic structure with major themes being – flash sales, scarcity, convergence, and consumer response.

Convergence of Flash Sales with Scarcity Marketing

Flash sale and scarcity marketing converge at more than one point thus leading to an often interchangeable meaning of the two. As for product scarcity as part of scarcity marketing, the sense of scarcity is usually pushed through one of the two limitations – time and quantity (Inman, Peter, & Raghubir, 1997). Both of these limitations are known to have a

significant impact on consumer shopping behaviour. In the case of time, the ability of a customer to source, process, and make a decision is restricted due to the lack of time for making and executing purchase decisions (Park, Iyer, & Smith, 1989). Svenson and Malule (1993) argued that this behaviour is due to the limited time pressure face by the consumers. Similarly, the limited stock created a sense of fear of missing out on a deal, due to a lack of decision making. To avoid the guilt in the future of not being able to take advantage of a scheme, the consumers feel sufficiently motivated to take the buying decision.

Flash sales are conducted for multiple objectives, but the primary objectives remain to be commercial, that is to pump up the sale for a particular product, while also building curiosity and a sense of scarcity around the product (Agrawal & Sareen, 2016). This is in line with the objective and often execution of scarcity marketing. E-tailers aim at stimulating the fear of missing out (FOMO) among customers that manipulates the purchase intent of customers by creating a sense of scarcity of the product and boost the conversions (Jain, 2017).

Further, normally consumers are internally incentivized to make a delayed purchase which benefits them due to the long waiting time. It is because this delay allows them to gather more information about the product, and thus make better-informed decisions. However, the same cannot be said for the customers caught in the buying frenzy zone (Courty & Nasiry, 2016). These customers are

buying through flash sales and are often the victim of this buying frenzy. The constant fear of missing a good deal due to a wait-and-see approach will often make them worse off. The earlier discussed, regret theory and conformance theory can explain these behaviours.

Both in the case of scarcity marketing and flash sales, the application of the regret theory and conformance theory is applicable as the behaviour and marketing stimulus (scarcity) remains the same. Further scarcity and flash sales both point towards the importance of product quality. Scarcity or limited availability is often assumed to be a sign of poor supply and high demand. But such temporary supply bumps would often make the product high in demand since customers start believing that the product must be of higher quality and that's why it runs off the shelf (Balachander & Stock, 2009).

Signalling theory can help explain the link between the customers and product, and it suggested that it scarcity manifested by the brand would make customers believe that the product is of superior quality (Balachander & Stock, 2009) as conspicuous and customized products. Thus flash sales and scarcity marketing converge with each other, in more than one way. This also finds an explanation in the four consumer theories (Shi, Li, & Chumnumpan, 2020) discussed earlier. Thus we can safely assume that there is are multiple inflection points between scarcity marketing and that of flash sales. Thus rules and fundamentals of scarcity marketing can very well be implemented to flash sales, albeit with

special consideration and thus the first research question is answered in the affirmative.

Consumer Response to Flash Sales

There have been extensive studies on the positive effects of flash sales on consumer response. Vanissa et al (2020) looked at the flash sales methods in conjunction with impulse buying and found out that flash sales positively affect impulse buying by the customers. The products sold during flash sales also experience a heightened value perception which is generated due to the 'scarcity' trait. This is often linked to the reputation of the business and that is why a lot of firms have started using flash sales as a standard marketing strategy. Any kind of product scarcity influences the consumer's perceptions of the product's price which can also help the company secure higher profit through better profitability (Sevilla & Redden, 2014).

A sense of scarcity created by flash sales makes consumers feel that the products are special, unique, and valuable (Aggarwal, Jun, & Huh, 2011). This in turn, positively influences customer's product evaluation (Eisend, 2008). Gierl and Huettl (2010) have claimed that the positive effects of scarcity messages manifested by flash sales on consumer responses are extended to product desirability (Gierl, Plantsch, & Schweidler, 2008), and perceived value (Eisend, 2008). Scarcity appeal-induced flash sales have been known to aid in choice desirability and are often used to define a certain elitism (Biraglia,

Usrey, & Ulqinaku, 2021).

However, flash sales will always lead to a large number of customers not being able to get their hands on the product they desired. Missing the opportunity of acquiring the desired product may often lead to a negative consumer response. Sevilla and Redden (2014) argued that the inability to acquire the product of their choice may lead consumers to anger towards the company. Martin (2002) in his research showed that customers may experience personality change and often a difference in attitude towards a brand when they are left without the product they desired after the flash sales.

In an experiment conducted by Kristofferson et al. (2017) it was found that the customers' behaviour changed to an aggressive one when they could not get the desired products, but the aggression was much higher when they didn't expect the product to be scarce. Thus flash sales for products that the customers do not believe are scarce may often lead to anger. These findings were in line with that of the research conducted by (Biraglia, Usrey, & Ulqinaku, 2021). Flash sales lead to a situation for the customers which is similar to the stock out situation. When a customer is unable to acquire a product that is on flash sales, it would lead to dissatisfaction of the customer.

This has also been linked to the heightened switching behaviour where the customer would not mind switching the store or the brand which is involved in the flash sales (Shugan, 1980). When flash sales result in the

non-availability of products that the customers wanted, it gives rise to negative emotions among customers which range from as benign as a disappointment, to an extreme like anger and often activism. Thus, the second research question which aimed at identifying the presence of negative emotion can be concluded in affirmative. Flash sales may lead to a negative emotional response from customers and thus making flash sales a two-edged sword.

As far as the usage of flash sales is concerned, the earlier discussion puts out the challenges that a brand may face with flash sales, along with the known notable advantages. However, neither of the reasons are standard and consistent, and thus it largely depends upon factors like the product category, customer involvement in the products, utility, etc. to elicit a particularly positive or negative response from the customers. So while, the temptation of using flash sales and pushing up the revenue, footfall, website traffic, etc is real, the managers must always weigh in the negative aspects of flash sales that may alter the consumer behavior due to the flash sales outcome.

The final research question, that aimed at exploring if flash sales can be used without minding the possibility of a negative outcome, can be answered with the help of the discussion earlier which indicated a series of reasons why flash sales may invoke negative opinions about the brands and store, and thus must be implemented after due consideration, and not with a myopic marketing gain.

CONCLUSION

Flash sales have become an important part of the overall marketing strategy and the promotion strategy head. Wide usage of the strategy also means that flash sales have often been used as a me-too strategy where brands and categories are mindlessly adopting the strategy, for seemingly low hanging fruits of higher revenue and profits.

However, there is a critical aspect to flash sales. Scarcity. The scarcity which is fundamental to flash sales would ensure that not all customers would be able to get their hands on the product that so dearly wanted. Often, this is ignored because the objectives of brand awareness and conversion are very well achieved with the flash sales strategy. However, it is important to understand the response of those customers who did not get the product they wanted.

In this paper, we discussed the scarcity aspect of flash sales and helped converge the two ideas to draw common learnings. Further, we discussed how customers respond to flash sales, especially when they are unable to get what they wanted to. It was found out that negative consumer emotions like dissatisfaction, brand switch, and often anger and despise for the brand are not uncommon consumer emotions when they are met with 'rejection' by the brand, that is when they are unable to buy their choice of the product due to flash sales. Often, management does not look at this aspect of the flash sales, which in some erode brand loyalty or brand resonance that is achieved with a set of customers. Thus

an improved understanding of consumer response to flash sales would certainly lead to a better informed managerial decision (Fitzsimons, 2000).

Flash sales are a critical part of a lot of businesses, especially online portals. Thus not only the goals must be kept realistic, but they must also consider the double-edged sword ability of the flash sales (Joshi & Domb, 2017). This shall help in managing the customer expectations in a more empathetic way. For example, the limited quantity offer must also accompany a voucher for the waiting list, or a promise to deliver the item by a given date. To not disappoint the brand loyals, special access and customized coupons must be provided for them to not feel lost out in the frenzy of flash sales.

Finally, the use of flash sales must be done judiciously by the brand while completely understanding the dual nature of flash sales, which while on the one hand can push sales temporarily, but on the other hand can invoke negative emotions and response from the customers which may often be long-lasting and permanent.

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Exploring Customer Perception In The Print Media And The Digital Media Among Indian Consumers

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ABSTRACT

Purpose – Considering the increased usage of Internet and Digital technologies we can see the movement of Print Media towards the Digital media. The average of print media circulation is dropping down globally, the need for the impact and influence created by digital media is to be studied and results would be helpful for the future of print media. The purpose of this paper is to identify the similarities and differences among this media and the growing role of Digital Media among Indian consumers.

Design/methodology/ – A total of 170 valid responses were collected using a self-administrated structured questionnaire, representative of the consumers using print and digital media. The perception of various consumers with respect to factors for both the media are considered.

Findings – The findings confirm the increasing growth of Digital media while identifying the specific factors that have resulted in the rise of the individual media. Digital media and its forms have had greater and faster results for people, but Print media still has its share of advantages to offer over digital media.

Originality/value - This research helps in better understanding all the factors, customer adaptation from conventional channels of media, the role of print media marketing and emerging digital marketing, challenges and opportunities for both print and digital media that have important roles in influencing the intention of people to choose between the two most important media.

Key Words: *Print media, Digital media, Media industry, Digitization Paper type Research paper*

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INTRODUCTION

The print and the digital media comparison are a topic of debate ever since the huge development of the internet and advances in technology. Gutierrez and Emanuel Jose (2020) indicate that although the print media has been the main source of receiving information and providing entertainment for centuries, with the emergence of new technology, online media has changed the story. Print media is the most traditional type of mass media. It is mainly published on paper and it is a hard copy arrangement, representing the oldest and the most widely spread type of mass media. The resources include newspapers, magazines, journals, and other printed material. India has 118,239 registered publications (newspapers and periodicals). Digital media include software, digital images, digital video, video game, web pages and websites. The type of media that can be encoded in some machine-readable formatting is known as digital media. digital media is basically referred to as any information that can be conveyed through broadcasting on some screen and can be transmitted over the internet for viewing over the internet or any digital electronic systems.Print media also consists of out of doors billboards, transit posters, yellow pages, and direct mail.

Digital media has been a massive inclination for the adaptable element it gives. Online Media extensively impacts how we receive our information each day.The users with the advent of Internet look for faster information, evaluations and records. This has led to consistent usage of digital media as it is faster and convenient without problems on other hand than the printed media. Additionally, the measure of records and information refreshed at normal periods is more by digital media when compared to means of the paper which comes only a single time in a day. The society can get almost all information on anything as quickly as a few seconds (AlyshiaKisor-Madlem, 2016). As a result, we see a good adoption of digital media among the younger audience, while this advanced media is challenging and overtaking the print media. This has made it the most ideal opportunity for customers to acknowledge it everywhere in the world. Owning personal devices such as smartphones and using the internet at higher rates than older generations, Millennials and Generation Z tend to have a great level of comfort with digital technology and it is deeply interwoven into everyday life for them (Vogels, 2019). It is therefore reasonable for one to believe that ebooks would be these younger readers preferred book format (Pontes, 2020).Since the pandemic began, 50% of Millennials and Gen Zers report spending more time on YouTube, 47% spend more time on Facebook and 34% on Instagram.

The Internet can be used anytime, anywhere without sitting around to search for a solitary snippet of statistics.Digital media seem to supply answers for every issue. There is a rise

in the usage of digital media as an information source, it's far more interesting to keep in mind whether or not print media will get terminated. In the path of the latest years, an increasing number of print media organizations have fanned out from customary print and began out posting news on advanced stages, for example, Facebook, Twitter, Instagram, and friend s sites. News being mentioned and shared via online media has negatively affected the print media industry. As per PWC report for the duration 2016-2021, the Print media is projected to continue its growth at 7.3%, largely on the back of continued readership growth in vernacular markets and advertisements' confidence in the medium, tier II and tier III cities while Digital media overtook filmed entertainment in 2019 to become the third-largest segment in the Media and entertainment sector.

The print media that turned into constantly a one-way mass correspondence has given a direction for the digital media to develop quickly, permitting individuals to move about because of the consumers and producers. Over the past 10 years, more and more print media companies have been branched out from traditional print and began posting news on digital platforms such as Facebook, Twitter, Instagram and company websites. The digital media in the research alludes to online information like Times of India, NDTV, India Today, internet-primarily based totally media like Facebook, Twitter, Instagram, and so on. In particular, young

millennials seem to spend more of their time on the internet than reading printed materials. In some ways, the advancement of technology has made.

Digital books and independent publishing are changing the book business, and superior path readings and other media-comprehensive academic applications. Compared to print media, broad communications, and other easy advancements, digital media are not difficult to duplicate, store, share and adjust. This nature of digital media has brought on crucial modifications in several enterprises, especially mainly in journalism, publishing, education, entertainment, and the music business. We have easy admittance to a wellspring of information and diversion which incorporates; movement snapshots on hand on request from link providers or TV and video accessible online for web-based or download.

Each day, 2.5 quintillion bytes of data aregenerated in the digital sphere. For example, every minute in 2017, Spotifyadded 13 new songs, Wikipedia users published 600 new page edits,Instagram users posted 46,740 pictures, Netflix viewers streamed 69,444hours of video and YouTube users watched 4,146,600 videos (Bludov, 2019). This is aindication of the huge rise in the usage of Digital media by consumers. The growth in Digital media can be attributed to the fact that India has the world's second highest number of internet users after China,

with around 570 million internet subscribers, growing at a rate of 13% annually. The increased internet consumption is fueling the rise of the digital media as indicated in Figure 1. The impressive scale of the market and a liberal foreign investment environment are attributes that appeal to global streaming platforms looking to capitalize on the country's fast-growing digital consumption.A report by FICCI-EY says, "Indians spend 30% of their phone time and over 70% of their mobile data on entertainment." which is an indication of the consumption of digital on the mobile phones.

Figure 1: Internet users in India (TRAI)

SOURCE: THE INDIAN TELECOM SERVICES PERFORMANCE INDICATOR REPORT, TRAI
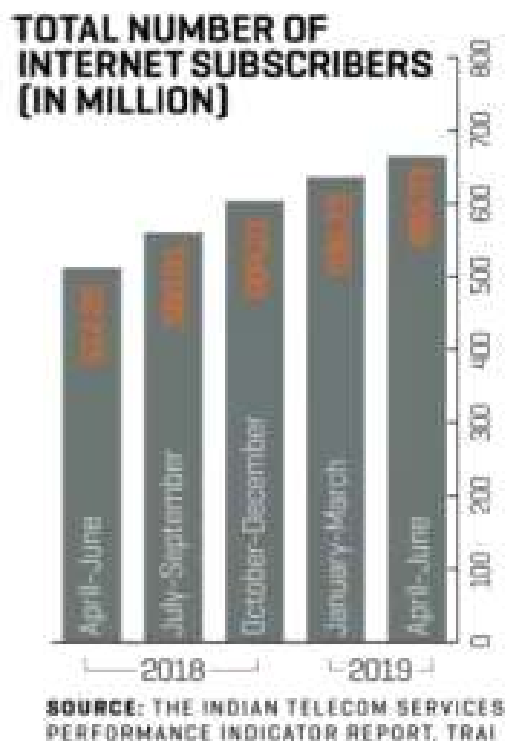
While Print media saw a negative growth, the digital media saw a positive growth as it went up 6.5% to reach INR235 billion in 2020 and is expected to grow at 22% CAGR to reach INR425billion by 2023. Print has degrown 36% in 2020 due to the impact of COVID-19. Print's revenue declines were led by a 41% fall in advertising and a 24% fall in circulation revenues. Aided by the growth of digital infrastructure, consumption patterns shifted and increased across online news, gaming and entertainment. The supply side too transformed as companies took the opportunity to reinvent themselves.

Print has de-grown 36 per cent in 2020 due to the impact of Covid-19. Print's revenue declines were led by a 41 per cent fall in advertising and a 24 per cent fall in circulation revenues. English language and metro newspapers were hit harder and struggled to get back their circulation post the pandemic, while regional language newspapers recovered a larger portion of their lost circulation. Print companies implemented significant cost reduction measures to achieve between 25 per cent and 40 per cent efficiencies, a significant portion of which can continue in the years ahead. Many print companies started conducting digital versions of their popular IPs and entered the high-volume but lower value digital events business.

Transformation in the print segment is indispensable in the areas of product realignment, revenue transformation, cost

intelligence and digital demarcation. Print will need to focus on growing in existing markets through a combination of identifying new micro-markets which are underpenetrated as well as forging bundle deals with direct-to-consumer aggregators like television, e-commerce platforms and OTT platforms, etc.

LITERATURE REVIEW

Gutierrez and Emanuel Jose (2020) in their paper titled "Which is more reliable print media or online media" investigate the credibility aspect between two major information sources of print media and digital media. Credibility or Believability is characterized as a sense to be reliable and to have a respectable standing. With the turn of the last decade, many reputable news sources have transitioned from printed media to online publications and subscriptions and people can now see news on digital websites in comparison to newspapers. With the data introduced, the world and normal people are engaging with what to have confidence in. The article presents the data for consumers to see the advantages and disadvantages of the two types of media.

Niharika Mishra(2017) in her research titled "Impact of online newspaper advertising on print newspaper advertising" explains about how the digital media is getting exceptionally quick, it is getting   hard to limit to print media. With the passage of time the online newspaper started cannibalizing the print

newspaper advertising, the promotions done by the online newspaper advertising are more reachable to the people because now a days people prefer more of digital media as compared to print media. Day by day users of the internet are increasing so people are moving from print to the digital world …Indeed, a lot of income is getting redirected from print paper media to online newspaper advertising. The point of the research is to discover whether there is any effect of online newspaper advertising on print newspaper advertising. The research was focused on accomplishing three targets, to discover the effect of online newspaper advertising on print newspaper advertising, to determine the utilization pattern between print newspaper and online newspaper and to determine components of online newspaper advertising influencing offline newspaper advertising. Thinking about the after effect of every goal, plainly there is an effect of online newspaper advertising on print newspaper advertising.

Saurabh Sharma and Dr. Garima Mathur (2018) in their research titled "A study of print and electronic media" explains how over the recent ten years there have been significant changes in the business of consumer media. With the introduction of remote internet providers, the endurance of the two types of media has become a more troublesome undertaking. This research endeavors to discover the forerunners variables of consumer loyalty and customer satisfaction on print or electronic media. There has been a

positive relationship found set up between consumer loyalty and customer faithfulness. The research is an endeavor to explore the impact of autonomous factors like trust, administration, quality, brand reputation, esteem on consumer loyalty and consumer reliability. The research explores the predecessor variables of consumer loyalty and consumer devotion and additionally recognized the basic variables of consumer loyalty and consumer satisfaction in print and electronic media.

Lavanya Rajendra and Preethi Thesinghraja (2014) "The Impact of New Media on Traditional Media" explains that social media and other online news sources, otherwise called the "new media", have become a vital piece of present-day culture. This investigation intends to comprehend the effect of new media and print media on a delegate subset of the Indian populace.The research includes an exhaustive review system and presents master meetings to distinguish the favored media for understanding News. It additionally measures the social changes set off by advent of new media and client created content. The research shows that de-growth in the use of print media can be credited to the more youthful faction of the Indian population, which lean towards the intuitive idea of the new media and the diminished dormancy with which they can get to news.

Saxena, A (2019) in her research titled "The Impact of Digital Media on Print Media" indicates how Digitalization of media is

impacting the old traditional media and how it has changed the way one communicates and changed the way one sees and seek information.

Netra Karambelkar (2019) in her research titled "Impact of digital on print media" explains the primary target of the research is to set up the effect of online media (e-Paper) on print media (printed version) paper deals. As we probably are aware, prior individuals used to rely a great deal upon the paper. In any case, as the innovation took an extraordinary change, the cell phones consumed space on the lookout and the applications produced for the news. This diminished the interest towards papers. The examination researched how the coming advanced media, for example, Facebook, Twitter, Instagram and different stages has influenced printed media (newspapers). The information is gathered from top to bottom polls, which shows the drop available for use of print media to the more youthful area of the Indian populace. The youth in India favors the intuitive conduct of the new media (web-based media) as it is a faster way to get the news. At present, the time spent by youth on paper perusing has tumbled to half of what it was before, however the elder generation still continue to use papers for their news consumption.

Jacob Cherian(2014) in his research titled "Emergence of digital publishing- A great challenge to print publications" explains how in this advanced age, individuals are given a wide scope of customary and computerized

channels. Presently online news locales have incredibly fulfilled the assumptions for the perusers, and there has been a reduction in the dissemination of print papers. This investigation analyzes the shopper decision of print and online media as for socioeconomics and inclination of configuration. It was reasoned that there is no relationship between the sort of media and individual credits. Vast lion's share of the respondents, independent of their sex, ethnicity, age, schooling and pay, lean toward online media, especially, web. It affirms that there is no genuinely huge relationship among reasons and the inclination for the sort of media. It can experimentally reason that online media influences print media. Effect of online media on print media occurs on the different parts of print media viz. request, membership, piece of the pie, print income, publicizing income and productivity.

Gaur, Sanjay explains in his book "Social Media" that how the Social Media which once used for social interactions based on web technologies helps in creating a platform for individuals and communities to share and co-create, discuss and modify User Generated Content.

RESEARCH OBJECTIVES

The significance of this research is to determine the customer perception of print media with the advent of digital media. This research was conducted using an appropriate mix of people using both print and digital media. It also has been conducted with people of different age groups. This research helps in better understanding all the factors that have important roles in influencing the intention of people to choose between two most important media through the results shown in this research. This will help us to know the perception of people to find a way through which the media industry can satisfy their users and ensure good service. The main purpose of conducting this research is to determine the customer perception of print media with the advent of digital media

1. To determine customer preferences in print media and digital media.

2. To compare print media to digital channels.

3. To identify the factors impacting print and digital media.

RESEARCH METHODOLOGY

Research Design

Descriptive and exploratory research design have been used for the study. The exploratory research is conducted to identify the different factors that impact the behavior among people interviewed to choose between the two most important media of print and digital media. The descriptive research is used for comparison of the factors for print and media among the respondents during the survey. Survey method is used for collecting primary data along with secondary data for identifying the factors of print versus digital media.

Sampling and sample size

The sample from the population consists of people who are users of print and digital media is considered. As the study is descriptive in nature, thenon-probability sampling technique of Convenience sampling is employed in the study. This was considered appropriateas it is impractical and impossible to study the whole population due to practical limitations of cost, time and other factors. The sample size consisted of 170 respondents of different gender and age groups demographics is mentioned in Table 1.

Data Collection Method

The data for this study is collected with survey method from 170 responses. The survey tool used for collecting primary data is a questionnaire containing questions related with both media of study. The questionnaire consists of structured types of questions and the measurement is done using nominal scale and Likert scales. The questionnaire consisted of close ended questions with just one open ended question on

A survey was conducted by preparing a questionnaire on google forms. The respondents are chosen in such a way that they should have used print or digital media

in any form. The respondents were expected to fill in their responses and give valid feedback and suggestions.

Primary data

Primary data was collected from respondents with the help of a questionnaire.

Secondary data

Secondary data for this research was collected from various sources like books, journals and websites.

HYPOTHESES

H1: There is no significant difference in consumer preference between Print media and Digital media

H2: There is no significant difference in consumer preference (Gender) between Print media and Digital media

H3: There is no significant difference in consumer satisfaction between Print media and Digital media

DATAANALYSIS AND RESULTS

Data analysis and interpretation involves frequency distribution and hypothesis testing is based on primary data.

Table 1: Demographic Detail of the Respondents

	Frequency	Percentage
Gender (n= 170)		
Male	68	40.00
Female	102	60.00
Age Groups (n=170)		
Below 20 Years	13	7.6
20-34 Years	126	74.1
35-49 Years	22	12.9
Above 50 Years	9	5.3
Occupation(n=170)		
Student	78	45.9
Employed	58	34.1
Unemployed	17	10
Business	17	10

Table 2: Customer preference for various media

	Frequency	Percentage
Particulars		
Print	17	10
Digital	128	75.3
Broadcast	19	11.2
Other	6	3.5
Total	170	100

Table 3: Forms of print media

	Frequency	Percentage
Particulars		
Magazines	15	8.2
Newspapers	112	66.5
Direct mail	22	12.9
Books	21	12.4
Total	170	100

Table 4: Subscription of Digital media

	Frequency	Percentage
Particulars		
Yes	111	65.3
No	59	34.7
Total	170	100

Table 5: Forms of Digital media

	Frequency	Percentage
Particulars		
E-Magazines/ Newspapers	27	15.9
E-books	8	4.7
Social media	109	64.1
Websites	14	8.2
Video games	4	2.4
Digital video	8	4.7
Total	170	100

Table 6: Frequency of usage of media

	Frequency	Percentage
Print Media(n=170)		
Daily	55	32.4
Weekly once	41	24.1
2-3 times a week	42	24.7
Once a month	32	18.8
Digital Media (n=170)		
Daily	140	82.4
Weekly once	16	9.4
2-3 times a week	11	6.5
Once a month	3	1.8

Table 7: Preferred content in Digital Media

	Frequency	Percentage
Particulars		
Blogs	24	14.1
Series/movies	38	22.4
Educational content	23	13.5
Trending on social media	68	40
Games	7	4.1
Audio	4	2.4
Video	6	3.5
Total	170	100

**Table 8: Preference of Digital media over
Print media with factors of Instant and User friendly**

	Frequency	Percentage
Particulars		
Strongly disagree	14	8.2
Disagree	5	2.9
Neutral	30	17.6
Agree	92	54.1
Strongly agree	29	17.1
Total	170	100

HYPOTHESES TESTING

If the variables are independent (have no relationship), then the results of the statistical test will be "non-significant" and we are not able to reject the null hypothesis, meaning that we believe there is no relationship between the variables. If the variables are related, then the results of the statistical test will be "statistically significant" and we are able to reject the null hypothesis, meaning that we can state that there is some relationship between the variables.

H1: There is no significant difference in customer preference between Print media and Digital media. For this hypothesis the respondent's agreement was measure on a Likert scale separately for the factors of content, creativity, accessibility, Budget friendly, Stored for later

Table 9: Factors affecting Preference of Digital media versus Print media

Print Media						
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Calculated means
content	13	21	51	67	18	3.329
creativity	6	33	53	66	12	3.265
Accessibility	17	32	49	57	15	3.124
Budget friendly	9	20	50	57	34	3.512
Stored for later	21	18	43	54	34	3.365
Digital Media						
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	
content	18	29	43	56	24	3.229
creativity	10	26	44	61	29	3.429
Accessibility	11	18	39	64	38	3.588
Budget friendly	14	38	45	44	29	3.212
Stored for later	13	30	60	40	27	3.224

The means for the factors content, budget friendly and stored for later is higher in print media in comparison to digital media. The means for the factor creativity and accessibility is found higher for the digital media than the print media. Purely on the basis of means we can infer that there isa variation in the preference of the media on the basis of the factors considered. Therefore, the null hypothesis is rejected on the basis of means. Further statistical tests can be conducted to prove the significance statistically.

H2: There is no significant difference in customer preference (Gender) between Print media and Digital media

Table 10: Comparison of means for factors affecting Preference of Digital media versus Print media on the basis of Gender

Print Media		
Gender/ Calculated means	Male	Female
content	3.20	3.412
creativity	3.294	3.245
Accessibility	3.044	3.176
Budget friendly	3.38	3.59
Stored for later	3.17	3.49
Digital Media		
	Male	Female
content	3.10	3.31
creativity	3.29	3.52
Accessibility	3.48	3.65
Budget friendly	2.89	3.42
Stored for later	3.13	3.28

The null hypothesis is retained as t-tests were conducted on the sample but the significance was not found at 5% significance level indicating that variable of Gender was not impacting the preference for digital media or print media.

H3: There is no significant difference in consumer satisfaction between Print media and Digital media The Overall satisfaction for digital media was measured on a Likert scale with 1 being the least satisfied to 5 being most satisfied; the calculated mean is 3.55 indicating that overall satisfaction is higher, therefore the null hypothesis is rejected.

DISCUSSION FROM DATA ANALYSIS

The findings and conclusions have been drawn based on the survey results

1. The Table 2 data indicates that 10.0% of the respondents chose print media as most accessible, 75.3% of the respondents chose digital media as most accessible,11.2% of the respondents chose broadcasts most accessible and 3.5% respondents chose other sources as most accessible form of media. We can therefore interpret that the highest number of respondents chose digital media as the most accessible media.

2. The Table 3 data indicates 8.2% of the respondents chose magazines as the most used form of print media, 66.5% of the respondents chose newspapers as the most used form of print media, 12.9% of the respondents chose Direct mail as the most used form of print media and 12.4% of the respondents chose books as the most used

form of print media. It is evident that newspaper is the preferred choice among the various forms of print media.

3. The Table 4 data indicates that 65.3% of respondents have subscription to digital media and 34.7% of respondents do not have subscription to digital media, indicating that the majority of respondents have a subscription to digital media.

4. The Table 5 data indicates that 15.9% of respondents chose E-magazines / newspaper as the most used form of digital media, 4.7% of respondents chose E-books as the most used form of digital media, 64.1% of respondents chose social media as the most used form of digital media, 8.2% of respondents chose Digital websites as the most used form of digital media, 2.4% of respondents chose video games as the most used form of digital media and 4.7% of respondents chose digital videos as the most used form of digital media. Therefore, social media is the most preferred form of digital media.

5. The Table 6 data compares the frequency of usage of media by the respondents it is found that 32.4% of the respondents use print media and82.4% of respondents use digital media on a daily basis. 24.1% of the respondents use print media once a week, while 9.4% of respondents use digital media once a week.24.7% of the respondents use print media 6.5% of respondents use digital 2-3 times a week and 18.8% of the respondents use printmedia 1.8% of respondents use digital

media once a month. We can interpret that the highest number of respondents use print media on daily basis. Therefore, the frequency of usage is higher among the respondents for the digital media.

6. The Table 7 data indicates the preferred content in digital media, it is observed that that 14.1% of respondents prefer to see more of blogs in digital media, 22.4 % of respondents prefer to see series/movies in digital media, 13.5% of respondents prefer to see more of educational content in digital media, 40 % of respondents prefer to see more trending content on social media, 4.1 % of respondents prefer to see more games in digital media, 2.4 % of respondents prefer to see more audio in digital media and 3.5% of respondents prefer to see more of video in digital media. We It is observed that the majority of respondents prefer to see more trending content on social media followed by watching of series/movies.

7. The Table 8 data indicates that while considering the preference of Digital media over Print media with factors of Instant and User friendly, it is observed that that 8.2% of respondents are strongly disagree, 2.9% of respondents Disagree, 17.6% of respondents are neutral, 54.1% of respondents agree and 17.1% strongly agree category. Therefore, the majority of respondents Agree and are more inclined towards Digital media in comparison with print media.

Through this research it is evident that majority of the people access digital media the most due to its user friendliness and instant access. Users prefer to see more of current affairs on print media and those with attractive headlines. Only a small number of users use print media on a daily basis for its content accuracy as it plays a major role to choose print over digital media. Majority of the users use digital media on a daily basis with social media being the most used digital platform for its trending content on social media. People are influenced by advertisements on digital media rather than print media and the users are very satisfied with their experience and usage of digital media over the years. From the survey conducted for this research, the majority of the people do agree that print media has geographical limitations.

Also, according to the results of the survey majority of the users think that print media will not survive the age of digital media by taking the present into consideration where most of them are just a click away. From the findings of the research, it can be concluded that print and digital media will continue to play an important role directly or indirectly in our lives. Keeping in mind the reality that the print media industry in the media sector has long gone through duration of extraordinary change around the sector for over a decade with the advent of digital media. This research can provide insights and recommended a few potential changes for the survival of both print media and digital media.

Certain suggestions can be provided based on the analysis and findings from the respondents as;

- The majority of respondents feels that print media is bound due to geographical limitations, the print media can adapt to more uniform distribution channels in order to be on par with other forms of media.

- Print media should adopt more creative and attractive ways of getting subscriptions from customers to increase the reach and frequency. The local newspapers will continue to play an important role for the industry to survive in the regional locations.

- The demand and consumption of news is most in the forms of print media, the printing companies should initiate news in some form or the other while focusing on useful and creative content. Print media companies should pay more attention to the headlines which should be factual and catchy while digital media faces problems of fake news.

- Taking the data into consideration print media houses should adapt to digital media platforms to publish content in a digitalized manner to keep up with demand of consumers.

- In case of both media, more than half of respondents prefer to know current affairs, and a considerable number of respondents prefer to see upcoming trends. Therefore, companies should have prime focus on this rather than upcoming trends, short stories and advertisements.

- The majority of respondents choose print over digital for content accuracy and reliability. Digital media should develop a way of fact checking and validating its content.

- Companies publishing E- magazines or newspapers, digital websites, e-books, video games need to develop a look and feel similar to compete with social media platforms as more than half people use social media compared to other forms of digital media.

- As we humans like to be performing or doing (imitating) the same things as our neighbors, the same way respondents prefer trending content over other options listed. Keeping this in mind; series, educational content, blogs, games, audio and video shouldbe developed keeping this characteristic of users in mind. The content will continue to be king for both types of media.

- The consumers can easily shift from online to print because online media is available every time but for print media one has to wait for a day for a new paper.

In conclusion the results have shown the preference of Digital Media over Print Media. Though the results also conclude that the youth is normally more focused on the internet today and they are not giving time for reading the newspaper, the adults are still dependent on print media. The research also highlighted that digitalization has impacted the print media.

LIMITATIONS OF THE STUDY

The study was limited to 170 respondents only to represent the whole population. The study

is limited only to people who use print and digital media in metropolitan cities.

The respondents might not be completely honest while answering all the questions and hence it can severely affect the results. The unwillingness of the respondents and the lack of interest in filling the questionnaire may act as hurdles. This study analyzes only the existing forms of media and neglects the future forms of media that are yet to come.

FUTURE SCOPE

By working up a viable information base on what factors influence the customer perception of print media with the advent of digital media. The main aim of the study was to find out the factors that influence people to choose digital over print media with the advent of digital media. More factors for the adoption of either media can be studied. More studies can be considered with variables like occupation, education, pricing, variety and purpose to know the significant impact for customer preferencethat will impact the individuals in their choices. Studies can be conducted to identify the difficulties and challenges faced by print and digital media over the years. The study will also give us an idea of whether print media will have anyform of existence in the coming years with the advent of digital, therefore longitudinal studies with comparison of factors can be considered.

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Core valueS

1. **Passion:**
    The soul of Welingkar blossoms in our heart, mind and body.

2. **Breakthrough Thinking:**
    We foster academic rigour in an environment conducive to innovation.

3. **Result oriented, Process driven Work Ethic:**
    We adopt dynamic quality processes to ensure accountability and exceptional performances.

4. **We Link and Care:**
    We support and collaborate with all our stakeholders through mutual trust and respect.

Quality policY

We are committed to give our students Quality Management Education in tune with the changing needs of business and industry.

We shall endeavor to do this by:

-   Providing the best learning resources.

-   Making the environment conducive for students to develop their creativity, Leadership skills and ability to learn continuously.

We shall follow a data oriented factual approach to Quality Management leading to continual improvement of our processes culminating in total customer satisfaction.