

Green Hoteling: A Case Study of 5 Star Hotels in Bengaluru

Jitendra Das¹, Ajay Joshi²

Abstract. During the past thirty years, the hotel industry has acknowledged environmentally responsible movements as one of most significant items on the agenda for hotel operations. Evidenced by a myriad of practices intended at improving the environmental impact on the hotel industry, hoteliers are more committed to environmental concerns. In recent decades Tourism Industry has been contributing immensely to the gross domestic product in many countries, however, the growth of this industry over the time has created an increasing amount of pressure on the natural environment.

All over the globe, tourists consider themselves to be eco-sensitive and it shows a thriving market for environmentally friendly offers in the tourism and hotel industry. So, hotels are becoming greener and using green hotel term symbolizes an environmentally friendly place focusing on resourceful use of non-renewable energies and appropriate use of renewable energies. During the last few years, ecological consciousness is gaining more and more momentum amongst tourists around the world. Inquiry and implementation of environment-friendly practices is now the challenge to all aspects of human activity and the tourism sector is by all means a part of it. The reduction of the carbon footprint of built-up environment is a main concern of the Green hotels, not only due to the relative legislation which is recently in force, but as a motivation through low energy consumption and subsequently low operating costs, as well.

As sustainable tourism is continuously receiving more interest in today's world and will be an imperative part of tourism in the future, this topic is very contemporary and interesting. The city of Bengaluru, considered as the Silicon Valley of the country has taken a lead in eco-hoteling with some of the latest trends in green hoteling having started from the city. The research paper is inclined towards analysing the practices, products, services, investment, technology, benefits, the barriers accrued by green hoteling and the perception of guests (staying in regular hotels as well as Eco-friendly Hotels) about green hotels in Bengaluru, Karnataka, India.

Keywords: Development; Environment; Green Hotel; Hotel Management; Sustainability

1 Introduction

In the recent times, the hotel industry has become more alarmed towards maintaining the equilibrium between environmental, resource consumption, ethical and societal concern and consequently environmentally responsible movements are one of most essential items on the agenda for hotel operations. Ecological consciousness is gaining more and more ground amidst people around the globe. The reduction of the carbon footprint of built-up environment is a main concern of the Hoteliers, not only due to the relative legislation which is recently in force, but as a motivation through low energy consumption and subsequently low operating costs. The hospitality industry has recently joined this effort and so the term "green hotels" has evolved.

Tourism can be regarded as one of the largest industries in the world. A huge number of visitors also put enormous stress on the environment. However, with responsible actions, negative impacts on the environment can be minimized. Responsible actions apply to the whole tourism industry. Sustainability at hotels today is starting to be a requirement in order for a hotel to keep up with the growing competition. There will be a growing demand for sustainable hotels in the future, not only because of customer demand but also because of the increased awareness of the state of our environment.

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When a hotel commits to environmental protection, it not only brings environmental benefits but also cost savings and increased profitability for the hotel, preserves the hotel's natural assets and surroundings and enhances its image and reputation as an environmentally responsible hotel, which especially today is becoming a factor of choice for the customers.

Bengaluru, the capital of Karnataka, known as the Silicon Valley of India, is among the most-visited Indian cities by foreign tourists. Today, Bengaluru is a land of apartments and industries but surprisingly, Bengaluru is actually a plateau that has developed over a period of time into a modern settlement. Therefore, it is home to several natural places, ranging from lakes to hills and forests to waterfalls and enjoys a pleasant weather throughout the year. It is the hub for high-tech industries, Multi-National Companies and is also known for the plethora of choices it has in store for tourists to relax and visit within the city. The city is also the hub to finding a variety of food, an abundance of delectable cuisine choices.

2 Objectives

The aim of this research paper is to examine green practices being followed by Eco-hotels in Bengaluru and Guests perceptions about the green hotels, with specific focus on-

- To evaluate the products, services and technology adopted by the green hotels.
- To examine the barriers in adopting green practices by non-eco-friendly hotels.
- To analyse the perception of guests (staying in regular hotels as well as eco-friendly hotels) about green hotels.

3 Methodology

This is basically a qualitative paper. However, since guests (staying in regular hotels as well as eco-friendly hotels) are interviewed about their perception, the study has also got the essence of quantitative touch. Therefore, this research work has adopted mixed methodology of research.

The study has explored the green practices in the green hotels and tried comparing it with the regular hotels. The perception of guests has been analysed. Therefore, the study is exploratory, comparative and analytical in nature.

3.1 Data Collection:

Primary Data

- Primary data for the study has been collected through the interview.
- Tool used to collect the data is structured questionnaire for the staff of eco-friendly hotels in Bengaluru and the guests visiting regular as well as eco-friendly hotels in Bengaluru.
- Samples were drawn from Hotels managers, supervisors, associates and guests by stratified sampling.

Secondary data

- Manuals
- Journals
- Magazines
- News paper
- Research articles

4 Review Of Literature

One of the important tourism related terms discussed nowadays is Ecotourism. Alexander (2002, p.2) explained Ecotourism as a nature-oriented tourism which is having rapid growth and development mainly having environmental concerns.

This is an important sentence to be remembered when thinking about the current status of tourism and the world of today. Sustainable tourism and the relationship between tourism and the environment are a growing trend in the field of tourism and hospitality and are increasingly causing hot debates all over the world (Holden 2008). In fact, ecotourism and tourism to protected areas are one of the fastest growing sectors within the industry (Ishwaran 2004, pp. 11-12).

According to Wood (2002, p. 28), an eco-lodge is a tourism accommodation facility that meets certain criteria. It is said that it contributes to the conservation of the surrounding natural and cultural environment. While constructing the establishment, a green hotel minimizes its impacts on the environment and is designed and built in a way that it fits into the specific physical and cultural contexts by its form, colour and landscaping, without forgetting the local architecture. A green hotel also takes into consideration the principles of sustainability for example in water usage, energy consumption, disposal of solid waste and sewage as well as by cooperating with the local communities. Furthermore, a green hotel contributes to environmental awareness training of both the tourists and the employees.

The race to going green has started among Indian hoteliers but the race has started only recently. India is emerging as a major global tourism destination. Living up to the image of leading hotels of emerging tourism destinations, the hotels are trying to provide world class services to its customers (Sharma et al., 2018, pp. 1-9).

As an indication of the same, many hotels are claiming “LEED” or “Ecotel” certified. LEED and Ecotel Certificates are given by third party organisation to hotels maintaining high environmentally responsible and sensitive practices. With hotels having Ecotel and LEED certification, we can be sure the organisations are following strict power saving norms (Verma and Chandra, 2018, pp. 24-41).

According to Han et al. (2011, pp. 345-355), environmental deteriorations are happening due to the existence of conventional hotels. The authors also observed that the solid and liquid waste management is not organised properly in these hotels and hence it has a negative impact on the environment.

The hotel sector causes water pollution mainly due to untreated waste water from swimming pools, guest rooms, laundries, kitchen and from golf courses as well as from the discharge of sewage (Middleton, 1998).

According to various open sources, major certification for green hotels in India are Leadership in Energy and Environmental Design (LEED) certificate awarded by U.S. Green Building Council, ISO-14000 certificate which is awarded by the International Standards Organization, Green Key Global certified by the Hotel Association of Canada, Sustainable Tourism Eco-Certification Program (STEP) conferred by the Sustainable Travel International, ECOTEL® certification done by the HVS and The Indian Green Building Council (IGBC) certificate awarded by the Confederation of Indian Industry and the Godrej Green Business Centre. These entire organisations have evolved their own parameters and standards to evaluate the hotels and certify them. (Source- Respective websites).

5 Results

As a part of the study, the researchers undertook survey of Bengaluru hotels which comes under green hotel segment. The growing trend in “greening the business” attracted the researchers to conduct a deep study aiming to know how the hotels are dealing with the environmental concern. The study revealed the following practices of green hoteling adopted by hotels in the city:

5.1 The products, services and technology adopted for the eco-friendly practices in the hotels of Bengaluru.

ENERGY EFFICIENCY:

- Use of Ever-Green Chillers that provides air conditioning comfort with lowest Electrical Energy Input.

- Variable primary Chilled water flow ensures optimum level of chilled water flow thus saving considerable electrical energy when compared to a conventional system.
- Energy efficient ARI certified cooling towers – consumes lowest energy when compared to conventional cooling towers.
- CO2 Sensors – based fresh air handling units' leads to optimum comfort to guest while saving energy.
- Inco mm – Guest Digital Assistant, ensures customized room climate controls and ensures no waste of energy.
- Double glazed windows – energy efficient glass ensures minimal Sun light penetration thus reduction in air conditioning load.
- Air handling units (AHU) are fitted with sophisticated pressure independent valves to control the chilled water flow thus avoiding the wastage of energy.
- Back of the house offices are provided with Variable air volume-based air conditioning leading to energy saving while providing environmentally friendly work atmosphere.
- Energy efficient boilers automated operations with O2 trimming consume less Diesel to produce more steam.
- 100 percentage wasted heat recovery (condensate recovery system for hot water generation) ensures energy saving.
- Solar Concentrators produces steam to cook food in the cafeteria.
- Energy efficient lighting at the back of the house using LEDs, Energy efficient lights.
- Usage of LEDs in the guest rooms.
- Computerised controls for light dimmers in the restaurant, while providing mood lighting saving the electrical energy.
- Energy efficient periphery lighting.

WATER EFFICIENCY:

- Separate treatment for Grey water and black water and reutilization of the same back in flush water and in processes ensures reduction in water consumption.
- Water flow restrictors in all the water taps.
- Water efficiency in air conditioning systems: 100% reduction in water consumption for AC make up.
- Setting up of on the premises drinking water purification/ treatment plant (to reduce the carbon foot print generated during the transportation of water).
- Replacement of RO water plant by ozone water filters.

SUSTAINABLE SITE DEVELOPMENT:

- Waste segregation at source.
- Recycling of solid waste with Organic Waste converter (produces manure out of solid waste).
- Heat island effect, non-roof: car parking provided in basement.
- Green education to the staff, guests, media/visitor using newsletters, seminars, signage, brochures, tours and websites.
- Transplantation of matured / established trees prior to construction.
- Controllability of systems: the building occupants provided with individual lighting controls and the building occupants provided with thermal system controllability.

SUSTAINABLE MATERIALS AND PURCHASING:

- **LOW EMITTING MATERIALS:** low VOC (volatile organic compounds) levels in adhesives, sealants, interior paints & coatings, carpet systems, composite wood and agri-fiber products contain no added urea-formaldehyde resins.
- Green housekeeping chemicals that are green (eco) guard certified.
- **REGIONAL MATERIALS:** most of the materials used in the projects are manufactured locally and extracted regionally.
- **RECYLED CONTENT:** a part of materials used in the project contain recycled contents.
- **CERTIFIED WOOD:** wood-based materials certified in accordance with forest department are used for building components.

5.2 Barriers in the eco-friendly practices

LACK OF KNOWLEDGE

It is evident that there are several benefits of adopting green practices in an organisation, but still many hospitality operators are still not adopting and implementing green practices. Limited awareness amongst small business owners of their environmental footprint has consistently been identified as a barrier to change. Many hospitality operators have a limited knowledge of their environmental footprint which in essence, is hampering their ability to implement environmental practices.

OWNER/ MANAGEMENT ATTITUDES

Several Hotel owners and managers do not understand the value of adopting a green agenda which leads to an unworried attitude in relation to eco-friendly practices. Some hospitality managers still operate in old world mental models and do not truly recognise or appreciate the need and value of the environment in relation to their business. They often see environmental practices as an add-on to their corporate policy. If a company is to successfully implement an environmental policy, its adoption must come from the top, otherwise it is unlikely to succeed.

HUMAN RESOURCES

Special positions/ vacancies within hotels need to be created in the area of environmental management in order for a property to be a true champion in this field, which in essence has implications with regard to additional labour costs for any property. Effectively implementing a programme is not about having an environmental policy or management in place; it is about the workforce.

Managers and supervisors need to lead by example when it comes to changes in environmental practices or otherwise results will be wasted. This can have a damaging effect on an organisation that is trying to implement an environmental strategy, as without employee support, the desired policy is ultimately going to fail.

FINANCE

As the economy is in ongoing economic slowdown, it has dented managers enthusiasm for pursuing more eco-friendly policies, with many respondents admitting that the credit crunch will mean mission-critical priorities will take precedence over efforts to reduce their environmental impact. Hospitality operators have a perception that environmental improvement comes at a cost and so this becomes a major barrier.

CUSTOMER ATTITUDES

Many hospitality organisations are waiting for increased customer demand and lower operating costs before they will fully embrace green initiatives and formal environmental practises. Hoteliers wonder if customers really care that they are making efforts to improve their environmental footprint through the introduction of green programmes. “Eco friendly or “green initiatives” were most compelling to luxury hotel guest who could afford to care about green practices, whereas these programmes are least important to customers who look for economy brands. It is evident that price is still the main factor when it comes to hotel selection and that many guests are not ready to pay extra to support green initiatives.

OPERATIONAL

The major obstacle that hotels face when adopting green practices is the basic structure. The majority of hotels erected in the last decade were built by developers and managers who did not consider the environment during construction as the cost of greener hotel development was higher.

Operational issues such the non-availability of vendors, contractors, engineers, housekeepers, landscapers and managers that understand environmental systems, procedures and products inhibit the development of environmental practices.

LEGISLATION and ACCREDITATION

Few hotels have adopted a formal environmental management system or the internationally recognised ISO 14001 environmental management standard but the majority of hotels are still lagging behind in adopting environmental management systems. The lack of government support and stakeholder demand as well as the fact that ISO 14001 is not a legal requirement constitutes the most salient factors hindering the adoption of the standard.

5.3 The perception of guests (staying in regular hotels as well as eco-friendly hotels) about green hotels:

Guest's Perspective Staying in Regular Hotels:

As a part of the study, the researchers undertook a survey of regular hotels (non-eco-friendly hotels) in the Bengaluru City of Karnataka. Questionnaires were distributed to the guests staying in these hotels. 100 questionnaires were distributed in total out of which three were incomplete and not filled properly, therefore, only 97 samples could be taken for analysis. Simple random sampling method was used and the research was conducted in a time frame of three months.

Table 1.

FACTORS THAT GUEST CONSIDER WHILE SELECTING A HOTEL (The guests were requested to tick any one option only)		
Factor	No. Of respondents	Percentage
Price	42	43.29%
Location	24	24.74%
Environment Friendly Hotels	8	8.24%
Amenities	10	10.30%
Brand	13	13.40%

From the above table, it is evident that out of 97 respondents, approximately 43% consider price to be the determining factor in selection of a hotel. Nearly 25% said location while about 13% answered amenities and almost 10% said Brand value. Just about 8% of respondents said that they consider the fact that the hotel is environment friendly.

Table 2.

WOULD YOU BE WILLING TO PAY A LITTLE MORE TO STAY AT AN ENVIRONMENTALLY FRIENDLY HOTEL?		
Factor	No. Of respondents	Percentage
Yes	18	18.55%
No	66	68.04%
Not Sure	13	13.40%

From the above table, it is evident that out of 97 respondents, approximately 19% guests are only ready to pay little extra to stay in environmentally friendly hotels.

5.4 Guest's Perspective Staying in Eco-Friendly Hotels:

As a part of the study, the researchers undertook a survey of eco-friendly hotels in the Bengaluru City of Karnataka. Questionnaires were distributed to the guests staying in these hotels. 100 questionnaires were distributed in total out of which one was not complete therefore, only 99 samples could be taken for analysis. Simple random sampling method was used and the research was conducted in a time frame of three months.

Table 3.

FACTORS THAT GUEST CONSIDER WHILE SELECTING A HOTEL (The guests were requested to tick any one option only)		
Factor	No. Of respondents	Percentage
Price	26	26.26%
Location	31	31.31%
Environment Friendly Hotels	24	24.24%
Amenities	02	02.02%
Brand	16	16.16%

From the above table, it is derived that out of 99 respondents staying in eco-friendly hotels, about 26% consider price to be the determining factor in selection of a hotel. Close to 25% said location while just about 02% answered amenities and almost 16% said Brand value. As good as 16% of respondents said that they consider the fact that the hotel is environment friendly.

Table 4.

WOULD YOU BE WILLING TO PAY A LITTLE MORE TO STAY AT AN ENVIRONMENTALLY FRIENDLY HOTEL AT?		
Factor	No. Of respondents	Percentage
Yes	43	43.43%
No	47	47.47%
Not Sure	09	09.09%

From the above table, it is evident that out of 99 respondents, approximately 43% guests are ready to pay little extra to stay in environmentally friendly hotels.

6 Discussion and Conclusion

All tourism should be sustainable – economically, socially and environmentally’ -Newsome, Moore & Dowling.

The researchers found that many hotels have benefited by going “Green” and adopting the principles and practices of green management. For the business reputation, it reduces business’s cost for posting advertisements as the hotel’s approach projects hotels’ positive image, which might increase employees’ identification toward the business. In parallel, the green marketing is effective. When consumers have positive perception, concept, and recognition towards green hotel, they can be attracted by the green hotel concept and participate in environmental protection themselves. It is very beneficial that a hotel would be able to provide a better environment while enhancing customers’ educational level at the same time.

In reality, no matter in Bengaluru or other cities, the conception of green hotel has become an irrevocable trend and it will become one of the key indexes for Eco-responsible approach in the near future. Travel is an important part for people in the modern world, therefore selecting a green hotel to stay might be the best way to connect consumers and environmental protection. The major challenge is that we do not know to what extent the consumers can accept and cooperate with hotels’ green measures which may appear to compromise on luxury. Hotel personnel indicated that not only does green hotel attract highly educated consumers; it can also save energy through educating consumers, improving hotel and the whole society’s environment.

The hotels today are implementing environment friendly policies as a part of their corporate social responsibility. They are constantly and resourcefully developing strategies to ensure minimum damage to the environment and sustain the ecological balance for the forthcoming generations. However, the study also revealed that still many guests need to understand and be aware about the value of green hotels.

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Customer's approach towards online food delivery system with reference to the COVID-19 lockdown scenario

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1 Introduction

The country faced lockdown and other imposed restrictions due to COVID-19. People have been undergoing a lot of changes with regard to work, lifestyle, buying preferences and other habits as well. When it came to buying various things on a regular basis during lockdown times, the customers have started giving preference to needs over wants. Food, for an instance is want and need both. As the process of unlocking started and people are still under the threat of the infection; a major section of customers have started opting for online food delivery frequently. Many of the people have started going out to have meals in the F&B outlets; still there are many who prefer food to be delivered to their places in order to feel safer.

Online food delivery is a process that delivers food or takes away from local restaurants through mobiles application or through website. This style of food delivery is gaining popularity among young generations and bachelors. The great things are that the customers can generate order without talking or giving any expansion to sellers. Online food delivery has become a billion-dollar business. Aggregator's platforms have expanded all over world through the sale of reliable infrastructure solutions and attractive commission rates for restaurants. Those companies have also gained track over the last years, especially in densely populated regions. Both models will likely converge with stronger competition between in house and third party solutions.

Online food delivery business in India is seeing an everyday rise in its customer's base, a few important factors to it may be:

- Increase in number of working women, no time to cook and dual income
- Increase in the number of mobile phones which ensures easy publicity through social media, and more people are getting accustomed to getting things done via fingertips
- Increasing number of nucleus families in cities
- Rise after pandemic – as the delivery business started again, the business saw new opportunities due to people's changed habits, focus on staying at home etc.
- Some changes post pandemic may be – eating healthy, staying at home, and ordering homely food etc.

Service organization and markets have focused too much of their energy on their core services performance and too little emphasis on designing a customer journey that enhances the entire customer experience. There is nothing wrong with seeking firms to be competitive in the marketplace. The problem occurs when performance levels and service offerings become too similar within an industry, so that price is the only key competitive weapon that remains.

Earlier, the customers moved to restaurants and food retail outlets for food. But with the availability of order delivery services and vehicles now the supply chain is moving in the reverse direction, and the restaurants deliver food to their clients at their home as per their requirement and supply orders. Food aggregators are a unique new feature in the management of the supply chain for fruits, vegetables, ready to eat food and other consumption items. Swiggy, Zomato and Uber eats have emerged as popular aggregators for order delivery. Taking advantage of their presence, restaurants and food businesses have entered into agreements with one or more among these aggregators to ensure speedy and timely supply of food to their clients.

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In recent few years the concept of success and marketing strategy has changed completely due to onset of online order of food through food apps such swiggy, Zomato etc. These apps provide not only choice of food outlets nearby and range of food items but also attractive competitive price among restaurants and promotional discount by the delivery companies. After loading apps in mobiles ordering of food has become so easy that anyone can put order from any place and get fresh food at their door step within a short period of time. This business has replaced locations of restaurant at primeval condition completely. Now the food outlets in remote and isolated locations where visibility and accessibility were not enough are also doing roaring business.

The study is based on an assumption that as the online food delivery market is growing rapidly and it's adding more people to its customer base every day, some customers may have started taking it as a permanent mode of choosing a food alternative instead of eating-out till the time pandemic threat is there. People who have been constantly ordering even during these times, they would constitute of working professionals who don't live with their family, students, and people in the age group of 15-45.

The study has involved customer groups of different ages/demographics and their food preferences. The study aims to find out whether the online food delivery system is able to win the loyalty of their customers and what dynamic changes the buyers expect in future so as to make it a successful system and a regular choice for the consumer.

In a present online driven environment, convenience is a necessity for young person who take advantage of online delivery process that streamline the ordering and delivery process. Partner with food order delivery services like Zomato, Swiggy, Uber eats etc to push their sale.

A few brands have business plans keeping in mind that home delivery will be the new normal in post-pandemic; and their focus is exclusively on online food deliveries as it would help in minimising personal interaction between the staff and the customers.

2 Objectives

- To study the changes in attitudes of customers towards online food ordering (specific to pandemic times).
- To assess the prominent expectations of customers from online food delivery.

3 Review of literature

Delivering quality to customers in a competitive marketplace dictates the need to continually enhance a customer's experience and satisfaction. However evidence indicates that satisfied customers defect at a high rate in many industries. Brand preference has become an important area of study with the realization that satisfaction alone does not necessarily ensure key customer behaviors such as loyalty. The food service industry needs to explore the combination of good/service attributes that result in an optimal level of customer satisfaction. Alternative customer satisfaction delivery strategies need to be assessed from the perspective of cost/benefits, return on quality, ability of competition to copy a specific strategy, and a firm's ability to deal with raised expectations associated with each strategy.

Dr. S.C.B. Samuel Anbu Selvan, Susan Anita Andrew (2020) Mention that the customers have certain expectations from the online food delivery business, as it is an emerging trend. The business is seeing new rise in growth with the time. There is a need for the food delivery start-ups to consider new business models like Demand Delivery, Cloud Kitchen, Full Stack, and Drone Based Delivery etc.

Dr Mitali Gupta (2019) mentions that the online food delivery is flourishing at a rankling pace, adding to this situation is an expanding number of cell phones and food delivery applications. Online food delivery platforms have become popular with educated potential customers all over India. The major benefits of online food delivery are the easy to use apps, flexible payment options, real time tracking, loyalty points and effective customer support.

Mrs. A. Mohanapriya, Mrs. P. Geetha, Mr. A. Prasathkumar (2020) while suggesting that there is high potential in this relatively untapped market, also mentioned that online food delivery service is an emerging market in India the consumer prefers the traditional way of dining in the restaurant. Many of the consumers have online food delivery apps in their mobiles but they place orders only once in a while. During the research they found out that the main reason for which the consumers did not prefer online food was lack of trust. Consumers were afraid of the quality of the packed food.

The brands are engaging in hygiene and quality verification as their first priority and selling tool so much so that some brands are sending hand sanitizers (Gupta, 2019) along with food orders to their clients.

Jabir Tribhuvan (2015) the study told that the majority of respondents are at least eating out once in the month. The respondents are mainly eating out along with friends and family members on special days like holidays etc. By using chi-square analysis the difference in consumer's preferences for eating out has been analysed for family and fast food style restaurants. The study also identified that the preference for eating out was significantly more prominent among those who were younger (<30 years), more educated (preferably graduate in any discipline), employed, and having more than one income earners in their family and belonging to higher income groups of households (> ₹. 15,000 per month)

Krishna Kumari (2019) finding showed that the online food delivery is taken as a easiest and most preferred way of getting food without being worried about hygiene and other factors. It is also safe and new experience for people who are unable to cook food due to their involvement in their work.

Charlen Li, Miranda Miroso and Phil Bremer (2020), the online Food Delivery industry has been very proactive in the way it develops new markets and cultivates consumers' eating habits. It has key impacts in many ways, like - the Economic impact lies in providing many jobs across a range of types of employment, a social impact is that the online Food Delivery can save time otherwise spent on grocery shopping, cooking or cleaning up afterwards, on environment it has an impact of generating lots of plastic waste and pollution due to delivery vehicles (which is to be dealt by using alternative packaging material and delivery techniques).

4 Research Methodology

The study was conducted online with the target clientele for online food delivery customers. The study is based on two sources of data.

Primary sources: The questionnaire was designed comprising of 10 questions pertained to various possible changes in attitude of customer and to arrive at the prominent expectation of customers in future. Online surveys were conducted to achieve the objectives of the research work. Only the fully filled questionnaires were accepted for data analysis. The respondents were asked to give their opinion regarding various changes in attitude and to highlight the expectation of customers. In all 111 questionnaires were used for data analyzing. Statistical analysis included frequency, averages and percentage.

Secondary sources: Various books, research journal, blogs and website were used to collect secondary data for the research.

5 Data analysis:

The analysis of survey is done by frequency, averages and percentage and relative Importance Index (RII) method. The structured questionnaire was prepared in three parts.

The first part contains the question related to demographic information and information about the nature of the ordering from the online food delivery sites.

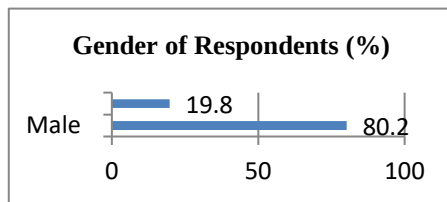
The second part contains the important questions that are relevant in studying the changes in the attitude of customers towards the choosing of products from online food delivery platforms. Such as vegetarian orders, checking customer's comments, frequency of orders packaging material etc. Analysis is done by using Frequency, and percentage for collected responses.

The third part contains the questionnaire based to find the important future expectations of a customer's due to the COVID-19 PANDEMIC which included the key expectations such as food hygiene, staff health, use of local ingredients contact less cooking etc. relative Importance Index (RII) method is used to analyze the responses received

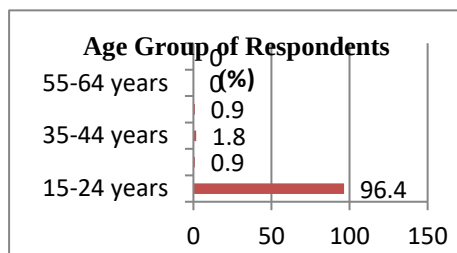
The data received through structured questionnaire was analyzed by Relative importance Index (RII) method to determine the relative importance of 1) the important future expectations of a customer's frequency and percentage was used to find 2). Changes in attitude towards the choosing of products

Relative importance of index = $\text{Sum of weights (W1+W2+W3+.....+Wn)/AxN}$

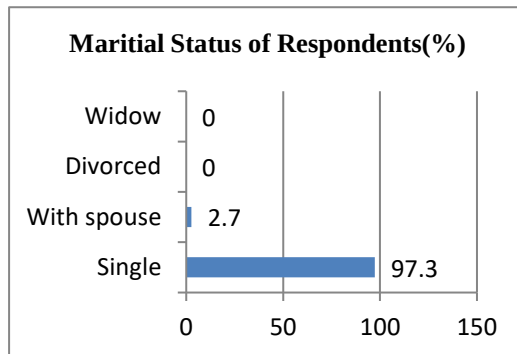
Where W= weights given to each factor by the respondents and will range from 1 to 5 where 1 is strongly disagree and 5 is strongly agree. A= Highest weight (i.e. 5 in each case) and N= Total number of respondents.



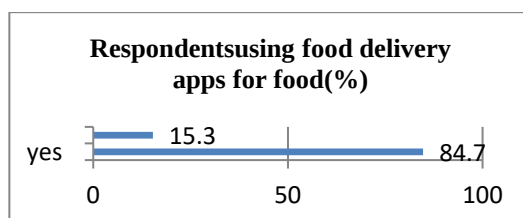
Female	Male
19.8	80.2



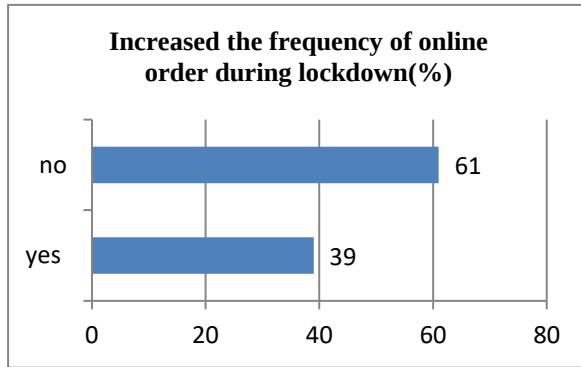
Age Group	Response
15-24	107
25-34	1
34-44	2
45-54	1
55-64	0
65+	0



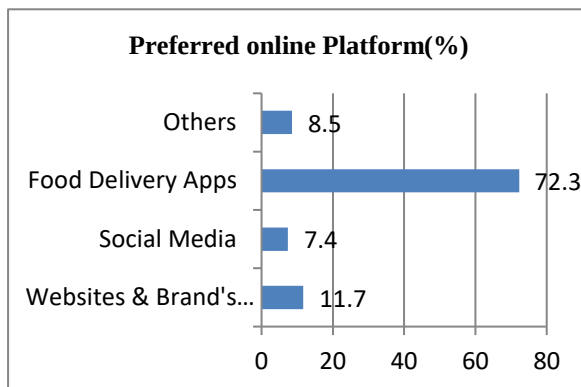
Marital Status	Response
Single	108
With spouse	3
Divorced	0
Widow	0



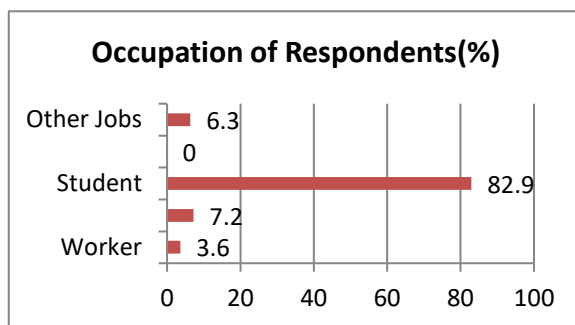
Yes	No
84.7	15.3



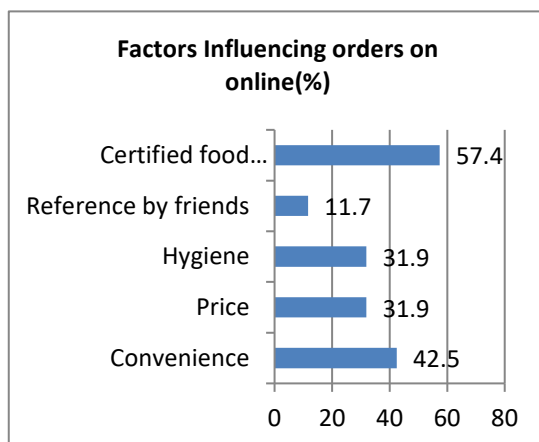
Yes	No
39	61



Preferred online platform	Response
Websites & Brand Apps	11
Social Media	7
Food Delivery Apps	68
Other	8



Occupation	Response
Worker	4
Office	8
Student	92
House Wife	0
Other Jobs	7



Factors Influencing Ordering	Re-sponse
Convenience	40
Price	30
Hygiene By Self Assessment	30
Reference by Friends	11
Certified food Hygiene Facilities and food Source	54

Changes Observed by respondents in their attitudes towards choosing the food products from online market due to pandemic

S. No.	Statements	Strongly Disagree(1)	Disagree(2)	Neutral(3)	Agree(4)	Strongly Agree(5)
1	Switching from Non vegetarian food items to vegetarian food items	33%	18%	19%	18%	12%
2	Ordering hot food instead of food which is served cold	16%	21%	32%	16%	15%
3	Checking views and comments of customers about food before ordering	21%	27%	30%	11%	12%
4	Ensure to look at the high hygiene levels	11%	5%	24%	34%	26%
5	Decreased the frequency of ordering food	11%	12%	27%	32%	19%
6	Started going through the customer complaint handling reviews	9%	5%	13%	23%	50%
7	Inquired about the packaging material of food	12%	13%	36%	21%	18%
8	Started using online payment for my food instead of cash	9%	14%	28%	31%	19%
9	Influenced by those apps which had frequent medical checkups of staff and sharing the information online	14%	4%	26%	24%	32%
10	Opted out of ordering raw food (uncooked) preparations from online apps	9%	13%	22%	22%	34%

Relative Importance Index of Expectations of respondents in future due to COVID-19

Relative importance of index = Sum of weights (1W1+2W2+3W3+4W4+5W5)/A×N

W1= Number of Respondents for Strongly Disagree

W2= Number of Respondents for Disagree

W3= Number of Respondents for Neutral

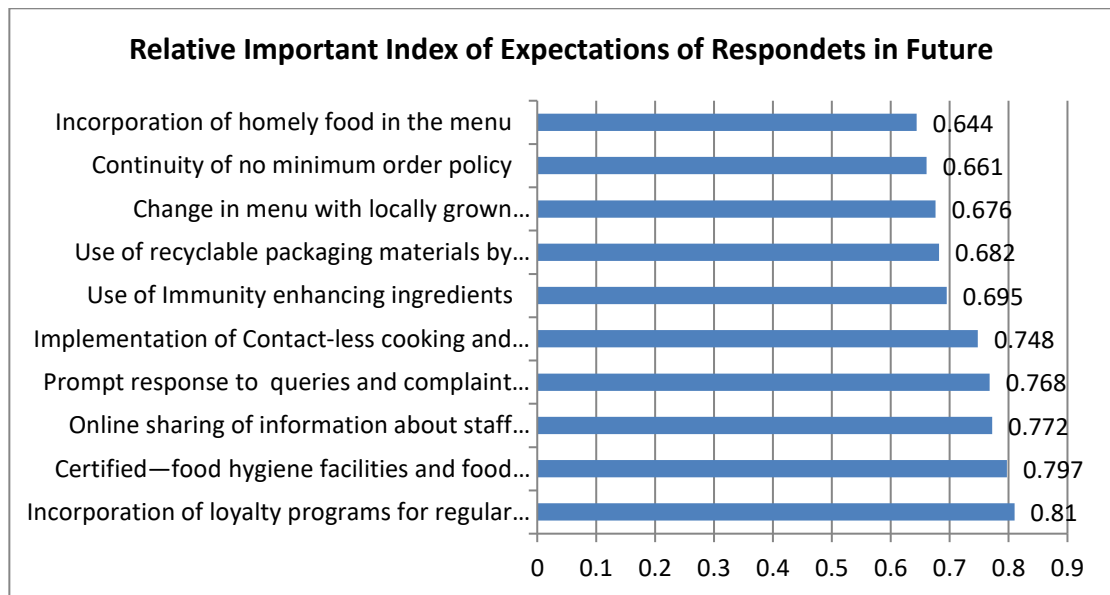
W4= Number of Respondents for Agree

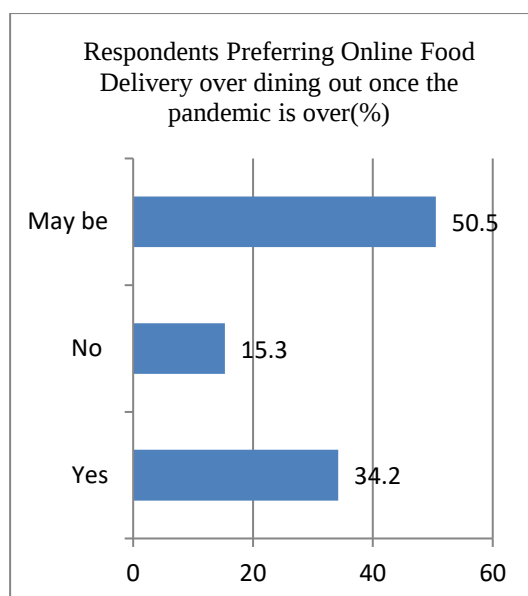
W5= Number of Respondents for Strongly Agree

A (Highest Weight) = 5

N (Total Number of Respondents) =94

Rank	Statements	Relative Important index
1	Incorporation of loyalty programs for regular customer	0.810
2	Certified—food hygiene facilities and food source	0.797
3	Online sharing of information about staff health status	0.772
4	Prompt response to queries and complaint of customers	0.768
5	Implementation of Contact-less cooking and delivery systems	0.748
6	Use of Immunity enhancing ingredients	0.695
7	Use of recyclable packaging materials by online apps	0.682
8	Change in menu with locally grown ingredients	0.676
9	Continuity of no minimum order policy	0.661
10	Incorporation of homely food in the menu	0.644





Yes	No	May be
34.2	15.3	50.5

6 Research findings:

- Majority of respondents fall in age group of 15-24 years which establishes that online food ordering is mainly used by youngster who have more inclination towards readymade and fast food, being friendly with technology is also an important factor with youngsters.
- Out of total respondents who filled up the questionnaire, 84.7% were using the online food delivery apps for food; this indicates that there is untapped market for online food delivery even among the young generation.
- Among the Preferred online platforms Food delivery apps are being used mostly by the respondents which indicate the better reach of food delivery apps to target population.
- During lockdown the prominent factor which influenced the online food delivery as per the responses received is Certified- food hygiene facilities and food source followed by convenience of respondents.
- Change in attitude observed by the respondents due to pandemic, interestingly includes the going through the customer complaint handling reviews and opting out of ordering raw food (uncooked Food) preparations form online apps. This makes us aware that the change in awareness levels of respondents is as per the ongoing situation.
- Relative important Index for the future expectations of the respondents due to COVID-19 is highest for Incorporation of loyalty program for regular customers followed by Certified- food hygiene facilities and food source. The urge of getting hygienic food and rewards for ordering can be clearly seen in response.
- More than 80% of the respondents are positive towards ordering from online food deliver after the pandemic times as well (while one-third of the people being ready to choose it over eating-out); it indicates that the system has been successful in winning the customers trust despite the day to day operational flaws and issues.

7 Conclusion:

This study was conducted with an assumption that online food delivery market is growing rapidly and it's adding more people to its customer's base every day. The findings of the study strongly indicates that the potential and existing customers have changed their attitudes during the covid-19 towards ordering from food apps keeping in view of the reality of staying at home and having very less options for eating favorite foods. Due to this the respondents turned towards the food delivery apps with the expectations of getting food which was prepared as the government guidelines and also was hygienically safe.

The future of food delivery apps depends on their adapting to the customers' demands and designing their products and policies around the ever changing attitude of the customers.

The customer has certain demands from the business always, and a few of the major expectations that were received while undergoing this research were:

- Continuance of providing the hygienic food
- Providing attractive offers to the customers.
- Punctuality in delivering the orders.
- Implementation of contact less delivery system by all the providers.
- Businesses to be more open towards sharing the information of staff hygiene and food cooking methods with customers.
- More flexible hours in terms of ordering the food (if possible, make it 24x7).

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COVID – 19: Concern and Challenges for fine dining Restaurant operators on re-opening/ unlocking in North Bangalore

Pramod Naick¹

1 Introduction

India reported its first Covid 19 case on January 30, 2020. On 28th September, 2020, the country reported its 6 millionth case. This after the nation underwent a total lockdown and then gradual reopening of the economy as it was impossible to sustain the economic loss that was being suffered by the nation in lieu of the lockdown. As the nation re opened, the cases mounted and as per the latest reports, considering the huge population and the type of spread we have witnessed, India is still far from herd immunity as per Indian Council of Medical Research.

Of course hopes are pinned on the safe delivery of the commercial Covid Vaccine as a means to overcome the pandemic, however, if reports are to be believed it is still a few months away and further, vaccinating a population like ours is going to be indeed a humongous job that shall take time and cost.

As India started reopening its economic activities, one of the high risk area that was identified and hence permitted to open last was Fine Dining that too with extensive protocols to be followed. The Corona virus spreads ideally in closed spaces, and the typical fine dining environment, which entails removal of face masks for long periods, is considered to be extremely conducive to the spread of the virus. However, most restaurant associations assert that the risks can be allayed by following safety protocols. It is a surety that keeping restaurants closed was not only causing a huge economic loss, it was also creating a huge loss of occupation which had many ripple down effects.

Restaurants, especially fine dining have had to undergo plenty of changes to allay the fear of diners getting infected as well as to make the dining experience safe and wholesome. This entailed giving up many traditional practices and adopting some which during pre covid days would have been certainly not acceptable to restaurant owners and the customer alike. Bangalore, The Garden City of India, like most cities across India has suffered majorly due to the Covid 19 pandemic and to further detail, one of the worst hit businesses had been fine dining. Although Government of Karnataka is robustly trying to perk up business, the fine dining business was among the last avenues to be opened by the graded Unlock programme. Bangalore was also the most severely affected city in terms of Covid load in the country behind only Mumbai and New Delhi.

As the city fine dining restaurants slowly started on the path of recovery, the way ahead was extremely challenging. In fact, many outlets decided to shut shop as they felt fine dining under the new norms may not be feasible. This was more noticeable in the newly developed areas of Bangalore which relied on business travelers, IT sector and had less family diners as compared to business diners. One of the typical areas in Bangalore in this category was North Bangalore and the peripheral ring road area, which has the maximum Tech parks and airport centric travel. It was with this background that the author felt that the topic would be ideal for a study and may provide useful insights into the slow path of recovery that lies ahead for the owners of fine dining restaurants in North Bangalore.

North Bangalore, which boasts of the upcoming area which sprung up around the International Airport, typically identifies itself with the business clientele who frequented the city. The study also took responses from restaurants attached to hotels in large tech parks, which again relied heavily on business travelers and residential units built around the parks.

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2 Objectives

- Understand the concerns of fine dining in Covid 19 times
- To list the challenges faced by the fine dining industry due to Covid situation as it tried to slowly emerge out of the lockdown and establish them all over again
- To establish the change in service delivery adopted by fine dining restaurants to win the confidence of the diners
- To appreciate the success of measures taken by restaurants, in removing fear from the minds of diners
- To comprehend new trends in menu planning to attract diners post re opening in covid times

3 Data collection

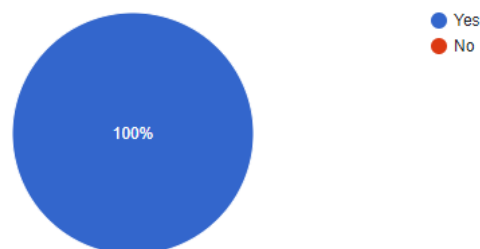
Primary data was collected by means of a structured questionnaire that was distributed to fine dining restaurant management, including owners and senior management staff attached to fine dining restaurants in and around North Bangalore. 50 questionnaires were floated in form of a Google form and 15 responses from well known restaurants were documented. Clarification of responses was made by telephonic interviews which helped the author to further firm up on the conclusions made. Secondary data was used to supplement and verify the findings of the primary data. Secondary data was collected from reliable sources on the internet and from articles in national newspapers.

4 Findings of the study

1. All respondents agreed that they were fully prepared to reopen the outlet with covid 19 protocols. They had practiced social distancing by increasing aisle space, reduced seats per table. This however had led to significant reduction of covers.

7. Have you practiced social distancing by increasing aisle space, reducing seats?

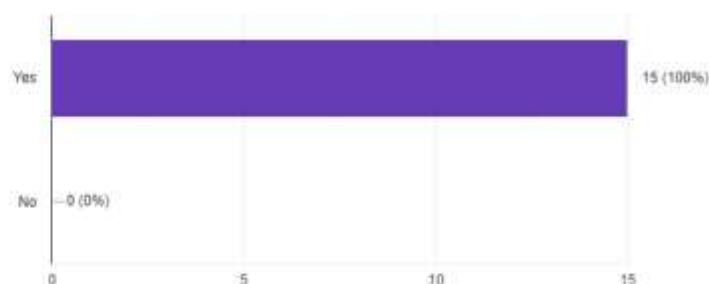
15 responses



2. All respondents were unanimous that raw materials entering the outlets had to undergo sanitization procedures. This resulted in higher costs and lesser inventory as shelf life of raw materials especially perishables is further reduced due to the process of sanitization.

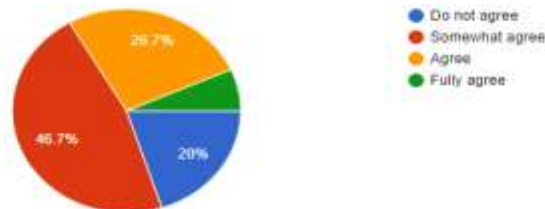
8. Do you sanitise the raw materials entering your establishment?

15 responses



3. The preferred style of service even in fine dining is no longer silver service. With lesser contact and higher demand for sanitization, extensive silver service was being replaced by pre-plated service, which adapts to lesser waiter and chef interface much better than silver service.

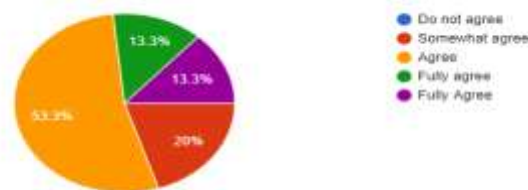
9. Post re opening, with new protocols in place customers would still prefer Silver service:
15 responses



66.7 % of respondents were not in favour of silver service in the changed scenario of reopening with covid 19 norms.

4. Majority of fine dining restaurant management have introduced new measures to instill confidence among diners. These norms are here to stay. Some of the measures that have been adopted include contactless doors, self parking by guests, body temperature checks, use of personal protection kits by staff and guests which includes sanitization of hands at the entry door and use of QR coded menu for contactless ordering and settlement of bills by use of technology.

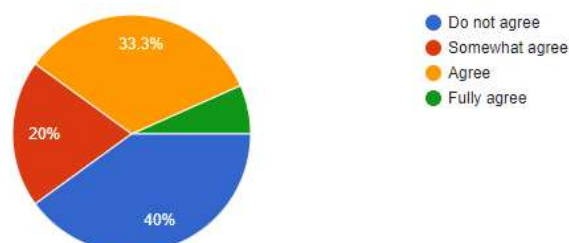
10. Facilities like contactless doors, self parking by guests, temperature check at main door, hand sanitization facility at entry door and QR codes for F&B menu have become essential features of Fine Dining restaurants post Covid 19:
15 responses



80% of the respondents are in agreement that these norms have become an integral part of the fine dining experience being offered by the outlets. They expect these norms to remain a part of fine dining experience for some time in the future as these are confidence boosters for guests and staff alike.

5. Fine dining has always been rather exhaustive and detailed. Though restaurant management realize that smaller menu can save costs, the majority have retained exhaustive menu rather than curtailing the choice for customers.

11. Instead of exhaustive menu, smaller health centric menu are being sought by customers:
15 responses

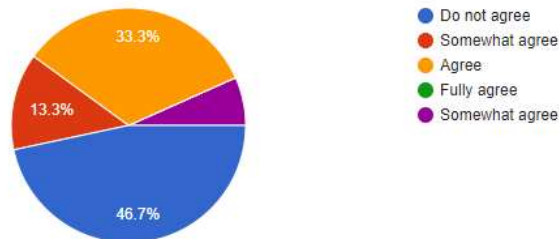


60% of the respondents felt that menus should remain extensive and reduction of scope of the menu would adversely affect customer confidence and goodwill of the establishment.

6. Use of Ayurvedic knowledge and a shift towards vegetarian food has been advocated throughout the pandemic. Though respondents say a shift towards Ayurveda, immunity foods has been noticed, yet the demand for Non vegetarian food remains. Hence shifting the focus towards vegetarian diet is still not an option for the fine dining restaurant owners.

12. With the Covid 19 pandemic demand for Ayurvedic foods , Vegetarian diet has been more from customers:

15 responses



60% of the respondents felt that guests in fine dining would still prefer outlets that offered non vegetarian selections. Hence a shift to purely vegetarian dining was not an option yet in the fine dining outlets in North Bangalore. Diners frequenting fine dining outlets in North Bangalore have been satisfied with the protocols being adopted by the restaurants. A significant majority are happy and confident with the precautions and restrictions placed to make the dining experience a safe one. 73.3% of customers are satisfied and confident of the measures put in place by fine dining outlets.

7. To cover the loss of revenue caused by loss of covers due to social distancing and need to increase aisle space, majority of fine dining restaurants have created a drive in facility so that guests could dine in their cars. Take away has been promoted and sales through aggregators for door delivery has been accepted by fine dining restaurants who were earlier rather reserved towards packing foods as well as door delivery as they felt that the taste of food suffered if it was not eaten fresh. Reheating food at home was also not considered good by chefs. However, with customers' feeling safer within the four walls of their home and at best in their cars so as to avoid social contact this feature has been adopted and promoted by the fine dining restaurant management in North Bangalore. Outdoor catering has also been promoted by restaurant owners, so that customers can dine in the safety of their premises with chefs providing the same meal experience at the customer's site of preference.

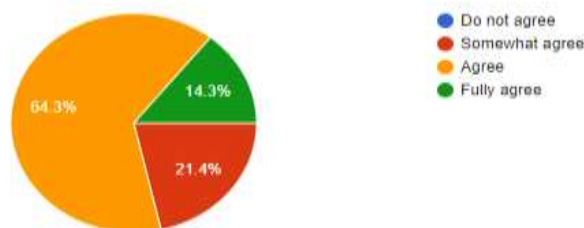
13. The measures taken by food service outlets have infused sufficient confidence in the customers to dine out again

15 responses



14. Fine Dining outlets have promoted drive in and take away facility to promote business

14 responses

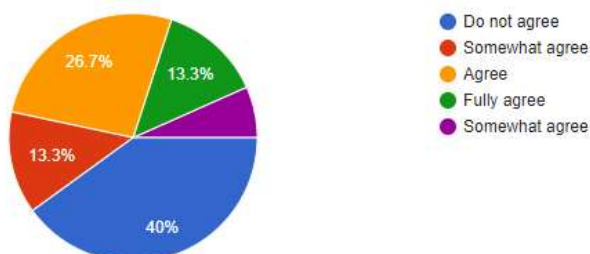


78.6% of the respondents said that drive- in and take away were being actively promoted to augment restaurant sales in the fine dining outlets.

9. Raw material procurement went through a lot of restrictions during and post lockdown. Packed foods and processed food were considered unhealthy as compared to fresh ingredients. However, fine dining outlets continue to rely on packaged and often imported ingredients. On enquiry though, the reliance on these was being reduced and locally sourced raw materials have become the mainstay, especially with most English vegetables, exotic herbs and spices being produced in India.

15. Locally sourced raw materials are replacing packed and imported raw materials post Covid 19

15 responses

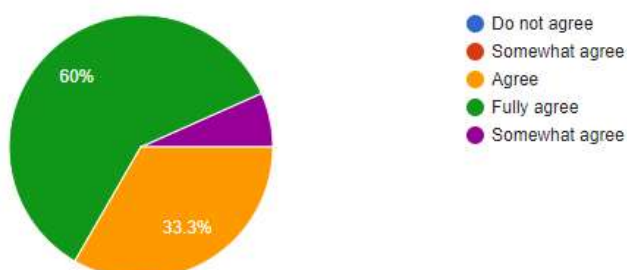


A marginal majority of 53.3% believe that they still need imported and packed raw materials. This however is a significantly lower number as compared to pre covid times, where a much larger number of restaurant owners used to prefer imported ingredients to local ones.

10. Corona virus is known to be highly virulent which spreads through contact points. Hence sanitization of kitchen and pantry which includes the food pickup and dish wash area was a key concern so that safety of the customers could be ensured. An overwhelming majority of the respondents agreed that the back areas were being sanitized after each shift. This is a tedious process as well as incurs costs. However the author found that the compliance to this need was almost unanimous.

16. Kitchen, pantry and back area is being sanitized after each shift in your outlet

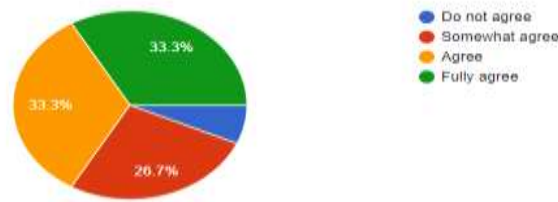
15 responses



93.3% of the respondents agreed that the back areas, kitchen and the pantry were being sanitized after each shift.

11. One of the biggest fallout of the lockdown was the large scale return of migrant workers who were left helpless by the pandemic. The restaurant business of Bangalore had been always reliant on migrant workers as serving staff, semi skilled kitchen staff and in many other capacities. Hence the impact of return of migrant workers from cities it was felt was a significant area to be clarified. A majority of restaurant owners and management feel that that return of migrant workers from Bangalore to villages in West Bengal, North East, U.P and Bihar has meant that the restaurants have acute shortfall of skilled and semi skilled workers. This has led to higher labour costs which are adding to an already fragile economic viability of the restaurant business in Bangalore.

17. With migrant workers having left Bangalore post Covid 19 acute staff shortage is adversely affecting reopening of fine dining business
15 responses



67% of the respondents feel that the fine dining business in Bangalore is adversely feeling the impact of loss of migrant employees.

5 Limitation

Bangalore was among the last cities to open up fine dining after Unlock steps were announced by the Central Government as the state had seen a huge load of Corona cases after an initial success in dealing with the pandemic. Hence, till date many fine dining restaurants have only part opened the operations.

The study was therefore based on limited responses received. North Bangalore being close to the International Airport and business around air travel has been the most severely impacted area in Bangalore with air travel being still very much on a limited side and international travel restricted to only ferry of stranded nationals.

This study was conducted with purely academic interest and should benefit students, my colleagues in the hospitality education sector and restaurant owners to get an overview of fine dining operations in a city like Bangalore post Unlock procedures and restaurant operations there in.

6 Conclusion

The Covid 19 pandemic has severely impacted the food and beverage business, especially the fine dining section which typically called for luxurious closed area, personalized waiter service of which silver service was very common. The fact that dining out in such closed spaces without masks made it one of the most risky businesses in terms of risk of spreading the corona virus. Therefore even when business was allowed to re open after Unlock steps were initiated, restaurant fine dining was among the last to be allowed. Bangalore after an initial success in dealing with the pandemic was engulfed with a huge case load and till first week of November was reporting among the highest cases in the country. Therefore the state government held back the permission to open public places like malls and restaurants even after other parts of the country had permitted the activity.

This meant that restaurant owners had to face a huge financial challenge as costs like rentals, interests on loans and staff bills had to be footed. Consequently, the first means of cost cutting was salary cuts. Restaurant staffs were mostly migrant workers from West Bengal, U.P, Bihar and the North East. These workers in turn, unable to meet expenses, returned home to their native villages.

As the unlock process finally came about in Bangalore, North Bangalore, which had flourished prior to the pandemic on the basis of air travel movement from the international airport and the IT corridor came to be one of the most severely hit zones of Bangalore as rentals were high but business travel, international travel came to a grinding halt and IT business called for work from home, which in many of the well known firms has been extended up to June 2021.

The restaurant owners and management either shut shop as they found the business no longer lucrative those who re-opened had a range of changes in operations that included:

- Contactless doors
- Self parking by guests
- Temperature check on guests entering the restaurant
- Provision of hand sanitisation at entry
- Spreading the furniture on the restaurant floor to create social distancing
- Every table having menu cards with QR codes for F&B menu
- Sanitising all raw materials entering the restaurant
- Following social distancing, minimal contact norms in preparation, pickup and delivery
- Insistence on masks or face shields for entry into the outlets

As the business demand was yet to pick up and people remained indoors, restaurant management have worked out alternative means to enhance revenue loss especially the buffet lunch which was very popular with the IT crowd during the weekdays. These measures meant moving away from some traditional concepts of fine dining. The study points to some of these trends as:

- Promoting drive in facility
- Take away counters in fine dining outlets
- Fine dining restaurants joining with aggregators like Swiggy and Food Panda as well as entering door delivery segment which was not common earlier
- A shift towards procuring raw materials that are locally procured
- Accepting the value of immunity foods long enshrined in Indian food history
- Continuing to offer guest with extensive menu and not curtailing choice
- Non vegetarian food continues to attractive to guests dining out concepts without meats are still in its infancy, although the demand for vegetarian food has grown post the pandemic
- Silver service or personalized waiter service have given way to contactless plated service
- Personalised order taking and feedback procedures have been replaced by app based ordering from mobiles and online payments which reduce waiter guest interface to the minimal

The concerns encountered by the fine dining restaurant management in North Bangalore mainly include:

- Revenue loss of almost eight months
- Business levels expected to remain low for at least 4-6 more months
- Higher labour costs due to return of migrant workers due to lockdown
- Closure of international air travel
- Limited domestic air travel
- High levels of fixed costs like rentals, interest on loan
- Work from home culture promoted by government and offices keeping away diners

To conclude, the restaurant business especially fine dining which was a flourishing business pre covid is reeling under the restrictions and costs that have to be incurred for opening the outlets with Unlock protocol in place. With Unlock process on, and many outlets opening up with the suggested protocol, it has been a rather difficult way ahead. The fear of the virus has kept customers at home. With months of losses and high overheads, fine dining business is struggling to come to terms with the impacts of Covid 19. The ray of hope though lies in the fact that a vaccine against the virus is now within striking distance. Like the nation as a whole, restaurant business is also dependent on normal economic activity which includes rail and air travel, both domestic and international, movement of tourists both for business and leisure and an economic recovery.

Though pre covid volumes may be still some distance away, the vaccine is the much awaited confidence booster that should truly revive the tertiary sector that includes travel and tourism and luxury dining. Till such time as this is a reality, restaurant owners especially in metros like Bangalore, shall continue to try and innovate and accommodate what little business they can manage so as to make both ends meet. Profits if any shall be minimal, and the vision shall be futuristic rather than in the present. Hopefully this challenge like any other in the past shall be tided over and soon fine dining would flourish very much like it used to. After all, the success of mankind has hinged around the adaptability of the race. Covid should soon be another challenge from which we emerged stronger.

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New preparedness of Rooms Division post Unlock – 1 in three selected Hotels; Hyatt Regency Ahmedabad, ITC Royal Gardenia Bengaluru & Taj Lands End Mumbai

Vinay Namjoshi¹

Abstract. Hotels have been a very eternal part of world's economy. This industry has been witnessing many revolutionary changes since centuries. Covid 19 pandemic has been one such phase of the world's transformation which has made almost every walk of life to think and reframe its existence. Hotel Industry has been affected economically, strategically, operationally badly due to Covid 19 pandemic 2020. Hotel industry must restructure its sales and marketing strategy in attracting the business back. In the time of fear of moving out, convincing guest to travel and occupy accommodation in hotels is a big challenge for Hotels across the globe. In such a scenario, Hotels must focus on their potential business givers i.e. Business clientele. Hotels could offer good working place following Covid 19 safety protocols to their business travelers. To determine the maximum business thrust, Hotels should aim offering good 'Work from Hotel' culture packages to its prospective target market. Business travelers are the first key segment under tourism who would prefer to move out to run the economy of any nation. In this situation, formulating strategies should revolve around Business Traveler. This study will examine the impact of Covid 19 on the Hotel Business and would also establish the viability of business revival by developing some key strategies to attract Business clientele.

1 Keywords: Business Traveler, Revival, Strategy, Revenue, Marketing, Covid 19OBJECTIVE

This research is accomplished with objectives

- To perceive revival strategy for hotels to move on Covid 19 pandemic situation
- To observe and analyze the impulse of prospective business travelers
- To examine the viability of Concept of 'Work From Hotel'
- To probe the future notion of MICE segment in Revenue Activation for Select Hotels in the study

2 INTRODUCTION

Hotels – Home away from Home, truly have made their economic place in the World trade since its inception. The hotel has been instrumental in fulfilling the needs of a traveler across the globe. It has witnessed many phases of evolution. From Caravanserais to Monasteries, from Abbeys to Staging posts, from Dharamshalas to Musafirakhana, from Taverns to Inns, from just a verandah to Modern Hotels. It has seen every phase of change and witnessed different evolutions of mankind. From the Stone Age to Artificial Intelligence, Hotel has been adapting the different environmental, social, economic and global changes. The hotel has seen its own version in a complete manual form where everything was managed, recorded manually. The same Hotel is also witnessing a new version of its where the guest experience is mounted on artificial intelligence from automated door operating systems to fully PMS (Property Management System) managed Information Technology, from Self Check-In counters to QR code-based Menus. The hotel has been an eye witness of World War I to World War II, of freedom fighting to world's deadliest terrorist attacks. In being of constant changes, Hotel has never stopped giving its best. It has always carved its own art in the heart of a traveler.

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The YEAR 2020:

The year 2020 has been exceptional in all these years. The year which had given the first-rate beginning for Hospitality World in the first financial quarter. As per The Economic Times report dated 12th November 2020, the Hospitality world especially in India has witnessed 52.8% decline in RevPAR in the third financial quarter.¹ This happens to be a major game-changer point for the business. Covid 19, an infectious disease brought the entire world at halt from mid of March 2020. As per WHO reports, this virus has infected more than 7 crore population of the world.² This disease forbids complete human activities in the world and India nearly for 70 days; banning absolute human face to face interaction and motion activities. This hit the world terribly in every sense. All attainable things one can think of were at stock-still. The world economy was witnessing dip fall and fright of losing jobs. All sort of business pursuits lost its momentum and out of the race. From enormous commerce outline to nanoscopic trading suits were scuffling for survival. Till today the condition has not been refined acceptably. These travel restrictions imposed by government of different regions have cost tourism industry a huge loss of \$200 billion at global level (Ozili, 2020). In response to the pandemic, within the timeframe of months, the global tourism shrinks from over tourism to no tourism (Conde Nast Traveller, 2020), once the alleys bustle with colors and songs of tourist are now in a dark silence, as like waiting for someone to light a candle. Sharma, B. & Dolkar, R. (2020). Impact Of Covid-19 On Tourism & Hospitality Sector In Union Territory Of Ladakh. Hotels have been miserably struck in the Covid hurricane. As we know Hotel business is only survived on human movement. People travel from one place to other and seek accommodation in hotels is the only inducement of the hospitality existence. This pandemic brought this vary purpose of existence of this beautiful human-oriented world of hospitality to a standstill.

Reservations were cancelled, restaurant bookings, banquets bookings, business centres footfall, were withdrawn. Hotels missed a breath to breathe. Sarovar anticipates 12-15% decline in revenue per available room for 2020. Intercontinental hotels group anticipates global RevPAR decline of around 60%.³ All of a sudden the lifeline of this luxurious industry was witnessing straight sleeping line on cardiac monitoring device with wide-open eyes. Bellboys were waiting at their doorsteps for any human moving around with ray of hope. Guest Relation Executives were ready with 'Diya' in hand to welcome the new corona free world on April 5. All the chefs were geared up to prepare healthy, nutritious, immunity booster shots. All the waiters were masked and hand gloved for hygienic food service. All the house-keepers got trained well in sanitizing the world. But the hotels were deserted. Hotel's every corner were waiting for human faces. Many such shining stars from hotel personnel have been laid off from the trade. Hotel's balance sheets were imbalanced where the expenditures were topping the chart over earnings. The hotel industry is not seeing this turbulence first time since their inceptions. They are not new to adapt and accommodate this transposition.

HOTEL REVIVAL STRATEGY:

In the midst of this darkest hour, history and experiences propose a phenomenal approach to revive the business thrust of the hotels. Every hotel has been receiving different types of clientele in its life cycle. This includes Business Clientele, Leisure Guest, Families, health and wellness travelers etc. Out of all only Business Travelers can be hotels breathing partner in this life-saving ordeal. Unlock stages has been giving some privilege to trading units, commercial outfits. In this opportunistic hiccups, hotels must make good use of this privilege given to the world. A lot of business bodies have opened their trading affairs with all possible precautionary protocols. The world has started witnessing a few crawling movements of such commerce outfits. Few haven't opened their own businesses houses but have asked their employees to pour motion into the market. This activity movement of such employee has brought breathing sign to Hotel Industry also. As they move around, would look for a safe, secure, hygienic accommodation outfit where they can touch and feel the normalcy. Hotels should grab this opportunity to give throttle stroke to its operations which are seeing a deathbed. Every type of hotel whether City or Resort or Suburban can accommodate such opportunity with great pleasure. Hotels in this case may propose the concept of 'Work From Hotels – WFH' to such business commuters. As it was mentioned many commercial outfits have not opened their business headquarters and workplaces especially Information Technology industry, they may look for such a viable place to open up their professional gatherings and meetings. The concept of Work from Hotels may provide a relaxed approach to conduct occupational activities in the outside world with utmost care and safety and with the feeling of ease to these prospective business givers. This may give a boost in the income side of the balance sheet of the hotels.

Hotels may engage its employee with a great amount of motivation to move on. Such places can be hired for a couple of months or maybe for six months and can be made their business hub in the open market.

Apart from offering hotel rooms as business suits, hotels can also target lone commuters for trading and commerce. Their room business can be oxygen for its operational life. Hotels can offer bankable offers with room rates suiting to the pockets of such reviving clientele. Offering Office at the Hotel could bring up a handsome amount of rent from big commercial outfits. Along with Offices, they may propose company employee to stay in the hotel's safest, cleanest, sanitized environment and continue their professional pursuits from the hotel itself. Hence this kind of offer brings accommodation as well as food & beverage sale to the hotels.

Hotels may offer the following services to make "Work from Hotel" concept compelling.

- Free Wi-Fi facility
- Personal Butler for Business activity
- Meeting rooms with touch-free wireless projectors, audiovisual devices
- Small gathering area with f & b facility
- Postal services
- Stationery services
- Contactless check-ins and Checkouts
- STD – ISD calling services
- Wake up call services
- Laundry Services with laundry sanitizing concept etc

These services indeed add the value to the package and would satisfy the business need of an individual. Therefore hotels and online booking OTA platforms to create focus around strategic and marketing effect on the attributes to gain visitor's attention. IHCL – Indian Hotel Company Limited which is a parent company for Taj Hotels – Luxury and resort properties, the only pioneer hotel company in India has also mentioned in The Economic Times Edition dated: 24th June 2020,5 that many business guests are signing up to work remotely at their different properties. This statement embraces the concept of 'Work from Hotel' – WFH concept for their business properties. Taj Lands End, Mumbai, one of its luxury hotel brands located at the heart of the Mumbai City, Bandra could also focus on importing such concept in their hotel to revive their business thrust. Mumbai has been appraised as Economic Capital of India. Hence property like Taj Lands End located at economic hub destination could indeed make the most out of this opportunity. At the same time, another Luxury brand of Hotels in India, namely ITC Hotels, offer Day – Use Packages for Corporate Executives & Business Travelers on the move with complimentary board rooms for two hours to conduct meetings at most ITC and Welcomhotel properties, as per The Economic Times Edition dated: 24th June 2020. 6

This news also supplements the concept of 'Work From Hotel' – WFH. One of their business properties set up in Bengaluru, ITC Royal Gardenia and other ITC properties do offer WelcombreaK all-in getaway package where customers can book now and pay later. Hence this concept introduction also invites positive revival strategic points for Revenue generation. In a published interview in B W Hoteliers, Mr. Ashish Shome, General Manager, Hyatt Place, Gurugram mentioned MICE – Meetings Incentives, Conferences & Exhibitions clientele are the most well liked in demand for revival of Hotel Revenue. As per his statement, MICE is helping hotels to gain occupancy % by day use or weekend staycation. This notion of the market could help business hotels of Ahmedabad to get back into Business drive with revenue generation also. Hyatt Hotel in Ahmedabad has been onlooker for such opportunity in the market of Ahmedabad. This design future guest footfall shall encourage the economic revival.

3 METHODOLOGY

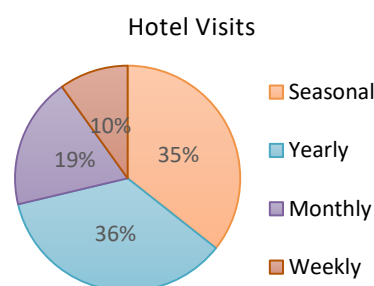
This research is carried out through Exploratory Research methodology. Since the concept of Work from Hotels and targeting Business clientele would need group of prospective respondents to be explored with possible questions, Exploratory Research would give space to look for all possibility of viability. Through this method, Data is collected through Online Survey; sending questionnaire to the prospective

respondents over an email, social media platforms. The questionnaire is prepared on online survey platform. The data is analyzed through pie chart method and NPS method. The questionnaire can be observed in Annexure – I. This choice of methodology is classic in attainment of the desired outcome. The questions formed are closed ended and are appealing the respondents to answer as per their experience.

4 SURVEY ANALYSIS

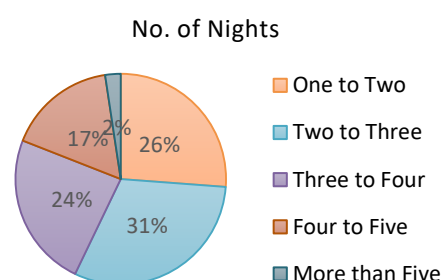
This research paper has doubtlessly brought some worthwhile findings to revitalize the essence of business. Some 42 respondents (frequent hotel visitors) have given their valuable opinions. The findings are furnished below:

As per the survey conducted, 36% of respondents visit hotel seasonal and yearly, wherein 19% visit monthly and 10% visit weekly.



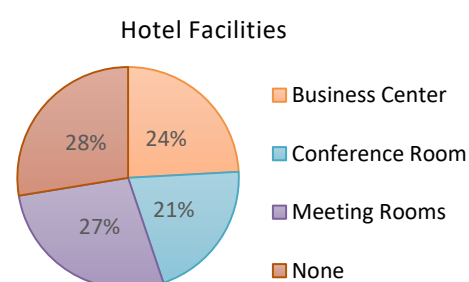
(Figure 1)

As per the survey, the number of nights they would stay in hotels during their official visit, 26% respondents stay for 1 to 2 nights, 31% stay for 2 to 3 nights, 24% stay for 3 to 4 nights, 17% stay for 4 to 5 nights and 2% stay for more than 5 nights.



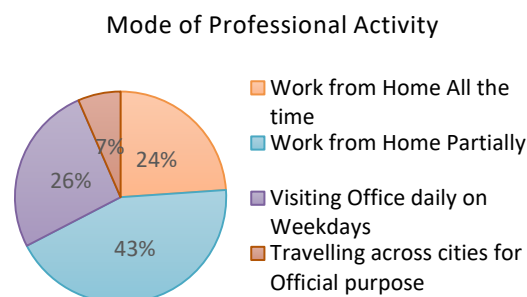
(Figure 2)

The survey stated that all facilities other than accommodation and food and beverage, 28% of the respondents prefer to use Meeting rooms on their every visit, 24 % prefer to use Business centre on their visit, and 21% prefer to use Conference Room on their business visit. The rest 28% would only prefer rooms with meals.



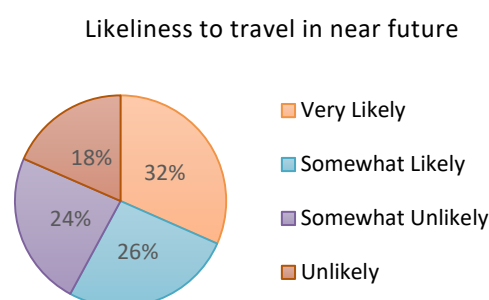
(Figure 3)

The survey concluded that guest's mode of professional activities post unlock 1, 43% of the respondents say they have to partially work from home and partially visiting the office, 26% of the respondents say they have to visit their offices daily on weekdays for their professional pursuit, 24% registers that they can work from home fully, wherein 7% admit that they have to travel across various cities for the official purpose.



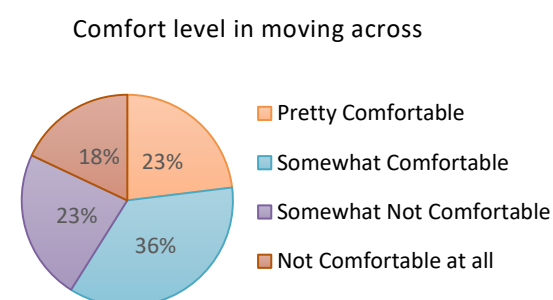
(Figure 4)

The survey stated that likeliness of the guest being asked to travel by their office in near future; 28.6% say it is very likely that they will be asked to travel, 23.8% say it is somewhat likely to be asked, 21.4% say somewhat unlikely and 16.7% say they are absolutely unlikely to be asked.



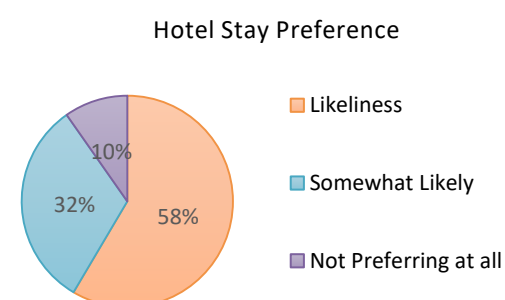
(Figure 5)

The survey concluded guest's comfort in moving across the cities for an official purpose; 21.4% respondents are pretty comfortable, 33.3% are somewhat comfortable, 21.4% are somewhat not comfortable and 16.7% are not comfortable at all in moving across.



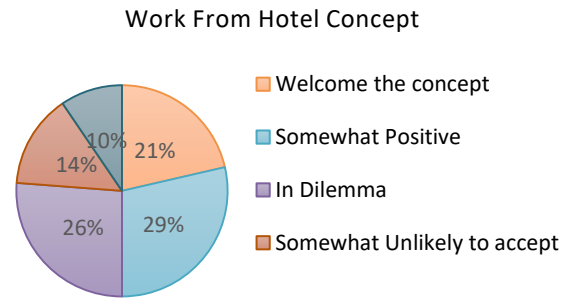
(Figure 6)

The survey showed the options of preferring to stay at hotels which provide guest safer environment; 57.1% expressed their likeliness, 31% are somewhat likely to stay at hotels, 9.5% are not preferring to stay at hotels.



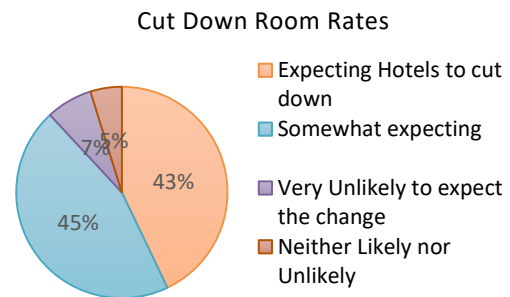
(Figure 7)

The survey showed the options of preferring to adopt the concept of "work from hotel" on weekdays; 21.4% respondents welcome this concept, 28.6% are also somewhat positive in adopting this concept, 26.2% are still in dilemma whether to welcome or not, they are indecisive, wherein 14.3% have shown somewhat unlikeliness towards this concept, and 9.5% are absolute not preferring to adopt this concept.



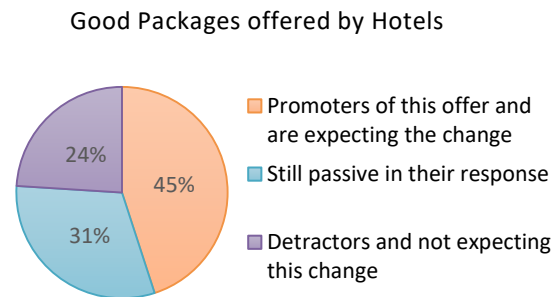
(Figure 8)

The survey concluded that guests expect the hotels to cut down the room rates in this pandemic; 42.9% are expecting to cut down, 45.2% are also expecting somewhat, wherein 7.1% are unlikely to expect this change, 4.8% are neither likely nor unlikely to expect the change.



(Figure 9)

The survey concluded that guests expect some good packages offered by the hotels to business travelers in this pandemic; 45% of respondents are promoters of this offers and are expecting the change, 31% are still passive in their responses, and 24% are detractors and not expecting this change of package. Hence the Net Promoter Score NPS stands for this survey 21 on a positive side.



(Figure 10)

5 FINDINGS

Consequently, if the findings are observed and analyzed;

- 73% of the respondent guests always prefer to use some of the business services like Business centre, meeting rooms, conference room; which we have proposed in our earlier proposal for Work From Hotel Package.
- In another finding, it is observed that 76% of our respondent guests have to come out from their houses for their professional need; which again keeps up our concept of Work From Hotel.
- Further 53% of our respondent are expecting from their offices to move out for business purposes, thus this generates the need for accommodation and food & beverage.
- 54% of respondents are pretty comfortable in moving across cities which again adds on value to our research.
- Hotels will be very happy to find out that 88% of the respondents are comfortable visiting hotels where all the safety protocols are followed in Covid 19. Thus this figure can be an eye-opener for Hoteliers to take some concrete steps towards restructuring their strategies.
- 50% of our guests have shown their welcoming gesture for Work from Hotel concept; which justifies our research concept for boosting the hotel economy.
- At the same time, 88% of our respondent guests are expecting some major revival in room rates with some good packages for business travelers.

6 CONCLUSION

All the above points of observation and analysis figure out that targeting business clientele would be the righteous strategical move for hotels to revive back. At the same time offering such a service like "Work From Hotel" may appeal the business need. The world is walking on the path of a new evolution and every segment of commerce is going to witness that conversion. Hotels have to push forward its strategic force to delight the need of such prospective business givers. Work from Hotels and targeting business clientele could be their throttle force at this moment in pandemic revival situation.

Hence Business Hotels like ITC Royal Gardenia, Bengaluru; a luxury hotel brand of ITC, Taj Lands End, Bandra, Mumbai; a luxury hotel brand of Taj Hotels & Hyatt Ahmedabad; 5 star brands of Hyatt Hotels could concentrate on their parent company's current strategic movement and taking above findings into consideration to revive their Business Revenue Strategy and setting up their Hotels with new normalcy. These hotels own more cured and superior theory of focusing and targeting corporate guests and could design their services suitably.

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Annexure I

Questionnaire

1. How often do you travel and stay at hotels for your official purpose before pandemic?

Daily	Weekly	Fortnightly
Monthly	Seasonal	Yearly

2. How many nights would you prefer to stay in hotels during your official visits to any place?

One to two	Two to three	Three to four
Four to five	More than five	

3. While your hotel visit, which all other Hotel facilities mentioned below other than accommodation & food - beverage do you use?

Business Centre	Conference Room
Meeting Rooms	None

4. What is your mode of business or professional activities after unlock 1 Covid pandemic situation?

Work from Home all time	Work from Home partially
Visiting office daily on weekday	Travelling across cities for official

5. How likely is it that you would be asked to travel by your office in near future?

Very likely	Somewhat likely	Neither likely nor unlikely
Somewhat unlikely	Very unlikely	

6. How likely will you be comfortable in moving across the cities for official purpose?

Very likely	Somewhat likely	Neither likely nor unlikely
Somewhat unlikely	Very unlikely	

7. While on your move, would you prefer to stay at hotels which provide you safer environment?

Very likely	Somewhat likely	Neither likely nor unlikely
Somewhat unlikely	Very unlikely	

8. How likely would you prefer to adopt the concept of "work from hotel" on week days?

Very likely	Somewhat likely	Neither likely nor unlikely
Somewhat unlikely	Very unlikely	

9. Do you expect the hotels to cut down the room rates in this pandemic?

Very likely	Somewhat likely	Neither likely nor unlikely
Somewhat unlikely	Very unlikely	

10. How likely are you to expect some good packages offered by the hotels to business travelers in this pandemic?

Very likely	Somewhat likely	Neither likely nor unlikely
Somewhat unlikely	Very unlikely	

Psychology of customers towards Operations, Pricing and Safety during Unlock Phase of Covid-19, with reference to select fine dining restaurants in Ahmedabad

Satish Singh¹

Abstract. Covid-19 pandemic has affected the hospitality industry the most. Majority of the restaurants and hotels have closed down during this pandemic. In the unlock phase the restaurants and hotels have started their business but have failed to motivate the customers for their services. Some of the customer started to eat outside food while majority did not preferred to eat outside, there is a massive change in the food service preference from dine-in to home delivery. People have trust issues related with hygiene & safety standards, there is a psychological barrier among the customers due to the fear of coronavirus for dining out in restaurants. The present research investigates the effect of Covid-19 on the psychology of customers towards the fine dining restaurants and hotels restaurants in Ahmedabad, also whether the consumers will permanently change their consumption habits due to social distancing and the pandemic or will go back to the older habits of dining out. It also explores the latest safety and hygiene standards adopted by the hotels to motivate the customers for fine dine-in service, the changes done during this pandemic in operations and service of food & beverage items. This study also makes an awareness for the owners of the restaurant/hotels whether the customers are ready to accept the fine dining service or not and what are their needs during this pandemic related with safety and hygiene as well as to understand their psychology.

Keywords: A Psychology, Customer, Safety Measures, Restaurants, Covid-19, Ahmedabad

1 Introduction

The COVID-19 pandemic, lockdown and social distancing regulations have completely changed the consumer's habit of going out and dining in the restaurants and other food outlets. The Pandemic has almost brought a stagnation to the hospitality Industry. Hotels and restaurants are one of the worst hit segments of hospitality sectors in the world. People all around the world have stopped consuming outside food and beverages as a concern over the safety and hygiene during Covid-19. The initial phase of lockdown led to the complete closure of the restaurants and other organised and unorganised food service sectors.

In the unlock phase, since June, 2020 the government has allowed hotels and the restaurants to reopen with certain strict guidelines and precautionary measures to follow mandatorily for a specified timings only. While the hospitality industry is still recovering, the COVID-19 crisis continues to exert profound impact on how hospitality industry business will operate and how it will bring back its customers and guests. The restaurants business has been affected in Ahmedabad too and many have closed down during this Pandemic. People of Ahmedabad are food lovers and love to dine out. The no. of hotels and individual standalone restaurants have been seen emerging in huge numbers in last few years.

New practices have been developed and emerged by the hotels and restaurants with the advanced technology as a concern over safety and hygiene related with food production and service. Customers have a combination of fear, excitement, uncertainty, confusion, readiness and stress. Some of the people have started eating outside food and while some still don't feel safe. Understanding the psychology of the customers is the need of the hour which will help the restaurants to live back again and provide an opportunity to do some changes in the safety and hygiene standards related with operations.

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2 Literature review

According to Anurag Katriar (2020) president of the National Restaurant Association of India said India's organised dine-in restaurants are on course for a 40-50% cut in revenue this fiscal because of the disruptions caused by COVID-19 pandemic, which have led to outlet closures, job cuts and trickle-down effect on the food supply chain. Many of the restaurants will closedown in the coming days and closure in bigger cities would be much higher due to higher cost of operations in these cities. Dining out in India is yet to bounce back and operating at 8-10% of pre-COVID levels. Slump in the industry is largely driven by markets being in lockdown, consumers not stepping out due to fear of transmission and restaurants not opening up, even if the city is not in lockdown" according to Zomato's mid Covid-19 report. Even in cities where restrictions have been lifted, only very few dining out restaurants are open for business at the moment which are also running at low capacity. Out of the restaurants that are not open for business, 10% restaurants have already shut down permanently and the Zomato's report anticipates an additional number of restaurants to not reopen at all. Some are closed right now but likely to open, as the situation become better. HatherLalley (2020) stated that most of the customers plan to decrease spending on dining out in the near future and some of this spend will shift to food delivery. Many of the restaurateurs said they estimate to retain less than half of their original business volumes for a few months even post-COVID. While online food deliveries were allowed even through the lockdown, they were only operational in select cities. Moreover, only 20% of the restaurants listed on online platforms were open for deliveries and they were also operating only at 40% of their normal sales volumes. Online food ordering has spiked despite consumers' initial hesitations and new customer segments emerge as pick-up and delivery become ubiquitous, also preference for food delivery brands varies for each generation. Cobe Patricia (2020) says that meat alternatives are playing a bigger role in brand loyalty as a result of the pandemic. A study also reveals the data that 30% of respondents would switch restaurant brands to satisfy their taste for plant-based meat alternatives, up from 23% earlier. It also states that the coronavirus crisis has changed consumer attitudes toward plant-based eating, according to a survey states that delivery orders are nearly split between first- and third-party. R. J. Hottovy (2020) states that the customers want to see restaurants following health and safety guidelines and face mask and 6-foot social distancing are givens, but this group of guests is looking for more. Over one-third of respondents want physical barriers between tables while some want personal hand sanitizers placed on the table and some want their food covered when it's served to them.

2.1 Health risk factor

According to Kussmamm, 2020, in order to attract customers to visit hotels and restaurants, they need to concentrate on improving perceptions of safety and reducing customer's anxiety level by implementing risk-reduction strategies. Implementing technology innovations for reducing guest interaction with hotel employees and for enhancing restaurant cleanliness can be an effective strategy to reduce health risk for the hotels and restaurants customer

Garcia, 2020 States that some of the hotels have implemented technologies that will reduce staff interaction with the customers. They have also updated their cleanliness procedures and began to adopt advanced cleaning technologies. The outlet cleaning procedure has also been adopted for enhanced disinfection (e.g., electrostatic sprayers, ultraviolet-light technology, etc.). These strategies will be critical for the restaurants to reduce actual and perceived health risks for the customers which may change their mind-set about the outlets

There may be a change in shifting priorities of the customers towards the restaurants and hotels. Leading restaurant's brand may be a factor to attract the customers for dine-in service. People while ordering the food may spend more time on ordering as they may check the safety and hygiene procedures are followed properly or not. The Covid-19 has made a huge impact on the psychology of human being for everything that surrounds us which includes our daily basic to luxury needs.

3 Objective

- To explore the latest changes adopted in food & beverage services and operations of the restaurants due to Covid-19 pandemic.
- To study the mind-set of the customers, their present need and requirement and different ways to motivate them towards the food and beverage outlets for dining out.

4 Methodology

This study has been conducted on 120 people (49 Male /54 female) with 74% of people of age group from 15-30 from Ahmedabad to understand their psychology regarding the acceptance of fine dine-in restaurant service.

- 2 Hotel's restaurant and 3 fine dine-in restaurant of Ahmedabad has also been considered for this study. Primary research has been conducted with collection of primary data through structured questionnaire with some open ended questions and telephonic Interviews corresponding to the source of data. 5 point Likert scale is also used to understand the perception of hoteliers and the restaurateurs about the guest's requirement and their needs, their psychology toward the hotels and restaurants during this pandemic.
- The hotel's restaurants which have been studied are Comfort Inn, Airport road Ahmedabad and Pristine Residency Ahmedabad, Barbeque Nation Hospitality Ltd, Prahladnagar, Hocco Eatery, (Kudasan) and Honest (Infocity) fine dine-in restaurants of Ahmedabad have also been considered for this study. Responses have been recorded from the General Managers, Restaurants Managers and Business Managers of different fine dine-in restaurants.

5 Analysis

Some of the hotel's restaurant and few standalone dine-in restaurants of Ahmedabad were explored and studied to know the latest practices followed and the various changes done in operations and the latest practices followed for safety and hygiene to motivate the customers towards their outlet for dine-in service.

Table 1. Changes done in the operations of the restaurants during unlock phase since June, 2020

Hotel/ Restau- rant Name	Changes in- Menu	Reduc- tion of Covers	Home Delivery Start up be- fore/ during Pandemic	Inclusion of disposa- ble For restaurant dining	Changes in service styles	Contin- uation of Buffet Service	Reduction in pricing of Food & Beverages
Comfort Inn	Yes	Yes (50%)	No	Yes	Yes	No	No
Pristine Residency	1) Reduced Non Vegetarian dishes 2) Discounts on food and beverages 3) Inclusion of Immunity booster dishes/ beverages	Yes	Yes	Yes	Yes	No	Yes

Barbeque Nation Hospitality Ltd.	Inclusion of Immunity booster dishes/ beverages	Yes (50%)	Yes	No	Yes	No	Yes
Honest Restaurant	No	No	Yes	Yes	Yes	No	No
Hocco Eatery Restaurant	Discounts	No	Yes	Yes	Yes	No	Yes

Table 2. Safety and Hygiene Practices followed during Covid-19

Hotel Restaurant Name	Use of Mask/Gloves By staff	Use of Sanitizers by guests and staff.	Temperature check of staff and Guest.	Social distancing in the restaurants between tables
Comfort Inn	Yes	Yes	Yes	Yes
Pristine Residency	Yes	Yes	Yes	Yes
Barbeque Nation Restaurant	Yes	Yes	Yes	Yes
Honest Restaurant	Yes	Yes	Yes	Yes
Hocco Eatery Restaurant	Yes	Yes	Yes	Yes

Table 3. Changes in psychology of guest's towards restaurants during Unlock Phase from restaurant's perspective

Hotel Restaurant Name	Guest Inflow for dine in service	Preference of Guest's for food service	Change in the guest preference towards Non Veg food during the pandemic
Comfort Inn	Poor	Room Service. In Restaurants Pre-portioned food on the table for the guests to help themselves, takeaway	No
Pristine Residency	Poor	Room Service Home delivery	Yes
Barbeque Nation Restaurant	Average	Pre-portioned food service on the table for the guests to help themselves	Maybe
Honest Restaurant	Poor	Pre-portioned food service on the table for the guests to help themselves. Takeaway.	Can't say
Hocco Eatery	Average	Home delivery, Takeaway	Can't say

6 Results

Q1. Preference for Dining out

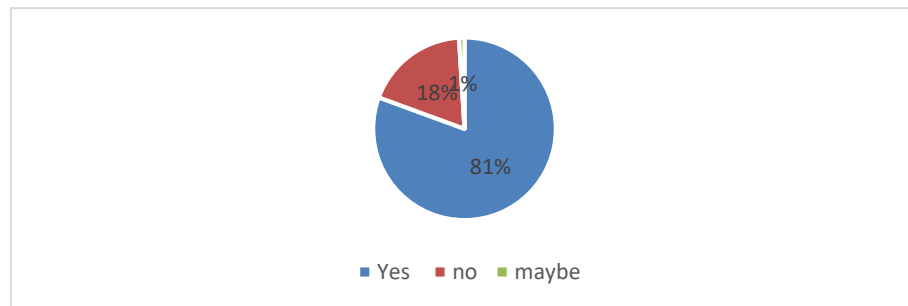


Diagram 1

Inferences: More than 1/3rd of the respondents they generally dine out.

Q2. Preference for food items before Pandemic

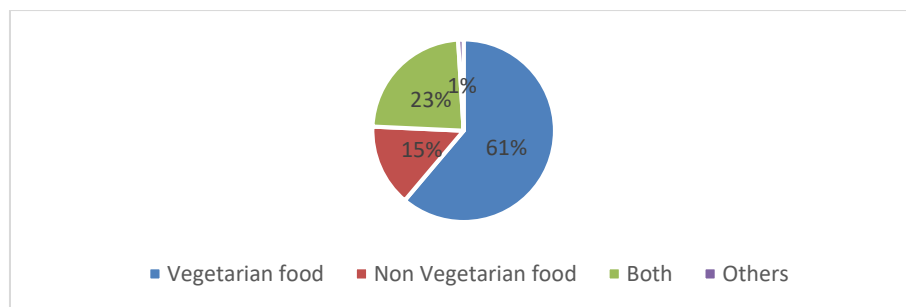


Diagram 2

Inferences: Majority of the respondents 61% preferred vegetarian food, 15% Non-Vegetarian and 24% preferred to eat both Vegetarian and non-vegetarian food

Q3. Preference for food items During Pandemic

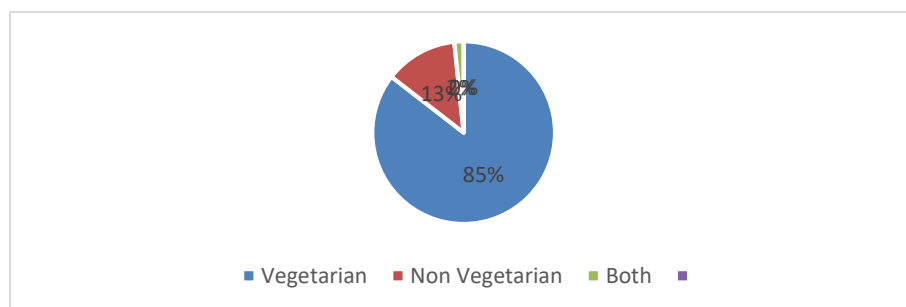


Diagram 3

Inferences: 85 % (Majority of the customers like to prefer Vegetarian food now during Pandemic.

Q4. Frequency of dining out before Covid -19 Pandemic.

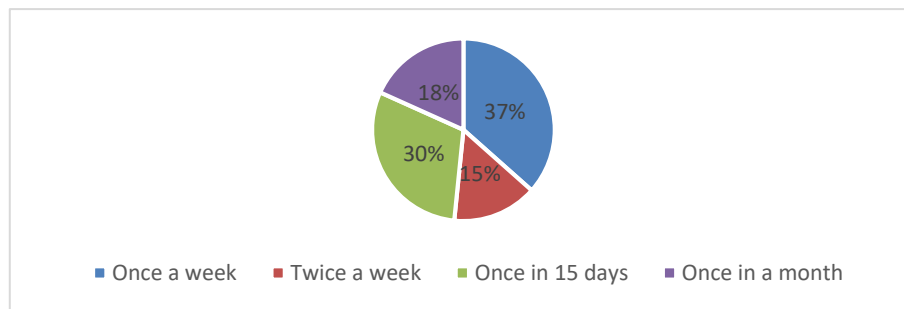


Diagram 4

Inferences: Once a week and once in 15 days are the maximum preference by the respondents for dining out before pandemic.

Q5. Frequency of dining out at present.

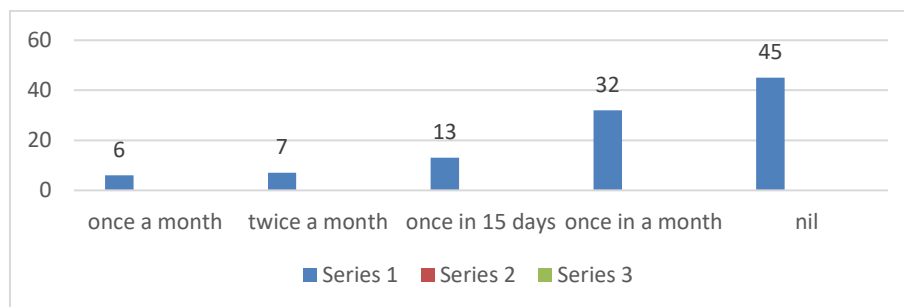


Diagram 5

Inferences: Majority of the respondents don't prefer for dining out during pandemic.

Q6. Feeling of Safety for dining out in restaurants at present.

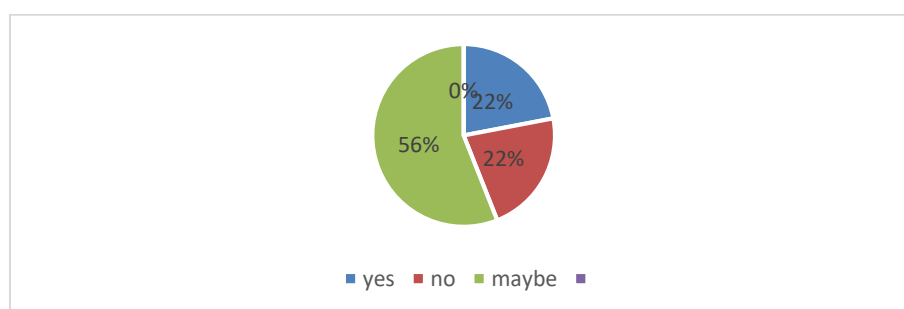


Diagram 6

Inferences: Majority of the Respondents are not able to decide whether it's safe or not to dine outside with 56% as respondents.

Q7. Brand name of restaurant/hotel as a tool for motivation for dining out.

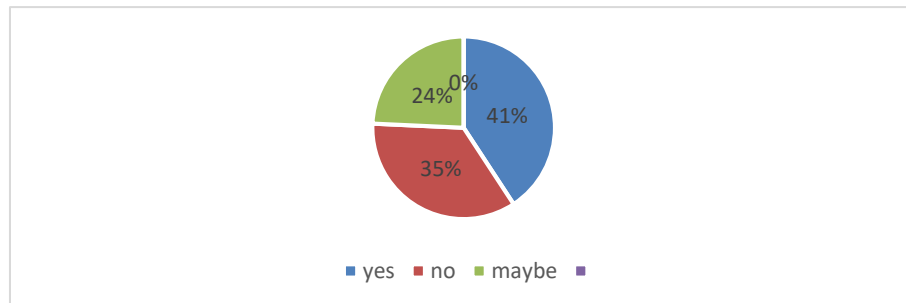


Diagram 7

Inferences: 41 % of the respondents they have trust on brands of hotels which may motivate them to dine out.

Q8. Preference of home delivery service of food over dining out in restaurants.

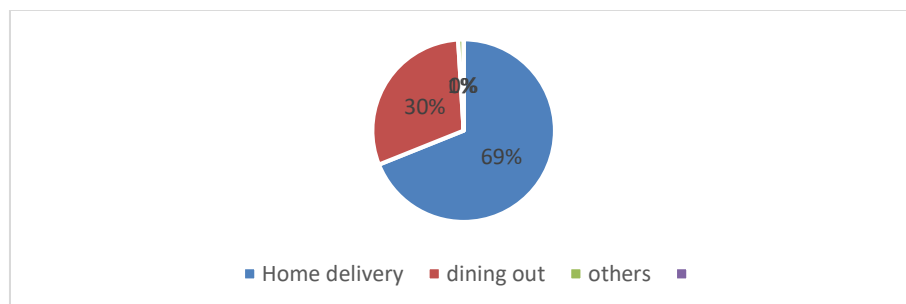


Diagram 8

Inferences: Majority of the respondents they prefer for home delivery of food and beverages.

Q9. Factors attracting the most for dining out before pandemic.

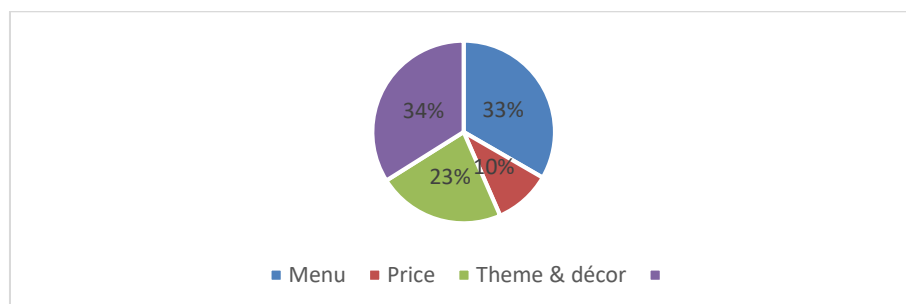


Diagram 9

Inferences: Theme décor and Menu was the main factor for dining out by the respondents before pandemic.

Q10. Greatest concern/concerns at present for dining out.

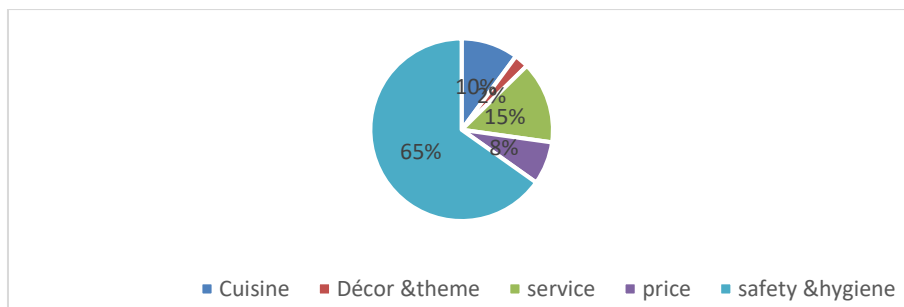


Diagram 10

Inferences: Safety and hygiene is new concern now for which 65% of the respondents agree.

Q11. Preference of food service style pre-pandemic

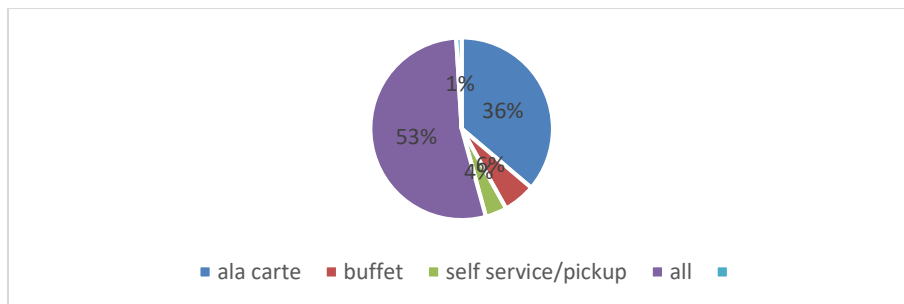


Diagram 11

Inferences: Majority of the respondents preferred all types of food service.

Q 12. Preference of food service style during pandemic.

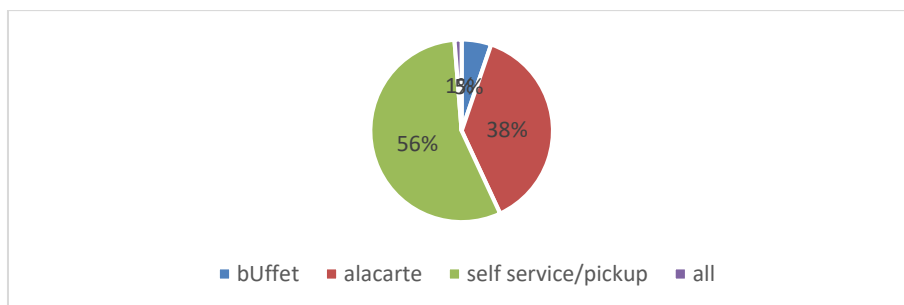


Diagram 12

Inferences: 56% of the respondents they prefer self-service/pick up

Q13. Non-vegetarian food items having more risks of contamination with viruses and bacteria during pandemic.

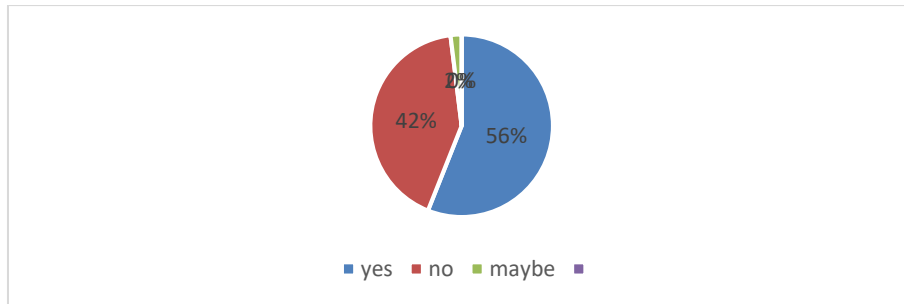


Diagram 13

Inferences: 56% of the respondents believe that Non Vegetarian food has more risk of Contamination with viruses and bacteria.

Q14. Role of Social Media as an Influential tool for dining out.

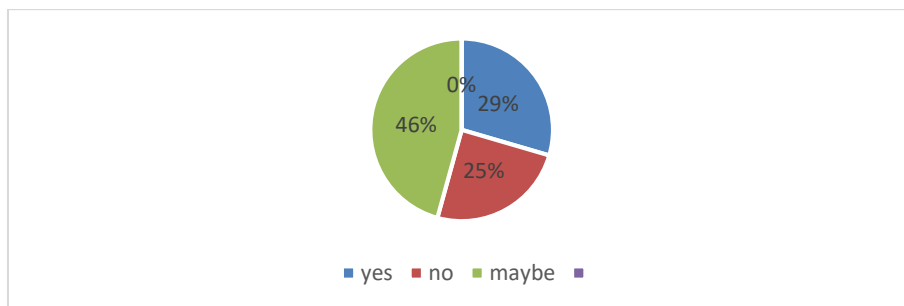


Diagram 14

Inferences: 46% of the respondents believe that social media can play a role in motivating the customers for dining out during pandemic.

Q 15. Visit to any hotel's restaurant /fine dining restaurant in the unlock phase of Covid -19.

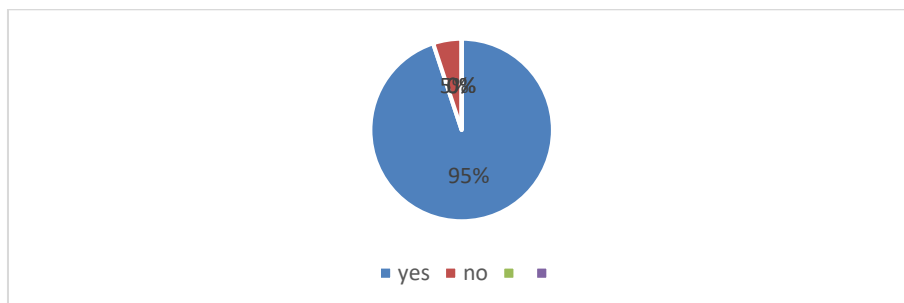


Diagram 15

Inferences: Almost all the respondents have visited restaurants and hotels for dining during the pandemic.

Q 16. Change in food consumption from dining out to home delivery services.

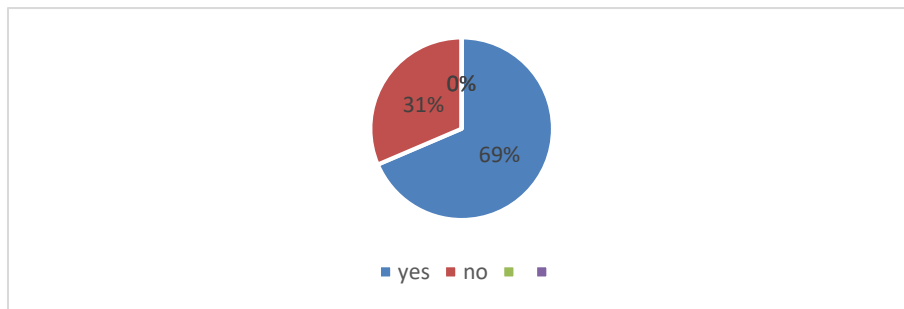


Diagram 16

Inferences: 69% of the respondents states that there is a huge shift in the style of food consumption hobbit. They prefer home deliveries more over dining out.

Q17. Art of cooking during pandemic

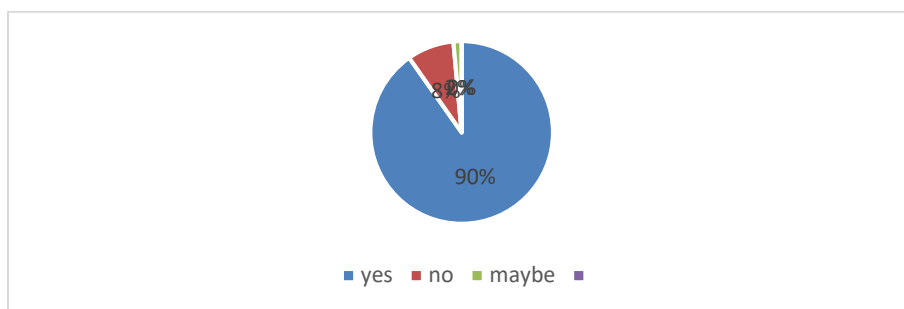


Diagram 17

Inferences: Almost all the respondents they developed the cooking art during this pandemic.

Q18. Continuation of self-preparation of delicacies as a substitute to outside food till the pandemic ends.

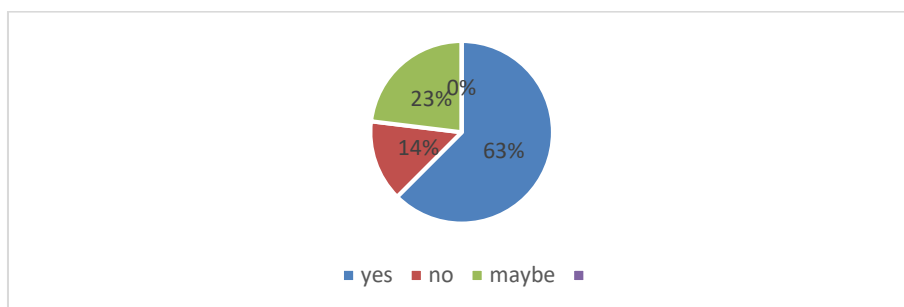


Diagram 18

Inferences: 63% of the respondents they are going to prepare and try out delicacies by themselves till the pandemic ends.

Q.19. Price reduction as a tool for attracting Customers for dining out

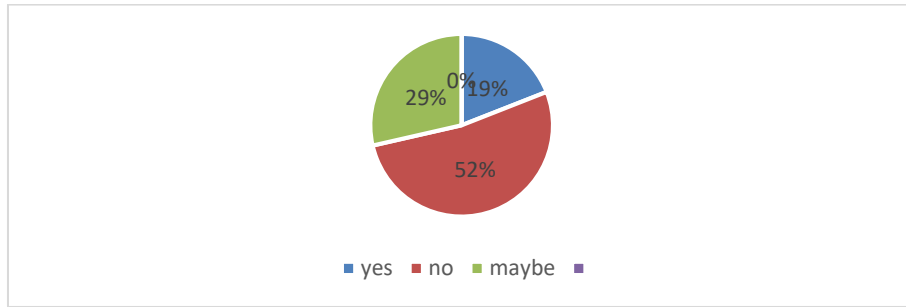


Diagram19

Inferences: 52% respondents state that reduction in the price is not a factor which can attract the customers for dining out during pandemic.

Q 20. Actual practice of safety and hygiene measures and building trust with Customers

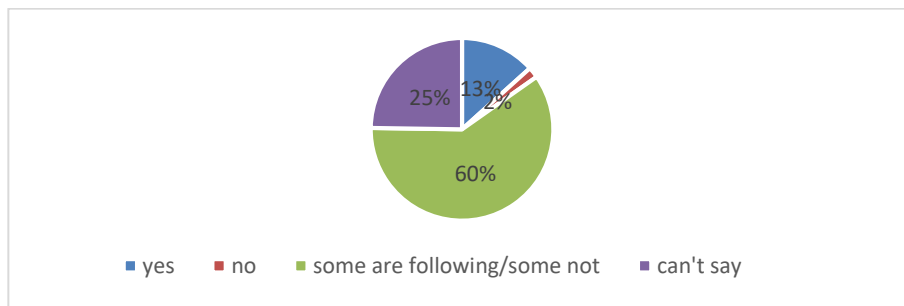


Diagram 20

Inferences: Majority of the customers (60%) think that some of the restaurant are following and some not as per their convenience

Q21. Building trust with Customers by practicing best safety and hygiene methods.

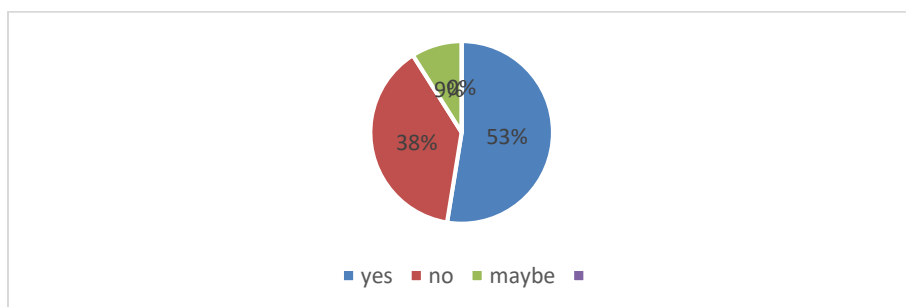


Diagram 21

Inferences: More than half (53%) of the respondents believe that the restaurant's /hotels with their best practices of safety and hygiene will be able to build trust with the customer's

7 Findings

After completing the entire survey the following are the findings:

- 81% of the respondents they prefer dining out, 61% of the respondents preferred vegetarian food and 15% Non-Vegetarian before Pandemic and now 85 % i.e, majority of the customers like to prefer Vegetarian food now during Pandemic. There is a shift in the customer's preference towards Vegetarian food items.
- Respondents had different frequency level of dining out with 37% preference was once in a week before pandemic and during pandemic 45 % of the respondents they don't prefer Dining out.
- 56% of the respondents are unable to decide whether it is safe or not for dining out.
- 41 % of the respondents believe that yes brand name can build a trust among the customers and can be a motivational tool
- At present 69% of the respondents they prefer home delivery service
- 34% of the respondents they preferred safety as the main factor where 33% of the Respondents considered Menu as the influential factor for dining out before pandemic 65 % of the respondents at present now consider safety as the prime factor for dining out and the preference of Menu has reduced to 10% of preference
- Mixed preference for different food service was the preference of the respondents before Pandemic. During pandemic there is a shift towards self-service/pick up with 56% of the respondent's preference. 56% of the respondents they believe that non vegetarian food are prone to bacterial and viral infection during this pandemic
- 46% of the respondents they believe safety and hygiene factors could be displayed through different social media windows which may be an influential tool for customers.
- 83% of the respondents have developed the art of cooking during this pandemic not explored earlier and 63% of them are going to continue preparing the delicacies for themselves till vaccine is available
- 52% of the respondents believe that reduction in price cannot influence them for dining out over safety and hygiene factor. 60% of the respondents have mixed opinion towards the actual practice of safety and Hygiene measures i, e, some of the restaurants are following and some not. 53% of them believe that with proper practices they can rebuild the trust with the customers over safety and hygiene.

Use of disposable plates/cutlery would be highly appreciated and if not used preheated cutlery and crockery should be used.

- Waiting area should be planned in every restaurant to maintain social distancing and proper sanitization procedures should be followed.
- Customers should be given access to the food production area to build more trust with them.
- Sanitization of tables and chairs should be done after every guest's movement by appointing a separate person for the task.
- Customers are more attached towards the trust factor, restaurants and owners should develop certain practices to display in reality and have a better bonding.
- Training programmes should be planned for the staff members to understand and practice the safety and hygiene standards.
- Record of every guest/diner should be maintained with complete information like phone number and address. Strict rules should be made for the customers too to follow the safety, hygiene and other Covid safety protocols while being present in the restaurants.
- Automatic sanitizers spray machines/ Laser automated spray machines would be highly appreciated.
- Temperature check of the staff members should be done at regular intervals during the shifts.
- Acrylic shield barriers should be used on the buffet counters if introduced again by the hotels and restaurants.

8 Conclusion & Suggestion

After completing the entire survey and study it has been observed that there is a fear factor amongst the customers acting as a barrier for them for moving out for dine-in service. Trust and assurance initiatives should be displayed either physically or social media sites. Some of the customers will wait until vaccine is available in the market and will continue to enjoy the delicacies prepared by them and the restaurants

even have to compete with them, the customers themselves have become a rival for the restaurants. Customers believe that even if the vaccine is available they want the hotels and restaurants to practise the safety and hygiene standards for a longer period of time.

Customers believe that there should be audits for restaurants and hotels from an external agency may be from government to check whether safety and hygiene standards are followed or not. It has been also observed that the customers have more preference for home deliveries than dine-in and have no inclination towards the use of hotel and restaurants cutleries and crockeries. Use of disposables are the first choice today. Respondents want physical barriers between tables while some want personal hand sanitizers placed on the table and some want their food covered when it's served to them. Some Customers will only visit restaurants that offer a contactless dining experience.

Providing digital tokens to avoid waiting in lines, enabling presentation of menu by scanning the code, taking orders without touching paper or a screen and providing options for contactless payments will induce trust in customers to dine out. Restaurants seem to be doing a good job with these online sales platforms about half of all people continue to feel comfortable ordering food as compared with restaurant dining. Customers will seek trust in the places they go to as a primary decision factor, instead of everything else - convenience, discounts, adventure, exploration, discovery, experience etc. trust will triumph all. Loyalty becomes of paramount importance to businesses.

All the hotels are practicing the best methods of safety and hygiene still they are not able to attract the customers for dine-in service. Almost 50% of the covers have been reduced and there is a major shift towards home delivery services. Some of the restaurants there has been discontinuation of use of metal cutleries and crockeries and there is a shift towards the use of disposables more as compared to its use before pandemic. The managers/ owners of the restaurant strongly agree that they have to build the trust with the customers by practicing the safety and hygiene standards and displaying it to the customers in order to get them back for dine-in service.

They even strongly agree that even they are practising the best measures of safety and hygiene but there has been a psychological barrier in the guests mind towards their restaurants and they have a fear factor too. The use of sanitizers, social distancing, and dependency on home deliveries will be there for a long time until unless the vaccine becomes available.

It is suggested that since the customers are more concerned about the safety and hygiene the hotels and restaurants should keep on practising and displaying the best methods of safety standards. Discounts, reduction in menu price is not the demand of the situation but developing a trust is the need of the hour.

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Digitalization and its effects on Employability of newly graduating hospitality professionals in Indian market

Karan Lulla¹

1 Introduction

Abstract. In India hospitality is one of the biggest employment generating industry, its contribution to the GDP and foreign exchange of the country works as a driver of growth. As of 2019, 4.2 crore jobs were created in the tourism sector in India, which was 8.1 per cent of the total employment in the country. The number is expected to rise by two per cent annum to 52.3 million jobs by 2028. Tourism & Hospitality Industry in India (Sep, 4 2020) Retrieved from: <https://www.ibef.org/industry/tourism-hospitality-india.aspx>

Traditionally Hospitality Industry is considered to include three sectors: Accommodation, travel and tourism and Food and Beverage. It is an industry that demands more practical working knowledge than theoretical knowledge. Industry has been through many phases of change in the past due to the specific needs of time. In line with that presently the industry is in a continuous state of flux and is changing at a very fast pace owing to the automation and digitization due to advancement in the technologies like AI (Artificial Intelligence), ML (Machine learning) which are shaping the future of the hospitality industry. With these changes it expected that technology will overtake many routine and repetitive jobs in hospitality.

Historical empirical experience tells us that emergence of new technology replacing humans, initially faces some resistance before gaining acceptance and eventually the service providers find the mechanisms to meet the demands of the consumers. This might lead to some anxiety in hospitality professionals and graduating students about the future of employment prospects.

Since, hospitality education is very closely intertwined with the hospitality industry and has to be updated as per the needs of the industry which is shaped by the customer demands. Hence, there is an urgent need for the hospitality academia to understand the way industry is changing with technological advancement to incorporate them in the education in order to make the newly graduating hospitality students well equipped with the skills needed for the future jobs, which will be very different from present skills. Hospitality academia will have to reorient the education to meet the changing industry demand.

2 Literature review

Giampaolo Viglia, Mirko Pelloia, and Dimitrios Buhalis (2018) concluded the following in this chapter published in the book “Innovation in hospitality education” that talks about the reforms in hospitality education with increased use of technology: Inclusion of digital skills along with traditional training. Integrating analytics and social media in teaching, partnering with global universities to facilitate cross cultural exposure and include best practices in education and curriculum flexibility are the main highlights.

Stainslav H Ivanov (April,2020) concluded that Automation will eliminate some tourism and hospitality jobs, will change the tasks for others, and will create brand new job positions. This means that companies that adopt automation technologies will experience changes in their service processes (both front-of-house and back-of-house processes) and the job requirements towards their employees. The source of their competitive advantage may shift from the attitude, conduct and appearance of their service

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personnel towards the effective and efficient use of automation technologies. Companies, universities, managers and employees will have to adapt to the new technological realities. The biggest challenge will be to persuade (even to force) lecturers, managers and employees to abandon their silos and within-the-box thinking, stop being afraid of automation and embrace it as a tool for being more productive in the workplace

3 Research objective:

- To understand and analyse the digitalization and project its possible implications on hospitality industry and employment scenario for newly graduating professionals and outline suggestive measures for the hospitality academia to cope with them.

4 Research design:

An exploratory research using qualitative secondary data analysis method.

5 Overview of state of automation in hospitality industry and reasons behind it

- With the technological revolution that we are witnessing since last one decade has its impact on all the industries including hospitality. There is a general trend to adopt automation especially in routine, repetitive jobs demanding more accuracy due to the obvious advantages over humans in terms of reduced cost associated with humans like payroll, and other benefits and the accuracy that can be achieved by technology. This phenomenon is more commonly known as automation.
- Moreover, the recent disruption due to Covid-19 is a medical crisis which has proved to be a major setback for the world and especially for the hospitality industry. The business has plummeted resulting in the reduced revenue. Cost reduction is the only way out for businesses in order to tide over it. As a matter of fact, labour cost constitutes major portion of the overall cost in hospitality business. Hence, it resulted in job losses as a consequence. Also, in absence of any reliable vaccine and to prepare for any such health crisis in future, eliminating the human contact is the most effective way to curb the spread of virus. The pandemic has made the customers highly conscious about health and safety and it also hugely affected their buying decision. Providing service without human intervention is the best way to reinstate customer confidence. Hence, it has further accelerated the process of automation in the industry.

Apart from the above factors, other factors that are contributing to the process of automation are:

- Demands of the millennial guests- In a market economy the consumer demand is what commands the supply so, the globalized customers will demand the same scale of technological efficiency in India what they get in other developed countries that will compel the Indian chains to follow the suit and offer the services at par with their global counterparts. The showmanship and the customer attraction associated with the new technology like robotic servers and the resulting business from that also acts as a driver for adopting new technology.
- Potential for scaling up of business faster- The data suggests that the companies using technology in marketing have an upper hand in terms of customer outreach than those which are not. A good example of this is the OTAs (online travel agents) have scaled up their business using technology by manifold. And most of the start-ups in hospitality space and in other industries are based on technology.

- So, the single skill operational jobs are more likely to be replaced by technology. Repetitive jobs like RSOT, concierge, receptionist, etc. are likely to be eliminated with automation. And the jobs demanding planning and conceptual thinking like sales and marketing will very much exist but the nature of those jobs will change significantly and will include new skills like social media marketing, data analytics, etc. And it will also lead to creation of new jobs.
- It might cause some serious apprehensions in the minds of the **new graduating students** and the hospitality academia alike about the future of the employment prospects in the industry. Digitalization will not only eliminate some of the existing jobs but will change the nature of some of the existing jobs and will also create new ones.
- It presents many opportunities in terms of benefits that technology has to offer like faster and greater customer reach, creation of new business platforms based on technology, more efficiency, better utilization of human resources, etc. In a crux the technology will do better for the industry in comparison to the short-term disruption it will create.
- At the same time, it also presents a huge challenge for the hospitality academia, for they have to prepare and equip the future professionals with the necessary skills that they require in order for them to have the ability to tap the opportunities offered by the technology. Presently hospitality education is very good at preparing the students for the single skill and single discipline jobs like working in a single area of a department and performing repetitive jobs which might not exist in future. Hospitality academia will have to put more impetus on multiskilling and skills that help them to capitalize on the technology for better outcome.

6 Various technologies and their application in hospitality:

6.1 Artificial intelligence (AI)

Artificial Intelligence simply means machines performing the tasks with human intelligence e.g. interpreting voice, analyzing data. It is a breakthrough technology that is used for automation in digital age. E.g. Chatbots, Natural Language processing (NLP) & Intelligent virtual assistants (IVA), etc

- Customer service using Chatbots are conversational agents used in customer service space to answer questions like a customer service representative. The technology works based on (NLP) Natural Language processing used for voice recognition. It is used in both written and spoken form of communication. Chatbots are popular in hospitality industry for answering guest queries, making recommendations, sending alerts about timings, making bookings, etc. It uses SMS, live chat and voice chat to communicate with the guests throughout the journey. The works as hotel concierge. It provides a quick point of communication for the guests with the hotel. E.g. Triliyo, Hoperator, Quicknext, Bebot, etc.
- In room voice controlled virtual assistant- Intelligent Virtual Assistants (IVA) is more advanced technology than chatbots and is used to perform tasks based on voice commands. They are like personal human assistants and are used for a host of different tasks like ordering room service, requesting for housekeeping service, playing music, making reservations, concierge services, etc. VAs is equipped with advanced ability to comprehend, analyse and provide solutions. Due to Machine learning the VAs have the ability to learn from every interaction with humans and become smarter. A good example is Amazon Alexa launched for hospitality industry and is being tested at two Marriott hotels.
- Virtual reality- Virtual reality is used to give a virtual experience of a place without being physically present there. Guests like to know more about a place and a destination before visiting that place. They do it by reading reviews, viewing photos, etc on social media. Using virtual reality, the hotel and tourist service providers can give a virtual experience to their guests before booking. It can be used as virtual booking tool, virtual hotel room tool or virtual travel experience.

6.2 Big data & data analysis

- Big Data is the phrase used to describe the extremely large sets of data gathered from varied sources that come into a business on a day-to-day basis. After gathering data, it is important to analyse this data to draw logical conclusions out of it (Data Analysis). This processing of such large amount of data produced by the customers online which cannot be done in the traditional way. Hence, AI is used to do the job. The data is collected from customer feedback from surveys, reviews and online polls and analysed to find a pattern in consumer behaviour so that the services can be adapted to the customer likes.

Following are the areas where big data and data analysis can be utilized:

- The job of Revenue management can be greatly optimized using big data by analysing large amount of data from different sources like past history of occupancy, local events, environmental trends to project the demand with more accuracy and deciding the right price to optimize revenue and profit.
- Targeted marketing- Knowing the guest preferences and behaviour using big data then analysing and classifying/segmenting the customers based on some common factors like age, nationality, etc. helps in pitching right offer to the right group.
- Enhancing the guest experience- Gathering the guest data not only from the feedback given during their stay but also from their feedback, reviews posted on other online platforms like social media and related websites help in finding a common trend in terms of guest preferences and improving the service offering with the object to improve the guest experience.
- A large amount of data can be gathered from different online platforms regarding any new service requested by the customers, and service no longer required or things that need to be changed, etc. E.g. If more and more customers are requesting for the home delivery of food then hotel may consider offering home delivery of food.

6.3 Use of robotics in hospitality

The idea of robots fully replacing the humans in hospitality is a far-fetched idea but it is gaining some traction in the owing to the visual appeal associated with it among the customers. Their use has been started in several areas like concierge, kitchen, and restaurant service and is expected to be used in other areas of hotels in coming time. Some examples of the use of robots for certain types of jobs in hospitality is illustrated below:

6.3.1 Robot concierge

IBM Watson and Hilton worldwide have jointly developed AI based robot concierge named 'Connie'. It provides information to guests using speech recognition. With every interaction with guests it learns and improves for future communication.

6.3.2. Robots in kitchen

- Sally the Salad Maker is a robot made by Chowbotics making real inroads into food production, specializing in salads. Sally is about the size (and shape) of a dorm-room refrigerator, and can deliver up to 1,000 different types of salad in 60 seconds.
- Flippy- An AI kitchen assistant helps with grilling, frying, food preparation and plating. It has software that integrates with sensors and cameras that enable it to "see" the food and handle functions like temperature control developed by miso robotics
- Moley the robotic kitchen- It is a fully functional robot integrated into a professional kitchen which can cook food developed by Moley robotics.
- Mechanical chef- It is a cooking robot designed in India which can cook more than 100 dishes of Indian cuisine.

6.3.3. Robot for service

Robot servers are already being used in some restaurants like a Robotic server Butler 'O' Bistro developed by SP robotics and is being used at VR mall in Bengaluru.

6.3.4. Robots in housekeeping

Milagrow robots is a Gurugram based company that has developed a range of robots to perform house-keeping cleaning jobs from floor cleaning, window cleaning, pool robots, duct cleaning robots and many more.

6.4 Limitations for automation in Indian hospitality industry:

- While the automation in manufacturing industry is relatively easy to achieve but in case of service industries like hospitality the challenges are multifaceted. Some intrinsic defining characteristics of hospitality makes it different from other service industries and will have a bearing upon the process of automation. Most important one is that, by its very nature the hospitality industry strives to create a personalized experience for the guests and in order to do that it has been a very human driven industry. Automation in hospitality is going to happen with an aim to enhance the guest experience which cannot be compromised to save cost.
- The decision to automate for any company will depend on the return on investment in terms of reduced cost compared to the human employees. In developing countries like India there is abundance of human resource due to its demography and the wage cost is relatively less compared to developed countries. Also, most of these automation technologies cannot work on their own and need human supervision so, if there is no actual cost being saved then it won't be a viable option.
- Digitalization also depends on how comfortable the target market is in using the technology. There are some countries where the technology penetration is at its infancy.

7 Implications of digitization on the Industry:

- More Technology based hospitality organizations- A new form of hospitality organizations which are tech driven are already gaining prominence in large numbers and are likely to increase in future. These new forms of organizations have the ability to grow at a very fast pace. These companies are surely going to increase in number and size in coming times. Several examples are room aggregators like OYO rooms, Treebo hotels, Fab hotels, etc.
- Automation of routine jobs- Owing to technological breakthroughs it is believed that some of the routine jobs in the industry will cease to exist in coming future due to technology and it has already started happening. The automation of jobs is likely to be seen at different degrees in different areas like food processing, food service, hotels, etc. In food processing the jobs like food handling, packaging and distribution can be easily automated. F & B industry will see an increase use of technology in ordering, preparation and service. The hotel operations like reservations, concierge are already experiencing this trend.
- Sharing economy- Technology has paved the way for the emergence new business models based on sharing economy where those small service providers which were traditionally not considered a part of the mainstream hospitality business are empowered to use the available unutilized resource/capacity. E.g. People are free to use their extra rooms in their homes to sell them on Air B & B. likewise there are selling platforms for food business. This gives an opportunity to a small business operator the ability to compete with mainstream brands.
- Increased competition- In travel and tourism business we have seen the rise of OTAs (online travel agents) like Make my Trip, Yatra. Com, etc which have made the travel booking (for hotels, airlines, etc) much easier for the consumers and also given opportunity to the customers to compare various options and get the best price as a result of increased competition.

- More vocal customers- It has brought more transparency in terms of customer reviews which can be accessed by anyone and everyone. As a consequence, businesses are putting more premium on guest satisfaction. Because reviews whether good or bad have a much higher impact now than ever before.
- Though the basic principles of revenue management remain the same that is use the variable pricing based on the demand and supply dynamics. Technology allows the businesses to use it more efficiently using much more data and many more variables that helps the business to decide the right price multiple times in a day with higher accuracy.
- Diverse pool of Human resource- The workforce of the organizations is already becoming highly multi-cultural with people from technology industry working at higher positions in hospitality organizations. In the coming times more hotel employees will be hired from tech. institutions. So, hospitality graduate students will face a direct competition from such students for employment.
- More outsourcing - In order to reduce the cost of operation it is very likely that operations like HR, reservations, accounts department, etc will be outsourced in the coming years. As digitisation intensifies, remote working is here to stay. Automation will slay jobs. Expect work to be digitally sliced and farmed out to different kinds of workers — full-time to freelancers. Malini, Goyal (2020, Oct 04). Newly emerging key job trends in India, retrieved from: <https://economictimes.indiatimes.com>

8 Role of hospitality academia in light of the above implications:

Since, the industry and academia are very closely interlinked and interdependent the technological implications highlighted above are cues for the academia to plan the future course of hospitality education. It presents a challenge for the hospitality education institutions because the jobs for which the hospitality institutions are currently preparing the students for may not exist in near future. The education is more focused on specialization in core operations and less on the multidisciplinary education with the ability to exploit the benefits of technology with other skills like planning and management. The implications highlighted above must be analysed collectively by the hospitality academia and the results must be incorporated to reform the hospitality education in India to make it more relevant to the changing needs of the industry.

9 Specific suggestive reforms in hospitality education:

9.1 Technological education.

Technology will be the common factor in all the types of businesses in times to come. There is no reason for the hospitality students to learn how the technology is made. But its is imperative to know how the technologies work in order to be able to capitalize the technology as per the needs of the business, to increase efficiency, to enhance the customer experience, etc. The idea is not to replace humans with machine but to be for the humans to be able to collaborate and capitalize on the benefits of technology. One way to achieve this is by having a special digital lab like for all the other core departments where the students can learn the use of new technologies and it will have to be updated from time to time.

9.2 Collaboration with multiple entities in gig economy.

More and more services are expected to be outsourced using contracted services or freelance workers for which, collaboration will be very important. This must be taught by collaborating with the industry to work on some joint projects for mutual benefits. Students can help the industry to solve their practical problems by doing research and gathering data for them. This will also help in building long term relationship between Industry and academia based on mutual support.

9.3 Broadening the scope.

- Hospitality institutes will have to train the students to be comfortable working in industries outside the ambit of traditional hospitality (which includes hotels and restaurants) considering the fact that

hospitality is not an industry per se but it is a trait which is a must for all the industries involved in customer service. E.g. Hospitality graduates are already being employed in retail, and will have to make inroads in other industries like FMCG, e-commerce, etc. In order to achieve this management studies must be an intrinsic art of the hospitality education.

- This is also applicable to the Industrial training- Training in tech-based start-ups and not just in branded hotels.

9.4 Skills that separate humans from machines

With the increasing automation hospitality professionals will have to focus on skills that set humans apart from the technology. It includes equal focus if not more on soft skills like emotional intelligence, leadership, problem solving, and critical thinking.

9.5 Development of entrepreneurial mindset- Certainly, Technology has presented a huge opportunity for creating start-ups in hospitality

In past little more over a decade there is a trend towards technology-based start-ups in hospitality and not necessarily among the hospitality graduates but also from people from other disciplines mainly from technology fields. Incidentally, majority of these start-ups are technology based and the hospitality education institutes cannot afford to not be a part of this. Shifting the focus from purely job seeking to Self-employment and job creation will be indispensable. There are steps being taken in this direction and there is a lot yet to be done by the hospitality education educational institutes from formal training, setting up incubation centers.

- Strong Research Culture to drive Innovation- Research & Innovation are the key to stay competitive and deliver new experience to the guests. Almost all the companies will be more or less same in terms of efficiency because of the common technology. In that case innovative offering is what will differentiate one hotel from the other. Hospitality graduates will have to learn to innovate and create a new experience. Hence, research is a tool to achieve that.
- Multidisciplinary learning- It helps in all round development and orientation of a student. Management studies will have to be given prominence. Students must focus on at least one more subject apart outside the hospitality. Not all the subjects can be taught in the college but at least the students can be guided in that direction and can be inspired for self-learning in that subject. E.g. Marketing, in depth learning of technology, waste management, sustainability, hygiene standards, organic farming, food processing, or any other skill because the work environment in future will be highly multidisciplinary.
- Adaptability- In the environment of uncertainty because of the industry changing at a very fast pace due to disruptions from various quarters, the ability to adapt to the changing environment will be one of the most important traits for future professionals. This can be taught by making them solve unpredictable problems and handling challenging situations.
- Faculty training -To achieve the above objectives of inculcating the right skills into the new graduating hospitality professionals it is imperative to train hospitality teachers for the same. It can be done through industry refresher trainings for faculties in new age hospitality brands. Bloom's taxonomy is a good pedagogical method to assist in doing that. An increased use of technology platforms in teaching will help in creating the right learning environment.

10 Conclusion

It is beyond doubt that the disruption in the hospitality brought in by the digitalization and further accentuated by the Covid 19 pandemic is changing the industry in many ways. With the aim of making the service contact-less with technologies like self check-in kiosks, contactless dine-in and robots in various operational jobs, achieving greater efficiency with the technologies like AI and ML for in room virtual assistants, improved revenue management through Big data and data analysis, Virtual reality and augmented reality in tourism experience and many more.

While it is true that the employment in hospitality industry will be hugely affected by digitalization but at the same time it will also open up myriad opportunities for new generation of graduating hospitality professionals in form of new business models emerging due to technological advancement, provided that the academia understands this challenge and adequately equips and prepares the students with the necessary skills needed to capitalize them in the digital age.

11 Limitations

The paper relies on the relevant data available only from the secondary sources.

12 Further scope of research:

This paper explains the present scenario in much detail with specific examples from the industry and outlines its possible implications and the suggestive measures to be taken by the hospitality institutes the future researchers on the subject can focus on the methods for practical implementation of the measures at the educational institutions.

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Destination attributes contributing to customer satisfaction among Glamping tourists in India

Jagat Krushna Mangaraj¹, Smrutirekha², Priti Ranjan Sahoo³

Abstract. The research objective of this study was to analyze the contribution of destination attributes towards customer satisfaction from the perspective of tourists at two of the most popular glamping destinations in India. The study focuses on the perception of customer satisfaction among cross-culture tourists and local tourists at two of the major glamping destinations in India namely Rann Utsav, Gujarat, and Eco Retreat, Odisha. The method of research includes the collection of data using a close-ended questionnaire and random convenience sampling. A total of respondents was involved in the study. Descriptive analysis of the interviewed questions has been done for the discussion and scope of further research. This study indicates the importance of destination attributes in the customer satisfaction curve which aids in development and growth from the service provider's perspective.

Keywords: Destination attributes, Glamping, customer satisfaction

1 Introduction

Glamping dates back in history to the 1100s when Mongolians used camps called 'Yurts' to live which are used even today among their tribes. Then in the 1900s, the wealthy and rich Europeans and Americans went to Africa for a taste of luxury in camping with all the furniture and furnishings inside the tent being the best in quality. This led to the evolution of adventure campsites and festival campsites which promoted the local culture of a place.

The world Glamping came into the picture in 2007 and continued to be on the rise. The United Kingdom and most of the European countries have been the pioneers of glamping in the modern era. Post-2010, glamping became very popular and began attracting guests due to its affordability and value for money.

Glamping has recently been under the limelight at Rann Utsav Gujarat, Jal Mahotsav Madhya Pradesh, The Narmada Tent City at The Statue of Unity in India, and Eco Retreat Konark, Odisha

Rann Utsav, Gujarat

Rann Utsav is one of the most eagerly-awaited tourism events of India, which celebrates the marvels of nature at the White Desert and the rich cultural and artistic heritage of Kutch. The concept of Rann Utsav was envisioned by Hon'ble Prime Minister Shri Narendra Modi, the then Chief Minister of Gujarat.

Rann of Kutch is the largest salt desert of India. While the White Rann, near the Great Rann of Kutch, was written off as a lifeless stretch of land, the Tourism Corporation of Gujarat Limited (TCGL) took the initiative of introducing 'White Rann Experience' in 2005 for the public. It began as a three-day festival progressively evolved into a 100-day celebration at Dhordo, a village near Rann of Kutch where a whole new tent city has been created, replete with temporary infrastructure built and rebuilt every year.

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Since its inception, the Rann Utsav booking has multiplied exponentially, attracting over 5,00,000 visitors from 20+ countries. The Tent City at Rann Utsav has more than 350 tents spread across nine clusters and is a hub for entertainment amidst the salt desert. This arena lends a flavor of the Rann of Kutch in its culture, art, craft, cuisine, and geography to the visitors. The Tent City offers different kinds of stays namely The Darbari Suite, The Rajwadi Suite, The Premium Tents, Deluxe AC swiss cottages, and Non-AC Swiss cottages for the taste of every kind of visitor. A couple of adventure sports activities and sightseeing is also provided to the visitors during their stay. Travelers from all over the world have been attracted towards the Rann Utsav, Gujarat every year.

Rann Utsav offers activities like Camel Ride, adventure sports, Yoga and spa, cultural events like folk music and dance, and visit to nearby tourist destinations like the Great Rann of Kutch. The city of Bhuj is very beautiful and strategically located. It is having Aina Mahal, Hamirsar Lake, Vijay Vilas Palace, Rukmavati River, Kashi Vishwanath temple, Swaminarayan temple, Ram Kund stepwell, and Shyamji Krishna Verma memorial. Dholavira is one of the Harappa cities at the Khadir Bet Island. This Island is also known as Kotada Timba. Near Nalia is located the Great Indian Bustard Sanctuary, spread over a two sq km area. The Little Rann of Kutch has the Wild Ass Sanctuary. One can also see Desert Fox, Blue Bull, Blackbuck, Wolf, Jackal, and water birds like cranes, ducks, pelicans, flamingos, sand grouse, francolins, and the Indian bustards. On the seashore in Kutch is the beautiful town Mandvi famous for beaches, camel and horse rides, windmills and film shooting locations. The temple of Vishnu adds to the beauty of Narayan Sarovar, one of the most five sacred lakes according to Hindu custom.

Eco Retreat, Odisha

Odisha – India's best-kept secret, has been one of the most visited places for pilgrimage rather than a beach destination of India. But there are hidden beaches which are worthy of praise. Inspired by the Rann Utsav, Mr. Vishal K. Dev, IAS, and commissioner cum secretary, Odisha Tourism Development Corporation is the mastermind behind bringing this concept to Odisha. This initiative has been a catalyst for increasing the footfall of tourists post-Fani, the cyclone which devastated parts of the state leaving behind a life to struggle with.

Eco Retreat Konark started on the 14th of December, 2019 for 45 days. This is the first time that the Government of Odisha's tourism department has put up such a kind of cultural and eco-friendly glamping arena. Its located on the beach area near Chandrabhaga beach Konark which makes it an ideal place for beachside glamping.

Though glamping is at a very nascent stage in India, still its presence is marked in Odisha by the Marine Drive-Eco Retreat, Konark. It's a moment of pride for the state to host such a grand cultural festival for the world. This festival offers a basket of the culture of Odisha from the aspect of food, art, and hospitality. The famous Sun temple at Konark is a UNESCO world heritage site which is just around 5 km from the Eco Retreat and is a bouquet of culture worth experiencing.

The Marine Drive-Eco Retreat, Konark can be reached by road from Bhubaneswar within 2 to 2.5 hours. After reaching the Eco Retreat, the vibes of the festival and the beach tents which are worth a night's stay.

The Eco Retreat offers 50 luxurious tents along the beachside with stunning views of the Sun, sand, and sea. The tents are of four types which are as follows:

- The Presidential Villa which offers 2 bedrooms, a dressing room, attached bathroom, a private dining area, AC, TV, Heater, and a minibar all spread across 1600 sqft area making it the most luxurious option among the tents. This is the costliest accommodation among all.
- The Royal Cottage which offers similar facilities like above but consists of a single bedroom and is of 900 sqft.
- The Premium Cottage comes with a front porch and has a double bed.
- The Deluxe Cottage is of the lowest category but has basic amenities with a twin bed system.

There are three types of packages to choose from namely 1 Night/2 Day, 2 Nights/3 Days and 3 Nights/4 Days which includes the accommodation cost, pick up and drop facilities from Bhubaneswar and back,

all the 3 meals along with high tea, local tour as per the package availed and one free adventure sport ride for one person. The Eco Retreat offers spa services as well for the in-house guests but is exclusive of the packages offered.

Adventure sports like parasailing, jet ski, speed boat ride, banana boat rides are pretty good and can be availed even if one is not staying overnight. There are portable bathrooms for changing and water taps have been put up to wash off the sand post a sport. This aspect has attracted lot a of domestic tourists for a day tour thereby increasing the footfall of tourists. As per the management, the marine life isn't affected due to the water sports as fishing activities are carried out in the deep sea.

To cater to the food aspect, beach shacks have been put up by renowned restaurants and hotels of Odisha namely Mayfair hotels, VITS, Mahodadhi, Lotus Resorts, and Wildgrass who are under the radar of good food and services. For the first time in Odisha, consumption of alcohol at the beach shacks has been facilitated. The shacks are offering alcoholic drinks at a subsidized price which is a major attraction for the local tourists. Good seafood is available in the shacks to have with the drink. Vegan options are also there but better to go for non-vegetarian food at the beach shacks.

There is also a food court that offers numerous options for vegan people. Good quality Odiya dishes are available at the food joints and the seating arrangement is good. Tea, coffee, and non-alcoholic beverages are on the menu in the food court. The price being affordable is a key point.

Considering the environmental aspect, the way to Marine Drive, Konark is paved within the Balukhand wildlife sanctuary, and if one is lucky enough maybe a deer or a jackal can be spotted. It is home to many birds and deer but posts the cyclone, mostly they have migrated to other forest areas. So, this serves to be an advantage for the Eco Retreat as wildlife isn't much affected by the setup. The marine life also isn't much affected as the beach area is cleaned daily with a proper waste management system.

Coming down to the safety and security aspect of the arena, Odisha Tourism Development Corporation (OTDC) has made sure to keep the set up secure by pitching in tourist police vans along the marine drive and also on site. This helped in maintaining the sanctity of the in-house guests' stay parallel to the safety of the day tour tourists. As there are rip currents everywhere on the beach so, lifeguards have been employed for immediate rescue in case of any mishap. The police are very friendly and willing to help people and guide them in case of any confusion. Parking is a major issue on weekends though it's available on the weekdays easily.

This glamping retreat of Odisha has to potential to attract a greater number of international tourists which would take it to a global platform.

2 Literature Review

One of the key pathways for destination marketing is knowing the customer's needs and wants. Tourist satisfaction is derived from the comparison of the service expected and the service delivered as studied and researched by (Barsky, 1992).

A satisfied tourist has several advantages to be careful of like positive word of mouth, price elasticity, and destination loyalty (Fornell, 1992).

The glamping industry looks forward to customer satisfaction at the end as the perception of a tourist has a huge impact on the behavioral intention in the future (Yang, Gu, & Cen, 2011). Memorable tourism experiences conceptualize attributes for destination marketing and customer satisfaction (J. H. Kim, 2014).

Destination selection attributes among the tourists also contribute to customer satisfaction (Ismail, Puad Mat Som, Alia Fahada W Ab Rahman1, Roseliza Mat Alipiah, & Mat Alipiah, 2018). The destination attributes also aid in the competitiveness of tourist destinations which helps in determining tourist satisfaction (Crouch, 2011).

A structural relationship between destination image, tourist satisfaction and destination loyalty has been studied elaborately by (Chi & Qu, 2008) which sites the intricacies of the relationships and their importance. The travel experience to a particular destination positively affects the customer satisfaction and intention to revisit (K. Kim, Hallab, & Kim, 2012). The destination attribute plays an important role in the perception of customer satisfaction (Schofield, 2000). Customer satisfaction is a preliminary instrument for measurement of development and growth of the tourism industry (Hsu, 2003).

3 Methodology

The survey questionnaire consisted of twelve questions related to demographics and thirty questions based on hospitality infrastructure, ambiance, food quality, and food service at the Rann Utsav, Gujarat, and Eco Retreat, Odisha.

The main aim of the questionnaire was to obtain feedback and opinions on the areas namely customer satisfaction, service quality, image of the glamping arena, food quality and services. The survey was also open to suggestions or recommendations which would help in building a proper destination marketing strategy.

The survey was structured in Likert scale format with responses categorized in the following order; 1 – Strongly Agree, 2 – Agree, 3 – Neutral, 4 – Disagree, 5 – Strongly Disagree. The survey was conducted at both the Rann Utsav, Dhordo, Gujarat and Eco Retreat, Konark, Odisha. Age group, income and place from where the tourist had come were also recorded.

A descriptive analysis of the results of the survey was done to conclude on the importance of destination attributes contributing towards customer satisfaction.

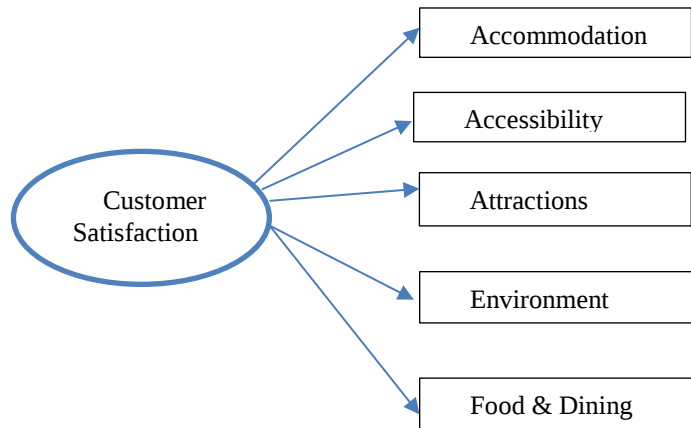
4 Discussion & Conclusion

This section presents the findings of the survey conducted based on the questionnaire floated at the Rann Utsav, Dhordo, Gujarat and Eco Retreat, Konark, Odisha. From the descriptive analysis of the survey conducted through a structured questionnaire-based interview, the following data has been extracted which proves to be important contributors of destination attributes towards customer satisfaction in glamping facilities.

Table 1. Destination attributes contributing to Customer satisfaction

Glamping Destination	Destination attributes	Tourist Group
Rann Utsav	Infrastructure	Locals and Cross-Cultural
	Accessibility	
	Outdoor Activities	
	Food & Beverage Quality	
	Food Service quality	
	Entertainment & Events	
	Nearby attractions	
	Safety & Security	
Eco Retreat	Ambiance	Locals and Cross-Cultural
	Hospitality Infrastructure	
	Accessibility	
	Environmental concerns	
	Food & Beverage Quality	
	Food Service	
	Entertainment	
	Safety	
	Price & Value	

Fig. 1. Dimensions of customer satisfaction considered



Rann Utsav has been one of the pioneers in the field of glamping in India and it has set an example for the entire country to replicate. The Eco Retreat Konark, Odisha has been framed based on the model of Rann Utsav.

It was found that a large number of visitors were local tourists than from across states for both the glamping destinations. Rann Utsav and Eco Retreat, both have been a family destination meant for leisure activities and relaxation.

The information about Rann Utsav and Eco Retreat is mostly obtained through peer review followed by social media. But the tourism website needs more promotion to become a more preferable source of information.

Mostly the visitors are first-time visitors for Rann Utsav and Eco Retreat. Repeat customers are mostly not much in number which gives room for improvement of services to attract returning customers and also aid in the selection process.

Overall, the hospitality ambience is up to mark for both the setups. Both the Tent city at Rann Utsav and the glamping facility at Eco Retreat, Konark, Odisha have a great hospitality infrastructure. Food quality and service for both the glamping facilities is commendable and is a major criterion for the selection of destinations for glamping tourism.

Hospitality infrastructure which is the most important attribute in sustainable tourism has been emphasized by all the tourist categories towards customer satisfaction at the destination for glamping.

One of the major findings is that there is a growing demand in the glamping facility at Eco Retreat, Konark, Odisha as it is situated on the seashore and offers a bouquet of water sports and activities.

Tourists visiting the Rann Utsav are mostly from the western part of India with the majority of the tourists belonging to Gujarat. A similar situation also is prevalent at Eco Retreat, Odisha with tourists from West Bengal contributing to a sizeable number.

The issue of waste management is a significant outcome derived from the research which affects the environment of the glamping destinations. Nature-based glamping tourism should consider the environment as a selection criterion for the destination marketing strategy.

This research indicated that over the years, these two glamping destinations in India have a success story in attracting tourists across cultures. However, their success story is limited to two traditional markets which include the Gujarati and the Odiya tourists due to the present scenario of the Covid-19 pandemic.

Few strategic steps can be framed to cope up with the lacunas found in each of the establishments and to enhance the customer service and experience. The tiny steps taken would attract more tourist footprints and prove to be a greater profit earning facility.

The tourism sector is currently one of the hardest-hit by the outbreak of COVID-19, with impacts on both travel supply and demand. This represents an added downside risk in the context of a weaker world economy, geopolitical, social, and trade tensions, as well as uneven performance among major outbound travel markets.

In recent decades, tourism has come of age and is now firmly established as an important contributor to sustainable development, economic growth, employment, and international understanding.

The Rann Utsav is one of a kind in the glamping world and the management must have a mitigation strategy to cope up and get ready for the next Utsav to be held in 2022 as in this era of Covid-19, it's all about survival of the fittest. The glamping industry in India must make note of the sustainability and reliability aspect of tourism to survive this unforeseen circumstance

All the parties including the industry players, government agencies, and the local and cross-cultural tourists can actively participate in and contribute substantially to the destination marketing strategy of the glamping destinations across India in this difficult time to boost domestic tourism and income.

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The acceptability and effect of practical culinary classes through virtual platforms - A case study of IHM Goa

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Abstract. Virtual and online platforms have been constantly evolving with the advent of new technologies and have made major strides in education. The need for modern approaches to teaching methods in culinary education with wide outreach has become evident in recent times. Traditional methods of teaching have been the most common approach for academicians in culinary institutes. In the present scenario, increased accessibility to the internet provides the students with more resources for culinary information. As a culinary instructor, it becomes necessary to adopt relevant and modern teaching methods to enable the development of students further. This article attempts a study on various internet platforms that can be used to impart culinary education in a classroom. It emphasizes the importance of virtual internet platforms in the application of modern teaching methods for the development of the culinary skills of a student. This research is exploratory in nature and data was collected from current students of 2nd Year B.Sc. H&HA at IHM Goa to understand the impact of the study. A qualitative data collection strategy was conducted in the form of semi-structured interviews of academicians of culinary institutes and hotel professionals to understand the benefits and challenges in using internet platforms to apply modern teaching methods in a culinary classroom. Culinary education has to absorb the use of modern methods of teaching to help in the development of the culinary skills of the student. Internet platforms will help in developing new teaching aids to engage the student effectively in line with modern technology.

Keywords: educational websites, virtual, culinary, skills, online teaching aids

1 Introduction

The myriad resources of the online world also provide each classroom with more interesting, diverse, and current learning materials. The Web connects students to experts in the real world and provides numerous opportunities for expressing understanding through images, sound, and text. (Edutopia Staff: Why Integrate Technology into Curriculum? 2008). The internet is a constantly evolving resource and new applications with current technology are available at your fingertips. More than 60% of the world's population has access to the internet and the numbers are growing at a rate of 7%. In India, the use of the internet has grown over 111 times between 2000 and 2020 (www.internetworldstats.com). With this tremendous growth, numerous online applications have mushroomed in the field of education, which to an extent even customizes the teaching method to the needs of the subject or student. Culinary education requires different approaches to enable the student to develop knowledge and skill. Most institutes in India mainly rely on traditional teacher-centric teaching methods in a culinary classroom. Even though industrial exposure training is part of the culinary students' curriculum in India, there is a vast possibility of differences when you compare one food and beverage outlet to another. It can be with its usage of ingredients, type of cuisine, type of service, the capacity of outlet, the layout of the establishment, type of clientele, trends, preferences and the list goes on. Food production on a whole cannot be measured because of the diversity in the cuisines of one region to another. For a culinary student, it becomes a valuable advantage to gather as much knowledge and skill as possible during their culinary educational journey. To provide a high level of exposure to the students, it becomes a huge task for the culinary instructors due to the limited time and syllabus deadline to aid the examinations. This article explores the idea of using the current internet applications and integrating them into a culinary classroom and also to gather inputs about its effectiveness and barriers from the perspective of culinary academicians and hotel professionals.

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2 Literature Review

Bellow (2012) quotes “I think to define technology integration; it's really using whatever resources you have to the best of your abilities. Technology, it's a tool. It's what you do with that tool, what you can make, what you allow the students to make. That's really what technology is about. If you can do this lesson without technology, that's great. But if you can do it better with technology, then that's why you use it. That's why you use tools.” in a short video - An Introduction to Technology Integration by Eduto-pia.

The future of classrooms will use cloud computing, personalized virtual learning environments, open content, mobile and game-based learning (Jackson, 2011- The Atlantic). In 2020, if we compare the teaching aids used, the author had successfully envisioned the extensive use of virtual internet mediums and aids in education.

Polat (2003) states, those times have passed when the reproduction of acquired knowledge was the main goal of education. The main goals of education nowadays should be intellectual and moral development, creative thinking and the ability to work with information.

Starr (2011) in her brief article in Education World states that technology is recognized as an instructional tool, not as a subject of instruction. Many educators, less familiar and less comfortable with technology than their students, struggle to seamlessly integrate a growing list of technology tools into their regular curriculum. This clearly underlines the need for regular training sessions of academicians to stay in line with the use of new internet apps and technological advances on a timely basis.

Zounek and Sudicky (2013) in their paper describe the various advantages and disadvantages of online virtual learning against traditional active classroom learning. It is agreed that the best of both methods can be combined and customized as per the requirements of the student and the field of education.

Brown, Mao and Chesser (2013) infer that teaching culinary skills that require the use of all five senses and on-hand experience would not be possible through only recorded videos. But online teaching can be used to fill the gaps that come with traditional classroom-style teaching. They also state that in professional kitchens chefs require to work in teams to run their operations efficiently and that cannot be achieved only through online teaching.

3 Present Structure of Food Production Curriculum at IHMs and Scope of Virtual Platforms in a Practical Culinary Classroom

The curriculum for food production at IHMs is extensive where theory and practical classes are defined into step by step completion of topics. But due to a large number of students enrolled and scheduling reasons the theory and practical classes are seldom linked and the syllabus is completed independently.

Each food production practical class usually consists of a set menu for which standard recipes are provided to students in advance. The students have to prepare the dishes on the menu and present them during the practical class. The instructor is present throughout the class monitoring and providing inputs and corrective measures.

Even though the conduct of the practical classes is done efficiently, some gaps arise in the understanding of the culinary concepts by the students which are often overlooked during the class. There are times when the right ingredient is not available locally or it is too expensive to be procured for the entire class and the students have to make do with alternatives. Certain food preparation methods and techniques are complicated or time-consuming and cannot be possibly incorporated into a regular practical class. It is also observed that due to the time interval between theory and practical classes the students often fail to recollect information that was already covered earlier. Virtual internet platforms have the capability to reduce these gaps by providing tools for educators to convey culinary concepts and to personalize the class to a certain extent. For a practical culinary class, virtual platforms can be used in a flipped classroom technique through a pre-class live or recorded lecture with a set of instructions that can be provided to

students through an online medium, which gives them more time to understand the subject topic before the actual practical class. They can make the most of the time during the class and apply the instructions and receive corrective feedback from the instructors in the practical classroom. For example, types of ingredients, standard recipes and demonstrations can be recorded or live-streamed to students at home. In practical classes, the student can use the cognitive abilities to the highest level and implement those recipes by preparing those dishes and analyze the differences. The culinary instructor will have more time to evaluate the techniques, give timely corrective feedback and help students to try out new variations or create new recipes.

3.1 Internet Applications for use in a Culinary Classroom

Online education is progressing at a rapid pace and many universities and professionals are providing complete online classes to increase the reach globally and to capitalize on the advantages of online education.

Massive Open Online Courses (MOOCs) like Coursera, edX, Swayam, etc. offering free as well as paid certificate courses with online classes available at your convenience. Web conferencing applications like Zoom, Google Meet, Cisco Webex, etc. are widely used to connect the students with instructors in face-to-face interactions. These apps provide a platform for discussions, webinars (online seminars) and lectures. Interactive online presentation apps like Prezi, Ludus, Visme, Google Slides, etc. can be used to deliver the lecture in an interesting and organized manner. Polls and surveys can be conducted online with help of apps like Slido, Google Forms, SurveyPlanet, etc. Game-based learning can be used to make online learning more interesting, competitive and to improve the cognitive skills of the student. In a classroom, we can use it as a recapitulation and evaluation tool and understand the gaps in the teaching process. Kahoot, Crowdprur, etc. are excellent online trivia game based educational platforms. Youtube, Periscope, Livestream, Vimeo are live video streaming apps and you can conduct virtual tours of a winery, cheese factory, etc. Virtual classroom management apps like Google classrooms, ClassDojo, etc. help in communicating notes, assigning tasks, collecting and reviewing assignments, etc.

3.2 Virtual Reality and Augmented Reality in the Future Culinary Classroom

Virtual Reality (VR) and Augmented Reality (AR) are hailed as the next big thing in the technological revolution. Virtual reality (VR) uses a special headset or glasses to immerse into a 3D virtual environment and provides realistic scenarios that enable learners to react to situations and understand the outcomes of their actions in a simulated environment. Augmented Reality (AR) involves realistic interactive 3D designs or elements that can be embedded in a real environment and is visible through a display device. Both VR and AR have already made major strides in the food industry like virtual menus in restaurants, training modules in the services sector, etc.

“The real promise of AR and VR for the training industry is its ability to provide new training environments and experiences that directly affect user engagement, skill and knowledge transfer and retention. Shared virtual and augmented experiences are already being used in gaming and entertainment and could transfer well to organizational and educational training experiences” (Oesch, 2017- trainingindustry.com).

Giglioli, Vidal and Raya (2019) in their research article used a cooking task to assess the behavioural and physiological functions in comparing virtual reality versus augmented reality. AR is already being used in an online teaching environment but limitations exist with issues of cost, few designs, supporting software and equipment, etc.

4 Research Objectives

- To underline the importance of the internet and the use of virtual platforms in practical culinary class and suggest steps or methods to close the gaps observed in a traditional active learning culinary classroom.
- To elaborate on new technological advances in the field of online education and the barriers affecting the learning of students in a culinary classroom.
- To organize an experimental culinary class presentation using current internet platforms to collect data on student experience and suggestions for understanding the emphasis of virtual platforms in a culinary classroom.

5 Methodology

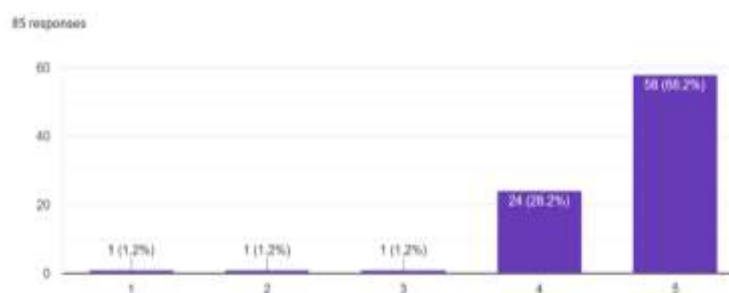
To understand the importance of incorporating virtual internet platforms into traditional teaching, an exploratory dual approach was made to collect data from students as well as academicians and hotel professionals.

- In the first method, a quantitative data collection strategy was used and the sample consisted of 85 students of 2nd year BSc. H&HA at IHMGOA. Prezi Present, an online presentation app which uses motion and smart structures were used to present a culinary topic on Staple Ingredients of Goa (<https://youtu.be/Vd1GWSakbiQ>). This presentation also used personalized videos and a small virtual tour of the Mapusa Fish Market, Goa. The class was conducted online through Zoom and feedback was collected from the students in form of an online questionnaire with help of Google Forms.
- The second method was a qualitative data collection approach consisting of semi-structured interviews with 5 academicians and 2 kitchen executive chefs to understand the gaps in traditional classroom-style education, the benefits and challenges faced through the virtual mode of education.

6 Results and Analysis

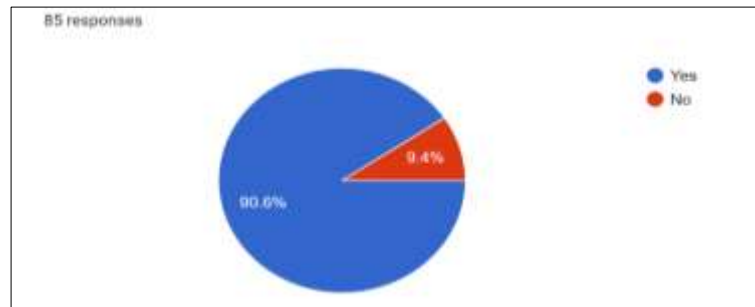
Data collected from students after the online class on Staple ingredient of Goa:

1. On a scale of 1 to 5, how would you rate this virtual presentation on Staple Ingredients of Goa with respect to topic information in comparison to a traditional class session? (1- poor, 5- excellent)



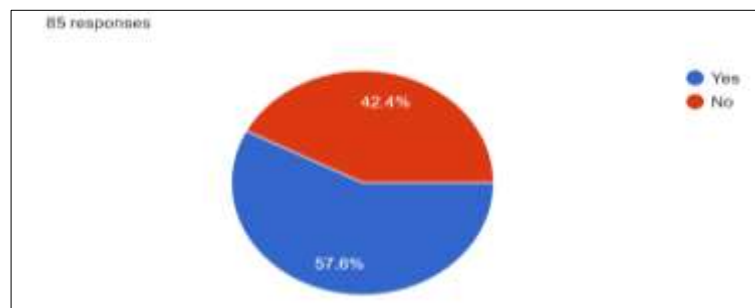
Analysis: Over 96 % of the students found the virtual presentation to be more informative than a traditional classroom session.

2. Were you able to understand the presentation on Staple ingredients of Goa better through a virtual online platform?



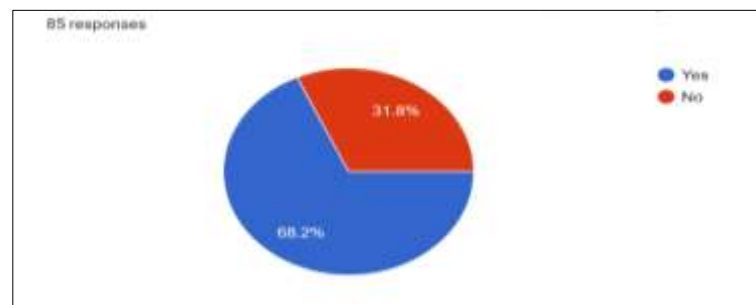
Analysis: Most of the sample population understood the concepts better through this online mode of presentation emphasizing the need to blend the use of virtual platforms along with practical training.

3. Have you used virtual online applications in the preparation of presentations and assignments?



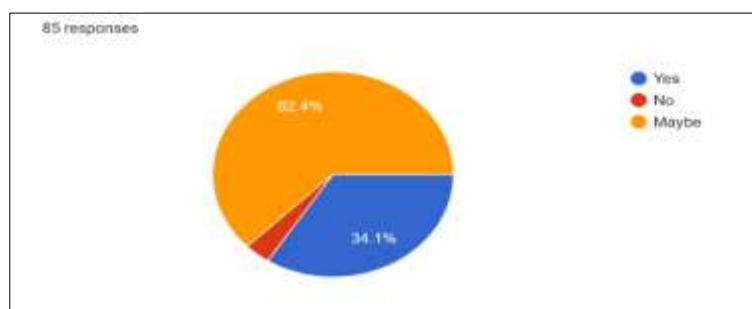
Analysis: The majority of the students are familiar with virtual platforms for educational purposes even though it highlights the concern for students with less online competence, internet connectivity and lack of equipment required for regular internet use.

4. Would you like to experience learning through virtual online platforms combined with traditional classroom methods in practical culinary education in the future?



Analysis: A majority of students are interested in experiencing blended virtual and hands-on learning in future culinary education.

5. Do you think virtual reality (VR) or augmented reality (AR) may be used to understand culinary concepts in the future?



Analysis: A majority of students were positive about virtual reality and augmented reality applications being used for understanding culinary concepts in the future.

Opinions from students during the virtual presentation:

- Many students opined that this mode of presentation was very informative and enjoyed the visuals better than a traditional classroom. Many found the virtual tour of the market helpful in knowing the various ingredients used in Goan cuisine.
- Students also mentioned that this range of ingredients was not usually provided in the usual practical classroom and the audiovisual description of the ingredients helped them to conceptualize better. The students also felt connected with the presentation as the information was in line with the syllabus and personalized to the need of the classroom.
- Some of the students also mentioned that online session helps in understanding the theoretical aspects of culinary arts better. These theoretical aspects could benefit when they can apply in an active practical classroom.

Data collected from interviews with academicians and hotel professionals:

- Academicians mentioned the challenges of students in understanding exotic ingredients and culinary techniques, especially in international cuisine.
- The faculty also suggested motivating students to do research, assignments and the internet as a big resource for information and tools are available to assist instructors to incorporate them in their teaching methods.
- The inputs for challenges faced by instructors in online education were unanimous with issues like internet connectivity, costs of subscriptions towards procuring online educational apps, developing infrastructure to accommodate video recording, editing, and interactive features. But a positive outlook was present towards combining online and traditional teaching methods and to work for a progressive transition to be open to inculcate new technology into teaching.
- Another challenge stated by a faculty was that a high number of students enrolled in culinary institutes does not help in providing student-centric teaching methods. This barrier could be curbed to an extent by using internet applications to assign projects, tasks and activities to collect online resources supporting their culinary syllabus.
- Hotel professionals feel that from a culinary aspect specialization of the field should be provided to students and new recruits are well informed about the theoretical concepts in the culinary fields. It can be inferred from the interview that the students should receive more exposure to practical skills and techniques. And the line between challenges and classroom learning can be narrowed by using online tools or aids and incorporating with active traditional classroom style of teaching.

7 Conclusion & Suggestions

With this study, it can be said that it is difficult for culinary arts education to be conducted online in its entirety. But a culinary classroom instructor could use the benefits of the internet and interactive online applications to provide an informative and interesting audiovisual experience to the students. This form of blended learning involves the best of both worlds of traditional classroom-style teaching and virtual online educational applications.

It is evident that to implement such measures in culinary classrooms, instructors should be up to date with new internet applications emerging from time to time. The cost of equipment and subscriptions of online applications are indeed a challenge for some educational institutions but it can take progressive steps to be able to facilitate blended modes of learning.

The high number of students enrolled in culinary institutes in India also proves as a barrier to personalize culinary topics as per the requirement of the student. In these circumstances, internet applications provide a powerful resource that could be molded as per the requirement of the culinary instructor and used to develop the knowledge and skills of a culinary student.

It is suggested to use internet applications like web conferencing to meet industry professionals, live streaming of videos from the local fish market or spice garden, a virtual tour of a hotel kitchen to understand an efficient layout, culinary educational games to generate interest of students, which are just some of the virtual methods that can be used by an instructor in a culinary classroom.

8 Limitations

The study has potential limitations due to less available sources of previous research in the use of current online education tools in culinary arts. This study only includes a small sample of participants and the findings can be subject to bias due to barriers like varied speeds of internet connectivity and level of digital competence of the participants.

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Hotel employees' self-perception of Staff Uniform and its effect on job satisfaction in selected hotels of West Bengal and Orissa

Nilanjana Das¹

ABSTRACT. Uniforms are the outfits of specific designs used to generate a sense of honour, pride and belongingness among the staffs. In order to make the hotel industry look more professional, starting from the time the guest comes to the hotel till they check out, all the staffs should look confident and smart. This is possible only when the uniforms are efficiently designed. The purpose of the research is to find out the new ideas being followed in designing of uniforms in hotels as well as its importance in hospitality industry. A properly dressed employee can also boost up the image of the organisation where he/she is working. All the research findings are based on the interviews with Head of the departments of different hotels along with the senior team members in some hotels of West Bengal and Orissa. Questionnaires are used to find out the new concepts being adopted in designing the uniforms. The study aims at finding out the impact of modern uniforms on hotel staffs as well as on the guests. The objective of this research is to understand the role of modern uniforms in hotel industry. Hotel staffs play an important role in advertising the brand name of the organisation. Providing proper treatment to the employees of the hotel will help in creating better guest satisfaction.

Keywords: Uniform, belongingness, image, sense of honour, brand.

1 Introduction

Uniforms can satisfy the needs of the staffs at different positions in the hotel. Uniforms can fulfil the need of the staffs at various levels like strategic and operational levels. Starting at the strategic level which suggests that in order to enhance social interaction among the organisation, a comfortable atmosphere must be created (Daniel K, 1996). It indicates that uniforms portray a unique image which represents the culture of the organisation which ultimately creates a positive impact on the behaviour of the staff and also motivates them to improve their performance (Earle H, 2003).

On the other hand the operational level suggests that the uniforms of the staffs must be designed keeping in mind the functionality of the same which will appropriately suit the work the staffs are involved with. Hotel uniforms largely contribute to differentiating the hotel staffs and guests; enhances staff satisfaction and increases their commitment towards work (Dipietro RB, 2008, Nelson K, 2000).

Uniforms play an important role in expressing the image of the organisation and enhancing marketing activities specially through advertising through electronic media which describes how efficient, well groomed and confident the staffs are in serving the guests. Hence special attention is needed while designing uniforms of the staffs. The uniform design will be successful if there is right balance between the decor of the organisation, new trends, fashion, ergonomics, comfortable to wear, safety and aesthetic appeal (Sonja Sterman, 2011).

The research aims at finding out the new ideas being implemented in designing the uniforms of the staffs in hotels. Secondly it also finds out the impact of modern uniforms on hotel staffs.

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2 Literature review

A uniform is described as the combination of garments worn together by the staffs of the organisation. The purpose of providing uniform is not only to protect the staffs from adverse weather condition, to protect against accidents and related physical and psychological risks but also uniform is used to create differences between hotel staffs and guests (Flugel, 1930). The uniforms of the employees are considered to be one important aspect of tangible service which can reduce uncertainty for customers as uniforms provide clear hint to the guests regarding whom to contact in case of needs (Rafaeli A, 1993).

2.1 Features of uniform

Uniform can improve the moment of truth (Carlzon J, 1987) between the guests and the staffs where the front line staffs act as the face of the hotel while they interact with the guests. This has been focussed by Kandampully that such image within the organisation truly represents the culture of the same (Kandampully J, 2007). Uniforms play an important role in creating positive impact on overall performance and behaviour of the staffs which in turn improves guest expectations (Earle H, 2003). Research on employee satisfaction has proved that uniform design features play an important role as they motivate the staffs in improving their level of performance (Nelson K, 2000). The reactions of the guests as well as the behaviour of the staffs working in the organisation are mostly influenced by the uniforms been provided to them (Adomaitis AD, 2005).

Studies have shown numerous benefits of wearing uniform by the staffs which includes the protective function of wearing uniform, creating image of the organisation and standardisation of service. Apart from the above mentioned benefits, some other benefits of wearing uniform in hotels are to ensure safety to the staffs while working, to ensure healthy working environment as well as to ensure the functional needs of the hotel (Martinez-Tome M, 2000). Uniforms are the means through which the values of the hotels can be transferred to the hotel staffs (Lurie A, 1983). The newly added ideas incorporated while designing the uniform for the staffs has contributed largely increasing the level of confidence among the staffs. Hence the newly designed uniforms add new colour, provides comfort and enhances the image of the organisation.

2.2 Designing of Uniform

The entire concept of designing of uniform depends upon the comfort ability of wear and need of the service. The new trends adopted in uniform design are made on the basis of the need of the department the staffs will be serving. Nowadays new variations have been introduced in designing of the uniform. They have joined hands with the new fashion designers to implement new trending designs in uniform.

The following are some of the emerging trends noticed in the hotels:

Customised Uniform:

In early days the hotels focussed mainly on implementing traditional look on the uniforms. However they are now moving towards implementing designer customised uniform after consultation with the hotel staffs. "If you are embarrassed to be seen in your uniform, chances are very high that you are not going to make an effort to be seen by the public, nor are you apt to go out of your way to assist a guest" mentioned by Sheehan (2003). Therefore the uniforms to be tailored should fit the desired requirements of the staffs.

Addition of vibrant colours:

The designers had taken into considerations about more of the vibrant colours to the uniform which was not the case in the earlier days. In the earlier days mostly the general light or black and with coloured uniforms has shifted to more vibrant colours. Such colours have been introduced in designing scarves, embroidered items etc. Even bright shades of colour like citrus, blue, green etc has also made their in the modern uniforms for the hotel staffs. Even the traditional colours of the suit are also changing to charcoal grey or to some other shades of grey. Adomaitis and Johnson (2005) mentioned that the behaviour of the staffs changed when they wore uniforms of different colours.

Comfortability of wear:

Hotels are nowadays shifting from strict traditions of wearing bow ties or neck scarves to open collars or Chinese collars. Special attention has been provided to the level of comfort been provided to the hotel staffs while designing their uniform. Moreover the traditional concept of wearing the hard box type shoes has been shifted to flat soft comfortable one so that they can stand and work comfortable for prolonged time period. Even the staffs also fail to perform their tasks effectively if they wear uncomfortable and ill-fittings uniform which will have a negative impact on the satisfaction level of the guests (Sheehan, 2003).

Local flair:

Hotels are more concerned about introducing local culture in designing the uniforms for the staffs. Therefore the guests can get the essence and feel of the place they have visited. Such unique designs in the uniform will be noticed in heritage properties where the guest can even witness the ethnicity of the place through the traditional style of wear of the staffs.

Providing monochromatic look:

Nowadays the designers suggest monochromatic and single colour look from top to bottom to add simplicity and sophistication to the overall look of the uniform. Earlier the uniforms were designed with two colours to clearly distinguish the upper part of the body with the lower part. However the designers now suggest single colour to the entire set of uniform. The colour of the uniform can be all black, all grey, all brown or all blue with different coloured accessories which suggest simplicity of wear.

Flexibility of wear:

There are numerous new options available to the staffs in the present days. Rather than the traditional wear like sari, more options in pants and skirts are also available to the staffs. Front desk staffs prefer to wear skirts with jackets rather than the traditional suiting material. Moreover the advanced technology had also provided the designers with the scope of designing uniforms which are easy to clean, maintain and are more durable. Even the factor of style is well blended with the theme of the hotel which adds a unique sophisticated touch to the design of the uniform.

Blend of formal and casual look:

Hotel are moving away from the traditional conservative look and giving a tinge of casual look to the uniforms. Hence brings a blend of both formal and casual look to the modern uniform. This gives a relaxed and approachable look to the uniform and enthusiasm to the staffs to work effectively.

3 Objective

The following are the few questions raised in this research study:

1. To explore if the staffs like the designs of the uniform being provided to them.
2. To investigate the new changes being made in the uniform design.
3. To investigate the factors affecting the uniform wear in hotels
4. To investigate if the uniforms affect the level of satisfaction of employees in hotels.

4 Research design

In order to get appropriate answers for the questions, a questionnaire was prepared to find out the new trends in uniform design prevailing in hotels of West Bengal and Orissa, factors influencing uniform wear, job satisfaction of the employees and several other data. A seven point Likert-Scale is used in finding out the preference of the staffs in designing the uniform and finding out the level of satisfaction among the staffs. Along with the questionnaires qualitative interviews are also conducted for the staffs of the different departments and levels. The questionnaires were first distributed to the executive officers for approval and then they are distributed to the staffs. These questionnaires are randomly handed over the staffs in numerous hotels. The data was collected with the help of Human Resource departments of

the hotels. The employees were explained the purpose and synopsis of the research study. The participants were given a time span of 15 minutes to answer to the questions.

5 Data analysis

The total number of participants in the process of collection of data was 200. The demographic factors like age, gender, years of experience of the employees are taken into considerations. Out of 200 respondents, there were 120 female respondents and rest were male. The average age group of the respondents were 35 years and they had on an average 5 years of experience. In order to answer the first two questions, a set of 12 questions were prepared in the form of statements for the respondents to answer. A 7 point Likert scale method was used for evaluation, where 1 indicates highly disagree and 7 indicates highly agree. The table below shows the list of statements prepared to get the appropriate answer from the respondents.

Table 1. Statement of evaluation of problem

[7-point Likert Scale is used: 1 indicates Highly disagree and 7 indicates highly agree.]

Sl. No.	Statement	Result (Mean value)
1.	New changes have been introduced to the uniform.	6.5
2.	The design of the uniform matches with my job role	5.55
3.	The uniform provided by the organisation is comfortable to wear	6
4.	The uniform provides confidence in serving the guest needs	5.45
5.	The management involved you while taking decisions about the changing of designs of uniform.	4.6
6.	A touch of local culture and heritage been introduced to the uniform design.	6.2
7.	More vibrant colours are added to the uniform.	6.1
8.	New varieties of dresses options in uniform are available.	5.30
9.	New uniform designs are the blend of formal and casual look.	5.55
10.	More flexibility has been introduced to the new sets of uniform.	5.45
11.	The uniform provides a positive impact on behaviour.	5.25
12.	New uniform enhances job satisfaction.	5.50

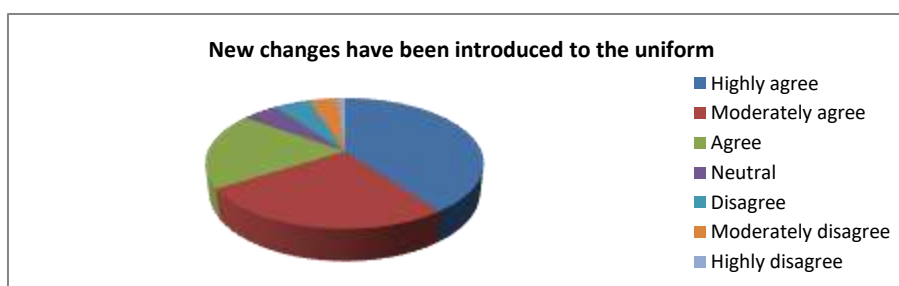


Fig. 1. New changes made in uniform designs

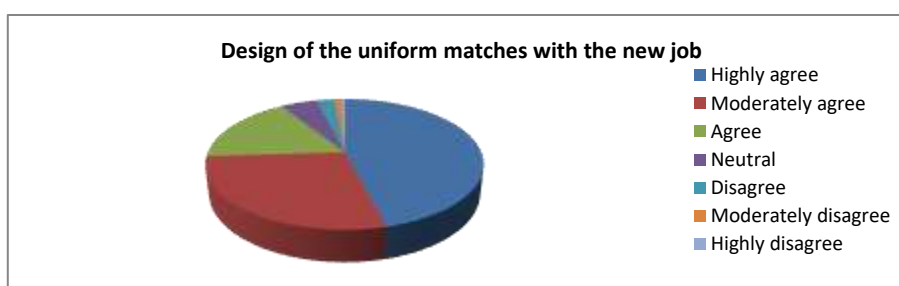


Fig. 2. The design of the uniform matches with my job role

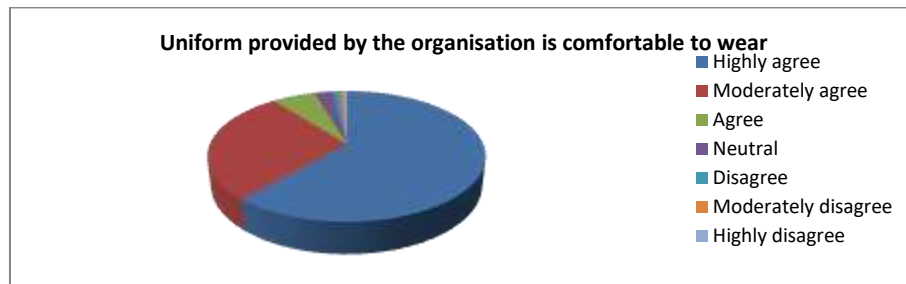


Fig. 3. Comfortability of uniform wear



Fig. 4. Uniforms in providing confidence among staffs



Fig. 5. Involvement of staffs in uniform designing

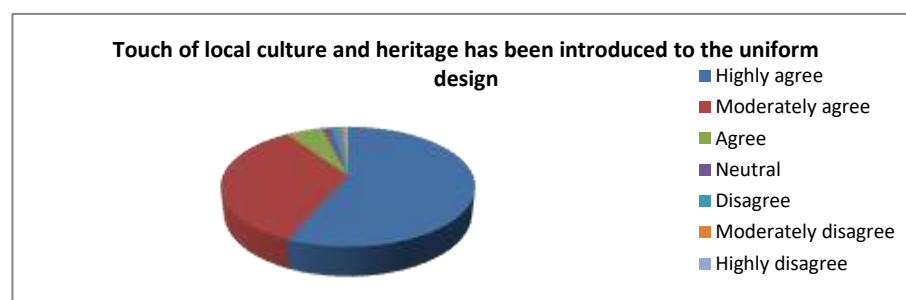


Fig. 6. Touch of local culture and heritage in uniform design

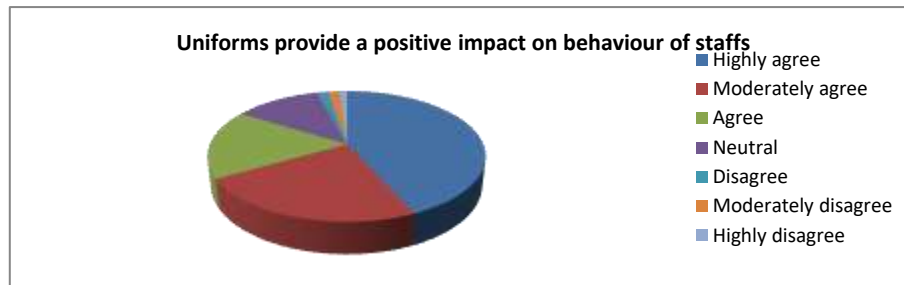


Fig. 7. Impact of uniform on behaviour of staffs

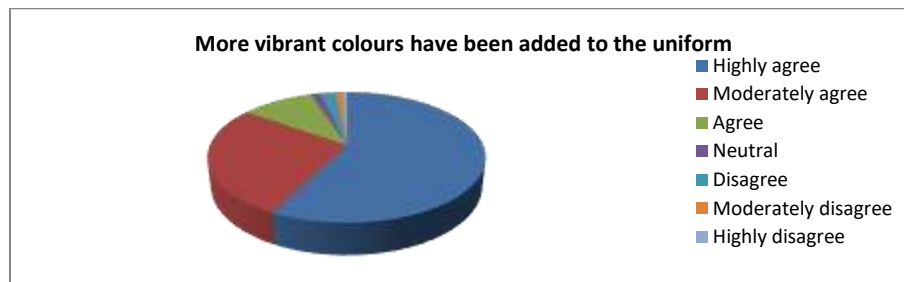


Fig. 8. Addition of colours to uniform



Fig. 9. New varieties of dresses options are available in uniform

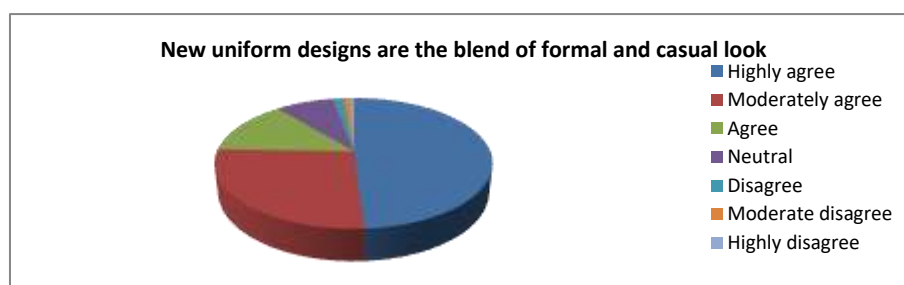


Fig. 10. Blend of casual and formal look in uniform

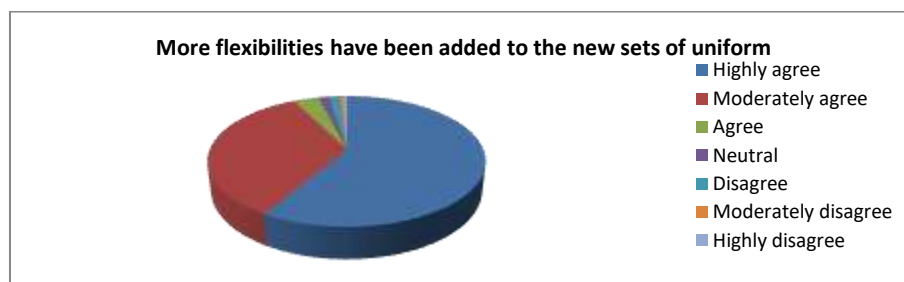


Fig. 11. Flexibilities in uniform design in hotels

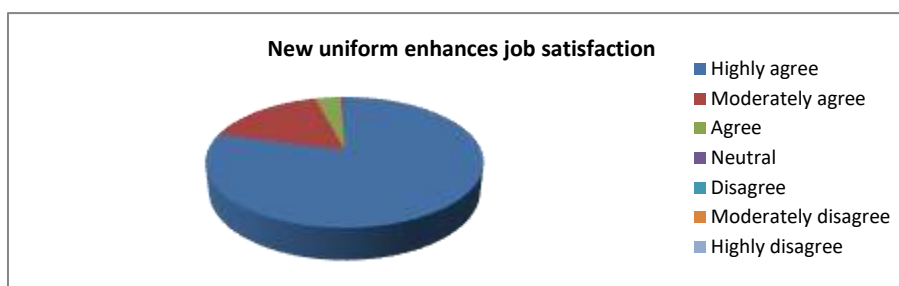


Fig. 12. Impact of uniform on job satisfaction

From the above table it has been found that the highest score is obtained by the statement indicating "New changes has been introduced to the uniform"(6.5). This means that about 92.85% of the respondents had agreed that new changes to the uniforms had been made. The next high scores are obtained by " A touch of local culture and heritage been introduced to the uniform design" (6.2), "More vibrant colours are added to the uniform" (6.1) and "The uniform provided by the organisation is comfortable to wear" (6.0). Therefore we can say that the new designs have been introduced to the uniforms. The uniforms are not only comfortable to wear but also more vibrant colours like blue, green or citrus are added to the uniforms. It has also been observed that the uniforms are now the blend of both formal and casual style and hints of local culture and traditions can also be noticed in the uniforms. More over the newly designed uniforms also enhances the level of job satisfaction. However it has been observed that numerous negative responses are received while answering to the statement of "The management involved you while taking decisions about changing of designs of uniform".

After going through the various responses of the employees it has been observed that lot of changes have been brought about in the new uniforms. These uniforms have enhanced the level of confidence among the staffs to anticipate the guest needs which in turn helps in maximum guest satisfaction. While understanding the third research question that has been raised, the following are the few statements been presented to the employees for receiving their responses. The table below describes the prime factors affecting the uniform wear in the hotels. Again a 7 point Likert scale has been used for effective justification.

Table 2. Statement for the factors affecting uniform wear.

[7-point Likert Scale is used; 1 indicates strongly disagree and 7 indicates strongly agree.]

SL No.	Statement	Result (Mean value)
1.	The uniforms provided suit the job role.	5.95
2.	Uniforms look good on every employees.	5.75
3.	Suitable materials are used for designing different uniforms.	5.90
4.	Uniforms are comfortable to wear.	6.20
5.	The uniforms provided are easy to clean and maintain.	6.10
6.	Uniforms are embroidered with company logo and names of employees.	5.20
7.	Varieties of colours are added to the uniforms.	5.50
8.	Uniforms provided properly fit to the body of employees.	6.10

The above statement indicates that the most important factor affecting uniform wear is the level of comfort being provided by the uniforms to the staffs. The next important factors are uniforms should be easy to maintain and clean so that the employees can easily use a stained free uniform which will enhance their level of confidence. Moreover designers also use suitable uniform materials while designing the uniforms for different staffs of hotels. The other important factor affecting uniform wear is it's appropriateness to the jobs being performed. For example, housekeeping staffs are always provided with short sleeved, beltless and comfortable uniform as they have to perform lot of bending, climbing and other tedious activities. Again the uniforms of the waiters should have pockets to keep their pens, lighters,

angel's wing etc. However it has been found that many uniforms of the staffs are not embroidered with employees' names. Rather they are handed over with name badges.

Again a set of 6 questions have been raised in finding out the answer to the last question of the research problem. The following are the set of questions being prepared to get responses from the hotel employees.

Table 3. Statement for evaluating the impact of uniform on job satisfaction of employees.

[7-point Likert Scale has been used where 1 indicates strongly disagree and 7 indicates strongly agree.]

SL. No.	Statement	Result (Mean Value)
1.	Uniforms create a feeling of belongingness among the staffs.	5.20
2.	Blended uniforms provide higher level of satisfaction in performing the duties.	5.55
3.	Uniforms provide additional motivation to the staffs in performing their tasks.	5.45
4.	Uniforms provide a professional look to the employees.	6.10
5.	Uniforms are the means of communication.	5.25

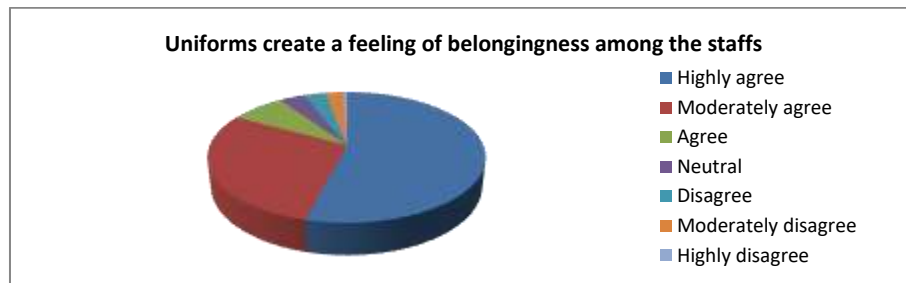


Fig. 13. Uniform create a feeling of belongingness among the staffs

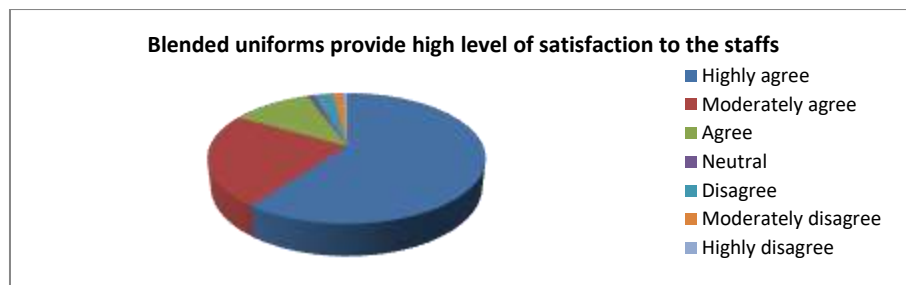


Fig. 14. Uniform provide high level of satisfaction to the staffs

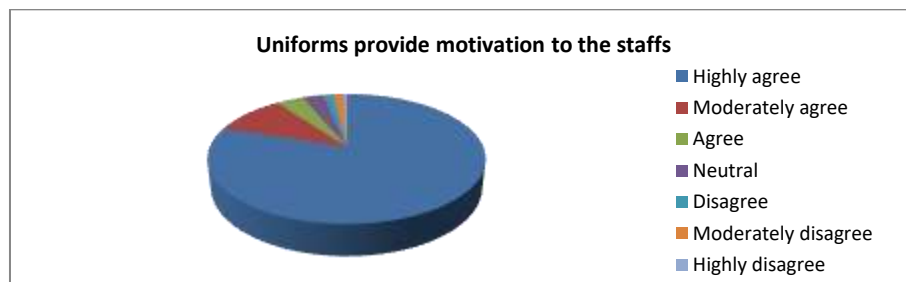


Fig. 15. Uniforms as a source of motivation to the staffs

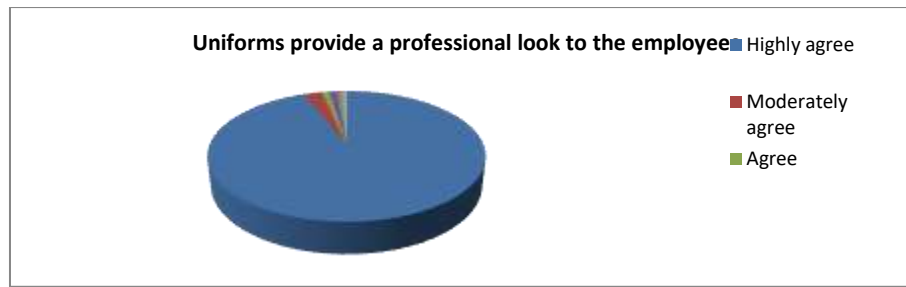


Fig. 16. Uniform provide professional look to the employees

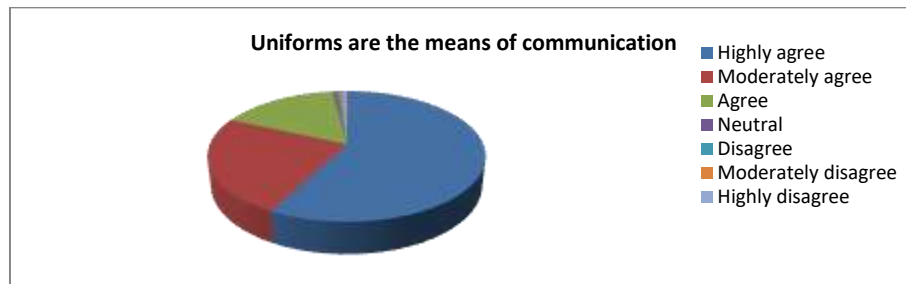


Fig. 17. Uniform as a means of communication

From the above table and pie charts it has been found that most of the employees had agreed to the point that new uniforms provide more professional look to the employees. Not only does the uniform provide confidence to the staffs in executing their duties but also the guests also feel confident on the staffs if they are well dressed.

A blend of formal and informal wear in uniform gives more satisfaction to the employees in performing the tasks. Moreover many staffs had also agreed that uniforms create a sense of belongingness which develops team work among the employees.

6 Conclusion

Uniforms provide us more than the mere protective functions. It enhances the level of confidence among the staff members to deliver their duties and responsibilities effectively. Also in collaboration with designers numerous new patterns, ideas and variations have been incorporated into the existing styles of uniform resulting in enhanced job satisfaction of the employees of the hotels.

Through this research study we have observed the prevailing modern trends in designing of uniform. It has been observed that hotels are providing those uniforms to the staffs which are comfortable to wear for longer duration of time. Unlike older days designers are nowadays also concerned about customised uniforms which are made after consultation with the employees of the hotels mostly the executives.

Even the hint of local traditions and culture into the uniform mesmerizes the guest about the ambience of the place. Moreover addition of vibrant colours to the dresses has also positive changes in the behaviour of the employees.

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A methodical study of overall food system design for space shuttle flight - A Food Safety & Nutritional Requirement

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Abstract. Purpose: The concept of eating aboard, to consume in the machinery-filled weightless environments in a spacecraft is different. It can be affected by biological, operational, and engineering factors in a spacecraft. These factors involve the effect of the food and the aesthetic structure of the food's container. The paper talks about Food in space. Requirements of astronauts who go for space exploration, in terms of their nutritional requirements and allowances.

Background: The astronauts in spacecraft must have good food and nutrition to keep their psychology and physiology in good shape. There are various alternatives for feeding astronauts for short term and long term missions to celestial bodies. It covers various aspects like nutritional values and RDA, Food Safety protocols. To understand why space food is different from regular food on earth and what can be done to keep the taste as close to natural as possible and the human experience of eating in space needs to be explored.

Methodology & objectives: Our study will focus on the food which is consumed on the space ship, its origin, advances, and requirements of nourishment through food onboard a space ship, its effect, and the long term implications of eating processed food. This paper will try to address the history and development of space food over the years with an emphasis on the functional and nutritional aspects of food.

Conclusions/discussions: Through this paper, we aim to explore the future of space travel that complies with nutrition requirements (Enrico, 2016) and at the same time strengthens efforts to consider food for health and wellness (Nestle et al. 2009) but also as a reason of delight. It is important to think beyond the functional purpose of food in the context of space exploration. We intend to research in human-food interaction design and build on insights from food science and multisensory research, of components in the restricted space environment that can be crucial for a pleasant food experience.

Keywords: Space Food, Nutrition, Safety, Environment, Astronauts

1 Introduction

Space food is another dimension designed for consumption in space. The nutritional intake is a deterrent and prioritizes concern on the health and performance of astronauts engaged in and also after the space flight. There have been studies in the nutritional aspect addressing the bioavailability and nutritional requirement amendments for the space crew members and there is limited information available on the level of stability of nutrients on the shelf life of the food system. The most common means of transporting the service of space food is in the form of the processed and pre-packaged food system. The allied stakeholders in this delivery till late were the logistics and resource availability which restricted the use of fresh and refrigerated food systems. Despite good development in the pharmaceuticals, the supplements cannot replicate the numerous bioactive compounds and the synergies that are provided through whole foods and a balanced diet. When we talk of a remote environment, it demands a system that can deliver high quality, safe and hygienic food provisions inadequate balance that would require minimum storage facilities and storage period ranging from 1-5 years. The food when consumed should not be insipid, good in shape, color, texture reasonably of the best quality also in providing required macronutrients, vitamins, and minerals.

The mode of the current International Space Station (ISS) food system comprises of processed foods that are vacuum-packaged in high- barrier laminates with an aluminum foil layer that is not only safe

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microbiologically but also compatible with microgravity as is the resultant environment. The food safety norms are conceptualized by the cook-freeze food system, irradiation, or retort thermostabilization processing. This enables chemical and structural changes that help to modify the food quality and stability. The production cycle in its storage impacts the vitamins but the data available doesn't reiterate packaging and shelf-life parameters. The evaluation of the spaceflight food system's nutritional stability, indicate that vitamins B1, B9, K, and C have shown signs of degradation. The concept of eating aboard, in a micro gravitational environment inside a spacecraft for astronauts is very difficult. It can be affected by either or biological, operational, and engineering factors in a spacecraft further affecting the aesthetic structure of the food's container.

2 Background

The astronauts in spacecraft must have good food and nutrition to keep their psychology and physiology in good shape. There are various alternatives for feeding astronauts for short term and long term missions to celestial bodies. It covers various aspects like nutritional values and RDA, Food Safety protocols. To understand why space food is different from regular food on earth and what can be done to keep the taste as close to natural as possible and limited studies on astronaut experience of eating in space

Planning and dispensing a well-balanced meal for the astronaut team is a complex issue. This compilation tries to address the degree of that complexity, nutritional intake from the mechanized food system. The foods undergo fortification or supplementation as a nutritional countermeasure, the supplements in the form of capsules may degrade and are subject to major approval to consumption. Studies have been conducted on the stability of foods processed with microwave-assisted thermal stabilization (MATS) in contrast to current thermal processing methods, and extended to frozen or refrigerated storage for all space foods. It has been concluded as a shorter thermal exposure in MATS processing and the slowed kinetic rates of chemical degradation at reduced temperatures are expected to improve vitamin stability and increase shelf life. Convincible proof has been documented regarding the bio regenerative salad crop system being grown in-ground chambers and on the ISS thus illustrating favorable horticulture methods used to enable crops to be grown in spaceflight that could help supplement nutritional needs.

The 1960s witnessed advancement in technology with the mission of sending men into space by NASA. The important element of wellbeing took some more time to be perfected - the food. A lot of research and development has taken place in the development of space food. It has not only increased the number of items on the menu it has also intensified the safety concern in the wellbeing with choices available. It is fortunate to know that these days' astronauts are even getting treated to gourmet meals designed by celebrity chefs. An experience that is way apart from the dining /eating habits, what food does to the health of the astronaut as it is a time-bound excursion and the prelims of the manner of shipment and consumption convenience involved in the interest of the astronaut's wellbeing en process?

The health of the astronauts is dependent on factors that determine the characteristics of space food in terms of being Biological, Engineering, and Operational. The biological factors in food design make the food palatable, safe, nutritious. It must also be easy to digest and should not result in any kind of gastro-enterological or hygiene problems. The engineering factors help to make the food dehydrated to make it lighter, compact, durable, lightweight as the expedition is of longer duration, under restricted temperature, pressure, acceleration, and vibration of flight. The operational factors involve both the food preparation and its packaging, which can be easily prepared, with a longer shelf life and food must be easy to both prepare and dispose of to save time. While there are no provisions to refrigerate the food and most of the food is dehydrated or from the cook-freeze. No fresh fruits or vegetables to savor in their tenure of a few weeks or months. One of the major differences between space food and regular food is in the packaging and design. Space food needs to be confined in the low-gravity (microgravity) environment. Crumbs can become deadly in low gravity if get lodged in shuttle vents or nose or mouth and pose a choking or breathing hazard. Drinks like tea, coffee, orange juice, apple cider can pour and float so are packaged as powders. Astronauts add water to rehydrate to consume them. Tortillas are used instead of bread. Condiments like ketchup, mustard, and mayonnaise are provided in their standard forms, but salt and pepper are provided only in liquid form. Astronauts tend to eat 70% less food than people on Earth. Once done with eating, throw their packages away in a trash compactor inside the space shuttle.

3 Objectives

- To study advancement in space food systems
- To understand nutritional requirements through food onboard a space ship
- To explore the future of space foods

3.1 Space food systems

The Space Food Systems evolved as U.S. space programs:

- 1961–1963 - The Mercury program
- Space food was packaged in bite-sized cubes, freeze-dried powders, and semi-liquid foods (such as ham salad) stuffed into aluminum tubes.
- 1965–1966 - The Gemini program
- In addition to the mercury program, bite-sized cubes were coated with plain gelatine so that the crumbs could be reduced thereby prevent clogging the air-handling system. Freeze-dried foods were stored in plastic containers to make rehydrating easier.
- 1968–1972 - The Apollo program
- This program was the first to have hot water for rehydrating foods and also improve the taste and quality. This program saw the use of the spoon bowl, a utensil that eliminated having to consume the food into the mouth directly from the package.
- 1973–1974 - The Skylab program
- As years have gone by, the research and development helped improve the quality, taste, and variety of foods. This program saw the use of refrigerators and freezers to store fresh foods (72 different food items).
- 1981 - The Shuttle program,
- This program saw the inclusion of grocery stores. Three- meal-per-day menus that were planned by dieticians to contain a balanced supply of the nutrients needed throughout the tenure. Freeze-dried foods were re-hydrated using water that is generated by the Shuttle's fuel cells. Foods could be heated in a convection oven in the Shuttle galley.

Nutrition has played a critical role in the explorations about their extent, storage, and pro-crew facilities. Long-duration spaceflight needs to meet the nutrient requirements for the wellbeing of the astronauts in the restricted environment. It has been derived that due to microgravity, astronauts lose calcium, nitrogen, and phosphorus. The loss is to be mitigated with sustainable characteristics like adequate nutrient supply, lightweight, compact, easily digestible, palatable, physiologically appropriate, well packed, well stored, easy to clean-up, high acceptability with minimum preparation, higher shelf life with no compromise on the quality concern.

There are certain codes for the foods that are sent into space, namely:

- (B) - Beverages - Rehydratable drinks.
- (FF) - Fresh Foods - Foods that spoil quickly - eaten within the first two days of flight
- (I) Irradiated (I) Meat - Beef steak sterilized with ionizing radiation
- (IM) Intermediate Moisture (IM) - Foods with some moisture
- (NF) Natural Form (NF) - Mostly unprocessed foods that can be had ready - nuts, cookies, granola bars
- (R) Rehydratable (R) Foods – Dehydrated foods that can be rehydrated with hot water to be consumed.
- (T) Thermo-stabilized (T) - Foods processed with heat to destroy micro-organisms and enzymes that may cause spoilage.

3.2 Nutritional fitness

According to a study 109 of 203 foods currently available on the ISS standard menu were selected for nutritional investigation based on the method of stabilization and the primary food matrix. The foods were processed and packaged according to the current space- flight specifications and then stored at 21 °C for up to 3 years.

Later sent to the laboratory (Covance, Madison, WI, USA) for composite analysis of 24 vitamins and minerals following the Official Methods of Analysis of AOAC International.^{9, 10} Samples were similarly sent after 1 year and 3 years of storage in a 21 °C incubator (temperature on ISS). Foods were prepared accordingly to ISS instructions (rehydration) before analysis.

A few observations concluded:

- The data was categorized group-wise and indicated nutritional degradation of the food system qualitatively.
- Astronauts need less iron than they do on Earth to manufacture new red blood cells but astronauts have fewer red blood cells in space. Excessive intake of iron can result in health issues.
- Astronauts also need extra calcium and vitamin D, because of no proper movement, the bones don't get the exercise they need to stay strong in the weightless environment.
- Food allowances were fixed @ 723 grams of food including packaging per astronaut per day.
- With only soft foods can be an unappetizing experience for the Astronauts.

3.3 Packaging space food

There has been advancement in the packaging for various menu options including fruits and vegetables that can be safely stored at room temperature are eaten on space flights.

A few of the characteristics are as below:

- Warm pouches - Savory shrimp cocktail and apples with black current juice available.
- Clear flexible pouches - Irradiated food and natural foods that are cut with scissors.
- Polyethylene dropper bottles - Condiments like salt and pepper are contained in. Salt is dissolved in water, whereas pepper is mixed in oil.
- Vacuum sealed beverage pouches - Freeze-dried drink mixes (coffee or tea) or flavored drinks (lemonade or orange drink)
- Powdered form - Coffee, tea, cream, and /or sugar

Space exploration mission entails keeping the astronauts healthy for judicious research. During Apollo and Skylab missions laminate of polyethylene was used, followed by injection molded dishes with a flexible lid which was used for rehydrated foods. The advancement in food packaging systems is

- Flexible bowl and lid with a septum adapter - Rehydratable food package
- Aluminum or bimetallic cans - Thermos stabilized foods
- Modified atmosphere packaging techniques - Rehydratable and bite-sized foods
- Refrigeration and quick-freezing - preserve food flavor, nutrients and prevent spoilage.
- Nitrogen Flush - each package is flushed three times before the final seal at 21 to 29 inches Hg vacuum.
- Beverage pouches can be filled for drinking water. Special straws are used for drinking liquids.

3.4 Future of space food

Considering the huge impetus to the quality standards and complications of the niche space food, there are few categories of space foods:

- Functional foods- rich in ingredients
- Space agriculture - food is grown in space
- Bugs and Worms
- 3D printed food

Functional foods are rich in ingredients with functional properties. These characteristics can include – more concentration of antioxidants, water, fiber, and low on salt and sodium. Depending on the commodity, freezing and canning processes may enable to preserve nutrient value. The thermal treatment of processed food products can cause loss of water-soluble and oxygen-labile nutrients such as vitamin C and the B vitamins.

Ex:- Tortillas are heat treated and specially packaged in an oxygen-free nitrogen atmosphere to prevent the growth of mold.

A new form of an agri- system termed space agriculture farming within space flight which in turn facilitates the removal of carbon dioxide from the spacecraft and creates life-supporting oxygen. There are a series of tests to ensure the crop is safe and tastes well for consumption.

Studies have been performed to study International Space Station with three sets of test plants for an initial hardware validation test, designated VEG-01. VEG-01A and B featured the crop red romaine lettuce, while VEG-01C tested 'Profusion' zinnia plants for longer duration growth and flowering characteristics.

Results have space agriculture have shown tomatoes are even juicier and sweeter and seeds different in taste. Vegetables like Radish, romaine lettuce, Chinese cabbage, Green Lettuce, a variety of lentils, and Mustard have been successfully grown and harvested.

Worms and bugs have a high concentration of protein. The bugs reproduce fast and enable to convert inedible into edible foods like mulberry leaves and wood waste etc. Ex- beetles, termites

The most recent development is that of 3d printing may be a breakthrough for the future of space food for long duration missions.

Lab-Grown Meat - Israeli food-tech startup Aleph Farms succeeded in the lab growth of meat in space for the first time, with the help of a 3D printer. The process involves extracting cells from a cow through a small biopsy. The cells are then placed in a "broth" of nutrients that simulates the environment inside a cow's body. Here it grows into a thin steak. These taste good but it's meant to mimic the texture and flavor of traditional beef.

Idli - Defence Food Research Laboratory (DFRL) is working on an Indian menu suitable for space, Idli coins with powders of sambar and chutney. The idlis are cooked and dried using infrared radiation at a temperature of 700*c, and then further dried by microwaving space yogurt developed using pulsed electric field technology in which short bursts of electricity are passed through a fluid food the pack as it is designed now has ten such idlis, equivalent of three normal-sized idlis.

4 Conclusion

Through this paper, we tried to explore the future of space travel that complies with nutrition requirements and at the same time strengthen efforts to consider food not only as a means for survival and health but also as a source of enjoyment. It is important to think beyond the functional purpose of food in the context of space exploration. Our intent to research in human-food interaction design and insights from food science and multisensory research, particularly research is based on the literature available from research studies during explorations. The multisensory components analysis could be crucial for an enjoyable food experience.

We could get an insight into the transition when astronauts in space squeezed their meals from toothpaste-like tubes and today they have an array of fruits, vegetables, condiments with liquid salt and pepper.

Considering the huge cost involved, alternatives of planting by the crew to feed themselves are mentioned in this paper. Through the plantation, exercise reduces the effect of psychosocial isolation, confinement, and long separation from family and friends on the space crew. The proposed high-tech 3D food printers will be a great leap in the space food systems. There have been possible solutions in successfully growing seeds on the selected celestial destinations.

5 Implications

This paper can act as a refresher scope to the research and development in space food systems with methods involved in food specifications, food packaging, preservation and storage aids, preliminary and on-board preparation towards nutritional requirements accomplishment. It also draws attention to the impact of spaceflight on human physiology and psychology.

6 Limitations

This paper doesn't address the role of reducing fatigue like muscle atrophy through nutritional adequacy. Limited statistics are available for the fitness of nutrients alteration/ oxidation for long-duration exploration missions in space.

7 Future research

Feeding patterns in Long-duration space explorations to Selected Celestial Bodies – Mars, Venus, etc. An in-depth study on multisensory components of space food fit for consumption in their best form devised. The psychological analysis of astronauts issues, stressors, effects of long-term microgravity and radiation, isolation, gender roles, depression, habitat design.

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Challenges faced by Hospitality Instructors due to Covid-19 Pandemic: An exploratory study on IHMs

Shreya Prasad¹, Deeksha Khatri²

Abstract.Purpose: The purpose of this paper is to study the challenges faced by hospitality instructors and students due to occurrence of covid-19 outbreak.

Background of the study: With each passing day the spread of Covid-19 is increasing in the country. Spread of corona virus has not only forced a change in the working system but also had great impact on the education system. The current situation has rendered classroom teaching impossible.

Problem Statement: Issues have arisen before the students and teachers because of the shift from traditional classroom method of education to a non- traditional virtual mode. Some common problems are loss of personal contact, practical aspects of the syllabus as well as unstable data networks. It has been a challenge for the hospitality instructors to engage students on the virtual platform.

Research Methodology: Both primary and secondary data will be used for the research paper. Primary data will include a set of questions distributed among hospitality instructor and students. A structured closed ended questionnaire was developed and set to various faculties in different IHMs across India. This research paper will help us to identify the challenges faced by the hospitality instructors and the key areas on which we need to work upon so that the students can be taught in a better way.

Findings: It was found in this paper that instructors feel that offline classes are better than the online classes as due to poor network connectivity it becomes difficult for them to monitor the students.

Keywords: Hospitality, Education System, Covid-19, Teaching Methods. Instructors.

1 Introduction

The covid-19 had a huge impact on each and every sector across the globe. The education system in India and across the globe is no exception. The enforcement of lockdown and shut of colleges and educational institutions created a very bad effect on the lives of students and has brought a lot of challenges for the teachers/ instructors. The hospitality education system is also facing hardships as the practical aspects in hospitality aspects are getting affected. The students of hospitality institutes are in a dilemma right now and concerned about their jobs and training programs as the industry has been hard by this pandemic and suffering huge losses. Large number of employees have been losing their jobs. According to some recent studies around 32 crore students got affected due to closure of educational institutions. Due to the outbreak of covid-19 we have been again reminded by the nature that changes are inevitable. Due to this sudden outbreak the education system is forced to step into the technological field and make this technology an integral part of the teaching system. Till now traditional/ orthodox methods of teaching were used in the education system but due to the outbreak of this virus we have been forced to upgrade our education system with introduction of technology in it. Over 90% of student population was affected in January as per the reports of UNESCO which reduced to 67% till June. Due to the occurrence of this pandemic the education institutes were forced to close their premises. Not only the closure but examinations were also postponed which in turn affected the overall semester system of the colleges.

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2 Objectives

- To know which mode of teaching is preferred by the IHM instructors.
- To study about the challenges faced by the hospitality instructors.

3 Literature Review

Due to the lockdown being implemented across the country all the classes in the universities and colleges were suspended and even the entrance exams were postponed for an indefinite time period. Health related crisis have always affected the hospitality and tourism industry. The tourism demand contracts as soon as a health-related epidemic occurs (Scott and Laws, 2005). Many diseases have occurred in the past which has greatly affected the tourism industry. The foot and mouth disease in United Kingdom in 2001 (Haydon et al, 2004), it also affected tourism industry badly. It spread through human contact with animals or their elements and respiration which has caused a great contraction in tourism sector (Baxter and Brown, 2004). Another pandemic that narrowed the tourism demand was SARS. It occurred in Asian countries Hong Kong, Vietnam, Singapore and China in 2002 which later impacted the entire world (McAleer et al, 2010). Avian Influenza is yet another example of pandemic that restricted tourism. There is still a debate as from where this disease originated but it majorly affected. Though many pandemics have occurred the industry has always bounced back with using it as a opportunity to inculcate new skills and greater innovations and more skilled hospitality professionals.

Misra (2020), firmly believes that the current situation of pandemic can be very well used as an opportunity where learning and collaborative teaching can take new forms. Teachers/ Faculty across the nation can collaborate to find ways to benefit from the situation. The pandemic situation has induced to learn and use the technology and there has been an increase in the digital literacy. The concept from “work from home” has made its mark and become primary way of working in the recent times. Due to the outbreak of corona virus many challenges have occurred in front of the instructors in the education system but it has also forced the system to explore Open and Distance Learning (ODL) which is being carried out using different digital technologies to fight against the current situation. Passugg (2020), stated this pandemic has increased the fragility and it has basically changed our social values. He further added that due to this pandemic new skill will be required by the hospitality professionals and it has also increased the resilience.

Pravat (2020), stated in his studies that covid-19 has created so many challenges for the instructors and the education system so that they can they can upgrade their infrastructure and their knowledge. Online mode is the only way through which studies are being carried these days. The classes are being conducted using conferencing apps like Google meet, Zoom, Cisco WebEx etc. WhatsApp group are created for students, teachers, parents and guardians for communicating the instructions for the lectures. Due to lockdown there has been an acceleration in the adoption of digital technology for teaching purpose. Earlier there was a state of confusion among the students and teachers due to the closure of the educational institutions as how to deal with the situation. Pravat (2020b), said that the best solution in the current situation is online teaching. So, the digital vision of India emerged as the best solution for the situation occurred due to covid-19. Due to occurrence of covid-19 there has been an increase in the learning management systems that the educational institutions use for teaching the students.

4 Research Methodology

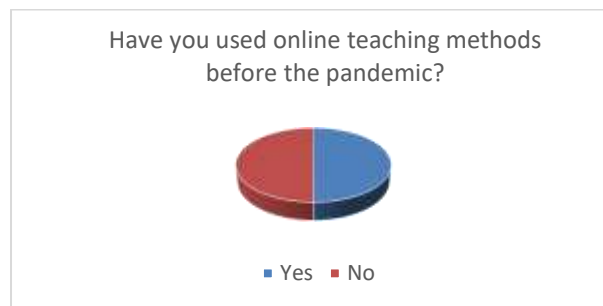
Both primary and secondary data will be used for the research paper. Primary data will include a set of questions distributed among hospitality instructor and students. A structured closed ended questionnaire was developed and set to various faculties in different IHMs across India.

4.1 Sample size

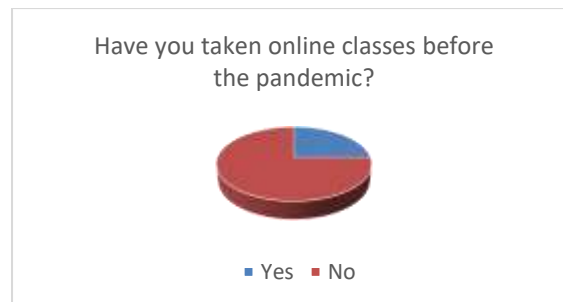
The population was faculties from all the IHMs. A structured questionnaire was formed and sent to hospitality instructors at various levels. 67 faculty members from various IHMs became our respondents. Convenient sampling was done.

5 Research Findings

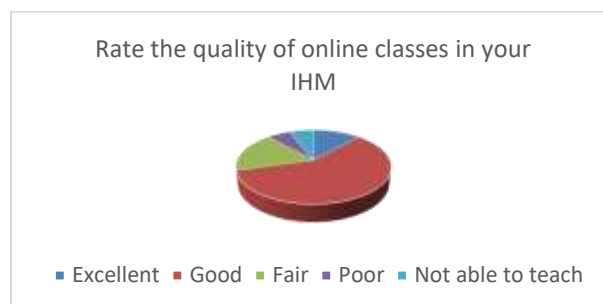
The first question that was asked in the questionnaire that was asked to respondents was about their designation. The purpose was that we want to know the challenges faced at various levels from various IHMs. The respondents were asked about their highest level of qualification. We found out that most of the respondents holds post graduate degree.



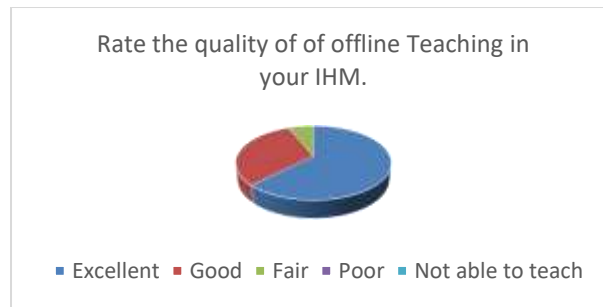
Then the respondents were asked whether they have used online teaching methods before the pandemic or not. 50% respondents said that they have used online methods before the pandemic and 50% replied negative.



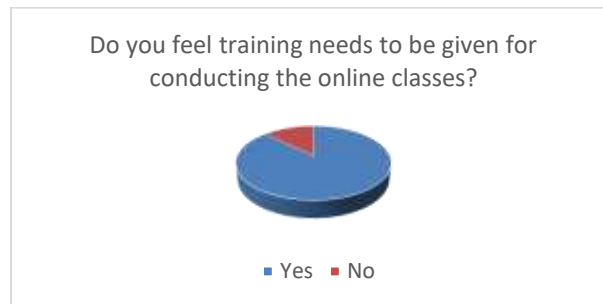
After that the respondents were asked if they have taken online classes before pandemic or not. 75% respondents have not taken online classes before the pandemic. Only 25% respondents have used this mode. So, for most of the respondents it was a completely new thing.



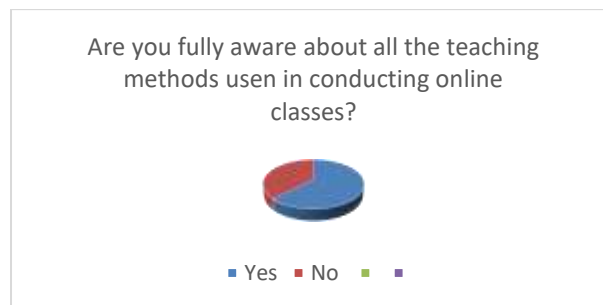
In the next question the respondents were asked to rate the quality of online classes in their institute. 62.5% respondents say that the level of online classes is GOOD in their institute. 18.8% respondents feel that is fair. Only 12.5% respondents say that the quality of online classes is excellent and 6.3% said that they are not able to teach through online mode.



Then the respondents were asked to rate the quality of offline classes. It was found that 62.5% have rated their offline classes to be excellent, 31.3% felt that it was 5.d and 6.3% rated them as fair.



87.5% respondents feel that training needs to be given for conducting the online classes and 12.5% felt that they do not require any training for conducting the online classes.



62.5% are fully aware of all the teaching methods used in the online classes.37.5% respondents are not aware of the teaching methods used in the online teaching mode.

In the last the instructors were asked about the challenges faced by them while taking online classes. Instructors were asked to rate the pointers indicating challenges complied after interviewing certain instructors and bases on previous studies. It was found that instructors for them network connectivity and monitoring of students is most challenging. The instructors than firmly believe that online classes are proven to be less effective than offline as it lacks practical aspects. It was found that they believe that online interaction is lacking the practical aspect involved in hospitality and the real interaction with the students. However, time and expertise didn't affect the online efficiency of the instructors.

6 Limitations of the Study

The hospitality sector is widespread including hotels, restaurants, travel and tourism, pubs, bars and clubs etc. The hospitality subject is being taught in Central and State IHMs, in various government and private universities and university affiliated institutes, but due to limitation of time and resources available we were not able to cover such a wide area. The study of this paper was limited to IHMs only and the Faculties from the Universities and other colleges were not involved.

7 Implications of the study

The study can be implied to all the IHMs across India. The problems faced were more or less similar. The study was conducted during the pandemic hence the results can be beneficial in aiding any further researches being done on this topic. As researchers we tried to mobilize the responses of various faculties and pin pointed the problems being faced by them. Very little data was available on this topic hence this study can add to the knowledge we already have about the pandemics affecting the education field.

8 Conclusion

It can be concluded from the above findings that IHM instructors feel that the quality of offline mode is better in their institutes as compared to the online mode. Though the online methods are the need of the hour but offline methods are more preferred and has more practical implementations as compared to the online methods. Still training should be given to them to improve their online teaching skills. Instructors feel that poor network turns out to be biggest challenge for them. Due to this they find it difficult to keep a constant check on the students. Online classes have taken the essence of practical importance in the hospitality industry. Practical classes are really important in hospitality but due to closure of IHMs the students are compelled for online classes. Though practical teachings are being given to the students by the teachers but students are kept away from this. Video are made available to the students so that they can see how the things are done but due to non-commencement of on-campus classes students are not able to do practicals by themselves. Certain aspects have been the same irrespective of the mode of teaching like preparing the lesson plans, investing time and the expertise of the instructors.

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Training-Up during Covid-19 in Hotel Housekeeping Operations in Selected Hotels of Kolkata

Sanjay Kumar¹, Suman Ghosh², Banani Mondal³

Abstract.

After the occurrence of the Covid 19 pandemic the Tourism & Hospitality Industry is trying hard to adopt to the New Health and safety concerns. Airlines are Requesting passengers to wear mask and presently the entire cruise is kept on hold.

Before the start of the pandemic hardly any people had thought of sleeping in a bed where Hundreds of other Guests had already slept. Apart from this people also gave very less thought to touching of door handles, Faucets and Television remote. But after the occurrence of the pandemic people will give more attention to areas and surfaces in the hotel room where there are chances of the virus. Similarly, Hotels will also try their level best to maintain a healthy, hygiene and place safe to stay for the Guests.

After the pandemic situation the hotel Housekeeping department will become the frontline of the new normal hotel experience. Guests will look for Hotels that will take care of their health and safety through proper and systematic cleaning and sanitization procedures. From the part of the hotel there will be stricter regulations to maintain all the standard operating procedures keeping in mind the Hygiene and Sanitization protocols.

After the occurrence of the Covid 19 pandemic new safety work Culture emerging in the hotel Housekeeping that requires the Staff to be well trained by the Learning & development department. The primary task of the Learning & development team in this matter will be to educate and inform the Staff about the covid 19 pandemic how it can be transmitted, the symptoms associated with it and the signs of infection. The Learning & development team has to address the issues and cases that they have encountered in the Covid 19 period in the property as well as outside in order to train and develop the Housekeeping Team and at the same time create the sense of awareness among them. The Learning & development team will involve a great role in the restructuring and redevelopment of the Standard operating procedures. The process will involve training of Housekeeping Team in cleaning and Guests Handling in compliance with the utmost health and safety standards. The research paper focuses on the Housekeeping operations in new normal and the role Learning & development team has to play.

Keywords: Hotel, Housekeeping Department, Covid 19, New normal, Learning & Development.

1 Introduction

The spread of Covid 19 and the restrictions in Travel and tourism on a large scale has created a huge impact on the global Hospitality industry. According to Gloria Guevera, President and CEO of a world tourism and travel council, the travel and tourism industry is collapsing and is fighting for survival due to the Corona virus pandemic (Guerva, 2020). Several different types of disastrous events bring distinct industry consequence and prompt the hoteliers to take measures to tackle the crisis. After the SARS outbreak, the hotel industry of Korea installed new hygiene equipment and educated the employee on health awareness (Kim et al., 2005). As the security and the health risk of Guests increases, epidemic can have a direct impact on travel behavior (Mao et al., 2010). It is therefore necessary for the hotel industry to address the changes in consumer demand due to the unprecedented covid19 pandemic restore the confidence of the Guests.

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Based on the impact of large scale public health crisis (E.g.: SARS in 2003) and the current scenario in the hotel industry, this paper provides in site into the practice of the Housekeeping department and the role Learning and development has to play in it. Hygiene and cleanliness are very much an essential part in the hotel industry and have garnered a lot of attention after the public health crisis such as 2003 SARS outbreak (Kim et.al., 2005). A lot of studies so that customers look for hygiene and cleanliness conditions while making purchases (Choi,2019;Hecht and Martin,2006;Hofman et.al.,2003; Vilnai-yavetz and Gilboa,2010).Thus in order to revive the hotel industry hygiene has to be given prime importance in this times of the pandemic.

The pandemic has changed the entire scenario of the Hotel Housekeeping. The traditional cleaning programmes in Guests rooms fall short of the standards that I require during Covid 19. The inflow of Guests from around the world increases risk in Hotel. Hotel guest rooms contain lot of Germs from TV remote to Telephone sets, from bed to bathroom fixtures and so can turn out to be hot spots for microbial hazards.

Change is very much needed in order to advance the cleaning practices and protocols from observation based to medical grade. Change is also very much needed to assure the Guest that hotels are providing a safe, secure, and healthy environment for the stay.

Hotel Guests have always given value to cleanliness. The current spread of the disease has created a Global threat and is very much affecting the Hotel industry in a negative way. Guests have fear of contracting the virus themselves or spreading it to friends and family. Therefore the concern about the cleanliness is clearly evident and ethical hygiene is going to be the new trend in Hotel industry. Guest will look for the Hotels meeting the highest standards of safety and the races will shift from lower rates with higher service to lower rates with higher level of safety.

2 Objective of the study

- To study the various functions of the hotel housekeeping taking into account the Covid 19 issue.
- To evaluate the various roles of the housekeeping personnel regarding health hygiene and safety.
- To evaluate the role of learning and development team in prepairing the staff in the new normal.

3 Literature review

The Hospitality Industry is a service based industry where Guest satisfaction and Experience is of utmost importance and is uncompromisable. Therefore it is very much essential to maintain high level of safety, security , cleanliness and hygiene so that the industry is able to provide the highest level of customer satisfaction and taking into consideration this Covid-19 situation there is a great amount of responsibility on the hotel housekeeping Department. The housekeeping Department is vital for the overall success of the hotel as it not only enhances each and every element of the hotel 'face' but is also the highest revenue generate (Reetha Thomas). The importance of cleanliness and hygiene in hotels has become quite important as of late as the Corona virus can be spared through touching of surface contaminated by the virus (WHO, 2020 b) . Hotel surfaces a likely to be dirty and could be the potential source of disease being transmitted.(Park et.al.2019). In addition to this the aerosol transmission from the centralized air-conditioning system could also be another source of Covid 19 infection (Zhang et. al., 2020). Due to the Covid 19 pandemic guests will look for hotels that offer them reassuring lodging services and accommodation products in terms of cleanliness and hygiene. The hotel and hospitality industry is going to undergo certain changes some of which could be permanent and some temporary. The focus of the industry is going to shift entirely on hygiene, cleanliness and sanitization. The new trend of ethical hygiene is there to arise. The focus of hotels will be on reassuring the guest about their safety. Creative idea of anti-bacterial door knobs will be on the rise and sheaths (cover for high rise products) will gain importance. There would be a concise concept to reinform guest confidence and assure high hygiene standards. Hotel housekeeping software will be very critical in making sure that the housekeeping operations are effective, streamline and safe as hotel housekeeping protocols change.

The Human Resource department has a key role to play in the Housekeeping department. They should review summaries and distribute to the Housekeeping team the various advisories and updates from Government organizations like the WHO, Centers for Disease control and prevention, the Occupational Safety and Health Administration and state and local authorities. The Housekeeping Team need to educate the employees about transmission, risks and protect the employees and empower and provide them a sense of urgency over the situations. The department should ensure the Housekeeping staffs are staying abreast of OSHA guidelines and industry standards and the use of disinfectants throughout Guest room and common areas. The Learning and Development department should make sure the employee remains safe. They should coach the management staff to be transparent, address each situation on a case to case basis and always seek to understand best each person situation. The department needs to ensure the staffs do not panic and there is no miss information. The department need to utilize this time to educate and trained the team on the skills needed post Covid-19. Focus is to be given on the activities to be productive rather than result oriented in the new reduced level of business value (Dr. Bagnera, S.M et. al. Boston Hospitality Review).

4 Research methodology

4.1 Approach

The approach adopted in the study is both qualitative and quantitative.

4.2 Study Sample

The study sample consisted of housekeeping employees and employees of human resource department of 4 to 5-star hotel properties in Kolkata. Random Sampling technique was used for the collection of data. The sample size chosen is based on convenient random sampling. The sample unit is the 30 respondents, 15 of which are housekeeping staff and 15 human resource employees from the hotels.

4.3 Study Instrument

The study instrument being used by me is a questionnaire. The questionnaire was divided into 2 sections of housekeeping responsibilities and HRM practices.

4.4 Measurement Methods

Likert five-point scale was used in asking the questions of the questionnaire, and measuring the study variables. The items ranged from "strongly disagree" (1 point) to "strongly agree" (5 points).

5 Findings and discussion

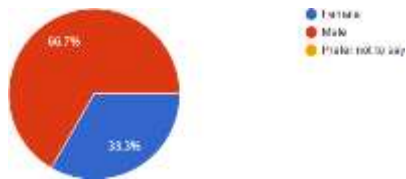
The digital survey form was sent across to housekeeping and human resource personnel of hotels across 4 to 5-star categories.

Table 1. Table 2. Details of the Responses Received

Star Category	Number of Responses	Percentage
5-star	09	30%
4-star	21	70%

As seen in the above table most of the respondents were from the 4-star category hotels which accounted for around 70% of the respondent while the rest were from 5-star category hotels (30%).

Graph-1



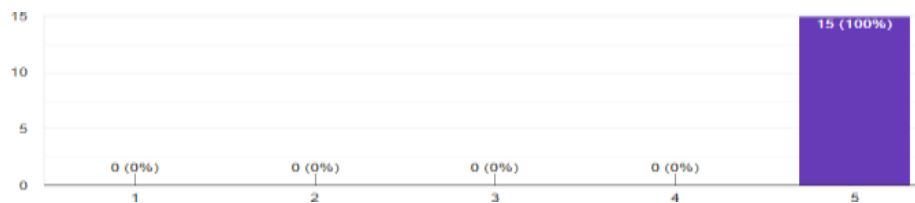
Graph-2



As evident from the graph 66.7% of the housekeeping employee respondents were males and 33.3% females. Similarly 73.3% of human resource respondents were males and 26.7% females.

Graph-3

Hotel organisation should strictly follow hygiene, cleaning and disinfection practices in common areas



To understand the importance of hygiene, the respondents were asked whether the hotel organisation should strictly follow hygiene and cleanliness practices. For the question all the respondents agreed to the fact this practice should be strictly followed.

Graph- 4

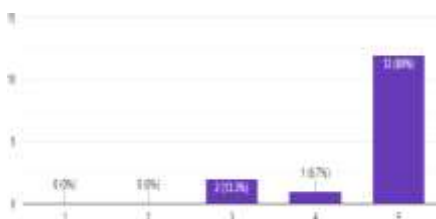
Hotel should follow special cleaning and disinfection plan if there are sick guests or employees.



If there are any sick guest in the hotel special cleaning and sanitization practice is very much an essential job. The cleaning and disinfestations is not only about where to do it but also how to perform the task. Respondents were asked whether special cleaning is necessary to which 73.3% agreed strongly to the fact whereas 6.7 % were neutral in their responses.

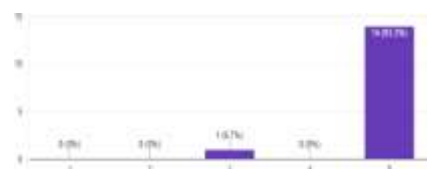
Graph- 5

Hotels department should use disposable cleaning material



Graph- 6

Hotels staff should give proper attention to linen soiled with respiratory secretion or other body fluid of ill person



Graph- 7

Textile, linen and cloth should be carefully handled to avoid contamination of surrounding people



The use of disposable cleaning materials and their proper disposal can help minimize risk of contamination. The use of linen in hotel is on a repeated basis. Soil linen are discarded and sent to laundry for cleanliness and guest rooms and other areas are replaced with clean linen. The handling of the linen is a very crucial part as there are chances of contamination from soiled linen. As evident from the graph 80% of the respondents strongly agree to the use of disposable cleaning material and 93.3% strongly agree to the fact that soiled linen handling requires proper attention. It is evident from the above graph that most of the respondents (80.7%) strongly agreed that textile linen and cloth involves careful handling.

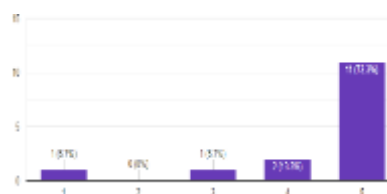
Graph- 8

Management should be informed about possible sick guests in the room



Graph- 9

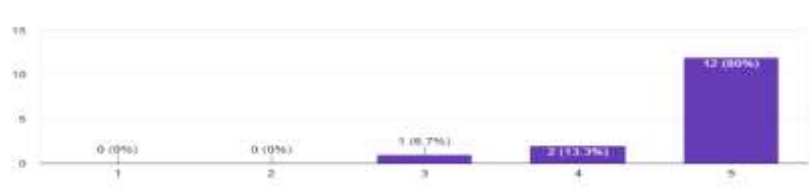
Management should designate housekeeping staff to handle sick guests



The above graphs were based on the questions that management should be informed about possible sick guests in the room and whether management should designate housekeeping staff to deal with such guests. As per the responses 86.7% strongly agreed that management should be informed and 73.3% strongly agreed that there should be designated housekeeping staff to deal with the sick guests.

Graph- 10

Housekeeping practices should be suspended where guests can voluntarily forego housekeeping services



From the above graph it is clear that 80% of the respondent strongly agreed to the suspension of house-keeping practices where guest can voluntarily forego.

Graph- 11

Housekeeping team should be trained to use PPE and hand sanitizer



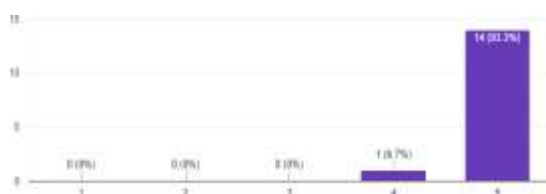
The learning and development team needs to give proper training in various areas in the housekeeping department post covid-19. This involves training to use proper PPE kit and hand sanitizers to deal with personnel health and safety while working in the hotels. As is evident from the graph 66.7% respondents from the human resource department strongly agreed on this point.

Graph- 12
Special training to housekeeping staff to deal with sick guests or employees



The above graph shows that 86.7% respondents from the human resource department strongly agreed on the point that special training is required for housekeeping staff to deal with any sick person in the hotel.

Graph- 13
Preparation of proper plan of action to disinfect and clean surface



Graph- 14
Adequate training in disposing waste and cleaning material



From the above graph it is evident that there is need of a proper plan of action to disinfect and clean the various surfaces and areas of the hotel on a time to time basis and disposal of waste and cleaning material involves adequate training.

6 Discussion and suggestions

Proper cleaning and disinfection of hotels is critical to prevent the spread of Covid 19. This research paper provides an insight and guidance for hotel operators to deal with the new normal. Proper and efficient housekeeping management and operations involves proper communication. Delivering the various tools to the team members to be able to quickly and easily deliver the work, the various cleaning protocols and generally keeping in touch with the staff members can make a huge difference. Hotel staffs are the vital resources for any hotel company and development of their skills can have a positive impact in the present situations. Employees when trained well help the hotel to flourish more and more. The management should not only educate the staff but also develop policies for their protection. Training should include when to use PPE kit what PPE kit is necessary how to put on and put off the kit and their proper disposal.

Housekeeping employees should be trained cleaning chemicals based on OSHA standards. Through this research study managers and researchers can further explore the various issues of hotels post Covid-19. This research study will also help the Human resource department to take considerable steps to develop the employees. Further the study also highlights the need for future researchers to study the various problems that may arise while the hotels become fully operational in the new normal.

7 Conclusion

The purpose of the study was to analyse the Housekeeping activities and the role Human resource department has to play in hotel industry post Covid 19 era. The study contribute in enriching the fact that this pandemic is a very serious issue and needs to be given due attention at the same time create a scene of awareness.

The findings clearly indicate that Housekeeping practices and activities required changes. Change is needed to advance the cleaning practices from observation based to the level of medical grade and the same time rebuilt the guest assurance on safe and secure stay. The finding also shows that change is needed to make task of guest a more immersive experience.

The Covid 19 pandemic has disrupted the functioning and even survival around the world. It is time for scholars and practioners to carefully examine the impacts of this critical situation and help to enhance industry practices. Data from various sources could assist scholars to make predictions accordingly. In summery it is our hope that is this research will illuminate the various other relevant topic of interest and inspire further study.

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Market trend reverberation of the fine dining sector at Jubilee Hills, Hyderabad Post Covid-19 Lockdown

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Abstract.

Purpose: The motivation behind writing this paper is to find out how the market dynamics have changed in Jubilee Hills, a popular upscale area of Hyderabad with a lot of foreign as well as Indian food outlets post the COVID-19 lockdown, an unfortunate event which has pushed the economy towards recession.

Background: COVID-19, a deadly virus which has left more than 9.5 lakh dead till date, has wreaked havoc in 2020, leaving businesses bankrupt due to nationwide lockdown which lasted more than 2 months. *Unlock 4* in September has allowed eateries to open for business. *As per the World Travel & Tourism Council India Initiative (WTTICII) 70% of the workforce i.e. about 3.8 crore people employed in the hospitality services would be left jobless.*

Methodology & objectives: The paper adopted an exploratory structuring so as to know in deep about the shift in market trends. The study focused on Jubilee Hills, an upscale neighborhood with a thriving fine dining culture, and Included 87 samples, out of 100 approached which were the restaurant owners/partners which gave their opinions through a questionnaire with tools like Likert's scale. The objectives focused on knowing more about the lockdown effect on the Hyderabad culinary scenario & analysing about the losses that have occurred.

Conclusions/discussions: More than 60% of the samples reported huge losses because of the complete isolation of the industry from its customer base, and amongst the losses, about 56% have completely closed their operations. The focus here was more on the diners rather than the eateries themselves. The majority blamed the lockdown for the losses while some of the samples were of the opinion that it was careless preparation that drove businesses into bankruptcies. The industry is hopeful to regain their strand with more than 68% samples thinking implementing new SOPs will help towards surviving the new normal times.

Keywords: Fine Dining, COVID-19 Lockdown, Jubilee Hills, Hyderabad, Bankruptcy

1 Introduction

As the world tries to move past this new side of the coin that has plagued itself in everyday life with the pandemic of Novel Coronavirus, the coping mechanisms employed towards a new normalcy has already put in place as one can witness many new countries opening up their geographical borders and economies. Previous 6 months have completely changed our perception towards life. Recovery rate, on a brighter side has been steadily increasing and has had an effect on a global level as only about 01% remain infected, which is a very big relief sign. Though, it is on the rise & the only solution is that a vaccine is developed. As of 14th November, 2020, the overall statistics stand as follow: 87,73,479 confirmed cases, 20,46,622 recoveries and 1,29,225 deaths, which although shows a growing recovery rate in India, still poses a serious threat that tells a story about the virus' intensity and how painfully lethal it can be. According to the data compiled from the Federation of Associations in Indian Tourism and Hospitality (FAITH), around 70% of the total workforce, which has a valuation of about INR 5.5 crore might get laid-off, which depicts a very disturbing figure of 3.8 crore, if a solution to this problem i.e. a fully working and efficient vaccine is not developed and distributed within the next 6 months. Mr. Roop Pratap Choudhary concluded in an interview that situation is still unfolding and the final adversities will only come forward once everything is done. As and when the pandemic restrictions are lifted only then it

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would be known as to what disposable income do the people have and are willing to spend on leisure and hospitality. (IANS) This was paired with the statement given out by Mr. Vikas Kapai, the General Manager, Sofitel Mumbai BKC who was under the impression that the lockdown will negatively affect the sector as it has affected other industries. The domestic as well as foreign arrivals have zeroed thus affecting the occupancy level which has been at an all-time low, triggering a lot of dissolutions for many small-scale hotels. It would take some time to be able to recover and it might take till June, 2020 to be able to set a future course of action, provided the lockdown is not extended. (Bhargava, 2020).

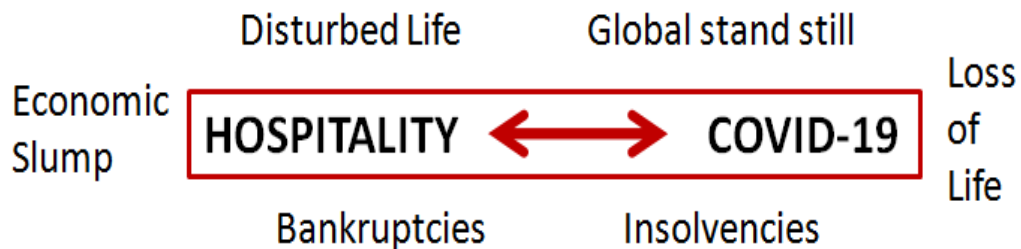


Fig. 1. : Inter-relational model between the effects of COVID on Hospitality (Source: Author)

The virus is a cause of a severe acute respiratory syndrome Coronavirus 2 which infests on the distance that two individuals share amongst them. The first strains of the COVID virus were traced in the city of Wuhan, a city located in the Hubei province of China. The virus's origin is disputed, where some believing that it has originated from bats, while the other believe that it has originated in wet-markets, a place where seafood trade happens, the reason being that this was the exact condition as well as the reason why the virus SARS spread as well. Wet markets have a lot of species in close proximity where safe storing temperatures are not maintained thus being high potential risk zones (Fern, 2020).

2 Literature review

Restaurants will need to invest in the contactless deliveries and develop delivery-specific menus. They will also need to think about packaging more creatively, since most of the time, packaging for home delivery is just an after-thought," says Sneha Jain, co-founder and managing director of chain of artisanal bakeries 'The Baker's Dozen'. Although, in the sector of hospitality, one usually cannot take out human interaction aspect of the question, as stated by Priyank Sukhija, CEO & MD of First Fiddle F&B Pvt. Ltd. "Opposite to the IT sector, the staff of hospitality cannot practically work from home, and apart from the case of delivery sector and cloud kitchen services, the concept of physical distancing is not practically applicable in the restaurants,". Talking about newer concepts like trend of "contactless dining" does not have any real meaning in the hospitality. Mr. Priyank further added that outing to a restaurant or a coffee shop is a basic social exercise, and even though when the people want isolation, one usually go and be amongst the crowd either in a public place or restaurants, which is because it's comforting as well as assuring to have a crowd around. It's not surprising to have such a deep need of being alone but being amongst the crowd (Pillai P. , 2020).

The Restaurants in Kolkata, West Bengal are implementing a cut in the in-house cover capacities of their dining rooms by around 50% so as to ensure effective social distancing protocols and norms are being followed. It has been forecasted that a lesser footfall is expected especially in the dining out aspect, as people tend to focus more on takeaways and not step outside for extended periods of time. Mr. Nitin Kothari, the owner of the restaurant Peter Cat & Mocambo stated that online orders will have a major role in revenue earning for the restaurant during COVID times. Restaurants have anyways suffered tremendous losses extending to thousands of crores because of the implementation of the lockdown and many of these outlets can't resume businesses due to the overhead losses the outlets have faced. Dining out may be reduced to 10-20% of the previous capacities but online deliveries would be occupying the main focus (PTI, 2020).

2.1 International Scenario:

In the United States, a country which has been plagued with major restaurant brands, bailing out & many independent eateries facing closure, chef Gabrielle Hamilton, owner of Prune's moving account has laid off her entire employees, has called a lot of attention towards a sector in crisis. Talking about the situation in Europe, the restaurant owners are confused between owners who wish to restart businesses and those trying to renovate and re-launch themselves. Chef Rene Redzepi, Owner Noma has abandoned his previous business model of building a destination restaurant for gastronomes and has instead catered to locals with simpler fare of opening a hamburger joint. Anna Roš, chef of Slovenia's Hiša Franko, has urged the Slovenian government to reopen the borders in order to save the business from going under as well as the livelihoods of the team. China is trying to re-launch its economy, past the lockdown; the dining scenario in big cities isn't revolutionizing itself. Rather, it is innovating itself to cater to its diners for a better value (Bonnefoy, 2020).

3 Methodology

The purpose of writing this paper was to study and analyse the on-ground market situation in the city of Hyderabad, a crown jewel of India for its gastronomical offerings. As COVID has restricted a lot of activities that were done before, dining out and leisure tops the list in that criteria. Being in those times when dining has been open for public, the paper's findings tried to get the feel of what fine dining patrons are thinking, whether to indulge or fall in the scare trap and avoid.

3.1 Research Design

The research adopted an exploratory study to carefully frame the overall structure of the paper, which helped the authors to analyse the perception people of Hyderabad carry around on the topic of going out to fine dining places that served both Indian as well as Continental food. It also helped to understand the on-site situation as well as the sample perspective of whether they have succumbed to the scare or they are exploring the world after the lockdown

3.2 Sampling Procedure

Convenience sampling was used for the study. About 200 samples were approached, but about 168 samples gave their consent to be included in the study with 91 males and 77 female samples, which were differentiated on their genders so as to have a wider scope of thought in the study.

3.3 Location & Data Collection:

The study was conducted in Jubilee Hills, a posh upscale market with a lot of fine dining options available for its patrons. The data was collected by doing an on-site survey and distributing the questionnaire which had close ended question with a Likert's Scale to quantify the data recorded. The intent as the topic has suggested, was to collect the diner's opinions that were visiting the area.

4 Objectives Of The Study

1. To know more about the gastronomical offerings of Hyderabad
2. To study market trends of fine dining scenario of Hyderabad post COVID lockdown
3. To analyse the public opinion on the post COVID preferences in fine dining

5 Analysis

As discussed above in the methodology, 91 male samples and 77 female samples consented their approval to be included in the study. Thus out of 200 samples approached the study had a final sample universe of 168. Following were the observations made from the close ended questionnaire, filled by them:

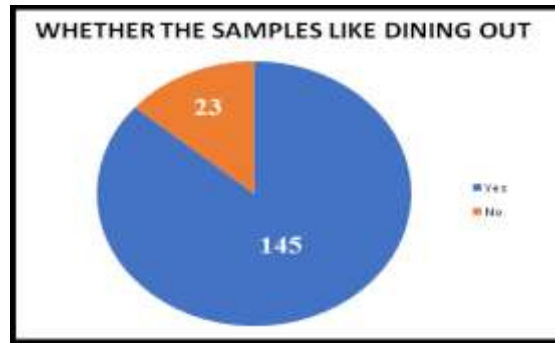


Fig. 2. Sample answers on whether they like dining out (Source: Author)

The first question asked about the basic preference of the samples whether they like eating out or not to which, yes was supported by 145 samples and no was supported by 23 samples. This set forth a majority that around 86.3% of the total sample population liked eating out. When a city has so much to offer, it comes with no surprise that such a high majority was established in this sample study.

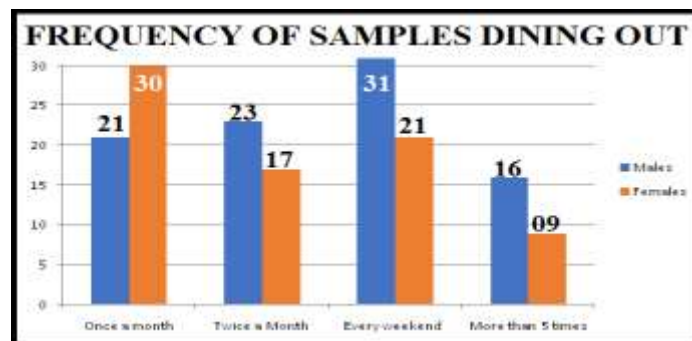
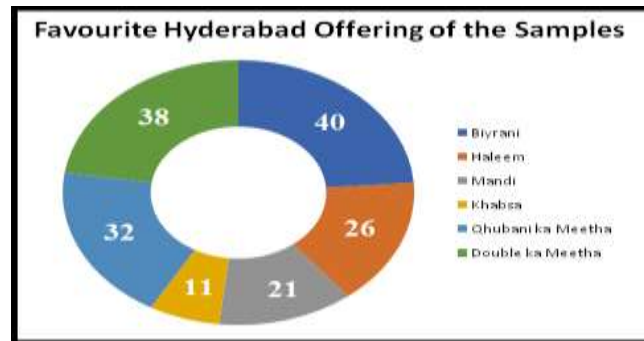


Fig. 3. Male & Female samples on how frequently they eat outside (Source: Author)

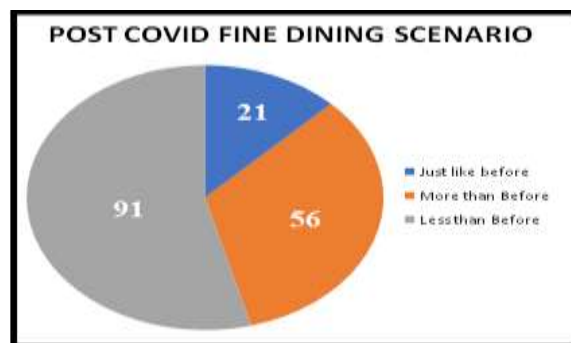
The next question enquired about the frequency of the male as well as female samples dining out in a month. The 4 categories were 'Once a month', 'Twice a month', 'Every weekend' and lastly 'More than 5 times'. The categorization of samples in this question was done because to have more varied look and clarity about the thought processes that both the genders have. 'Once a month' was voted by 21 male samples and 30 female samples, followed by 'twice a month' which was supported by 23 samples and 17 female samples. Next came 'every weekend' which was voted by 31 male samples and 21 female samples and lastly 16 samples and 09 samples voted for 'more than 5 times a month'. Thus in summation, 'every weekend' was voted by 52 samples and 51 samples supported 'once a month' which the highest were voted. When talking about the gender differentiation, the males were highly supportive of 'every weekend' as the majority of them i.e. 31 samples voted for it. Talking about the female samples, the highest voted was 'Once a month' with 30 samples voting it.

Table 1. Frequency distribution of male & female samples dining out (Source: Author)

Frequencies	Samples	
	M	F
Once a month	21	30
Twice a month	23	17
Every weekend	31	21
More than 5 times	16	09

**Fig. 4.** Samples preferences of the local Hyderabad offerings

The next questioned the samples on their preferences of the local Hyderabad preferences to fulfil the first objective of the study. A list of the local fine dining delicacies, which had a mix of both savoury and sweet preparations were forwarded to the male and female samples. The highest votes were given to 'Biryani' with 40 samples supporting it, followed by 38 samples voting for 'Double ka Meetha'. After this came 32 samples which voted for 'Qhubani ka Meetha' creating a niche for sweet preparations in the list. 26 were voted for 'Haleem', followed by '21 samples' supporting 'Mandi', an Arabian rice preparation as their favourite dish. The last in the list came 'Khabsa' another ice preparation which was least preferred by the samples as only 11 samples voted for it. 41.7% of the total was in favour of sweet preparations as their favourite and the remaining preferring the savoury preparations.

**Fig. 5.** Post COVID fine dining scenario (Source: Author)

The next question enquired about what are the current market trends in the fine dining scenario of Hyderabad. This was met with an overwhelming response to the option of 'less than before' with 91 samples voting for it. This was not surprising as post the lockdown, a lot of SOP changes for maintaining safety, but the scare was very much felt, which was followed by 56 samples voting for 'more than before' and lastly 'just like before' option having the least majority of 21 samples, again no surprises there as some samples are itching to get out of their houses and adopt the new normal.

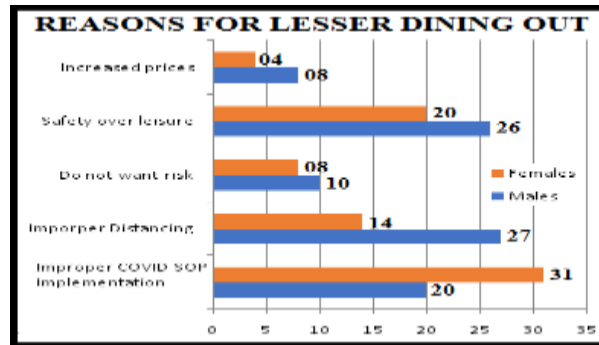


Fig. 6. Samples voting for the reasons for lesser dining out (Source: Author)

The next question enquired about the reasons for such a higher dining out fall post COVID in Hyderabad. The highest votes were allotted to 'safety over leisure' with 26 male sample and 20 female samples, followed by 'Improper COVID SOP implementation' with 31 female samples and 20 male samples, next up with 'Improper distancing' with 27 male samples and 14 female samples. It was next came with 'Do not want risk' with 10 male samples and 08 female samples and lastly with the least votes, 'Increased prices' with 08 male samples and 04 female samples.

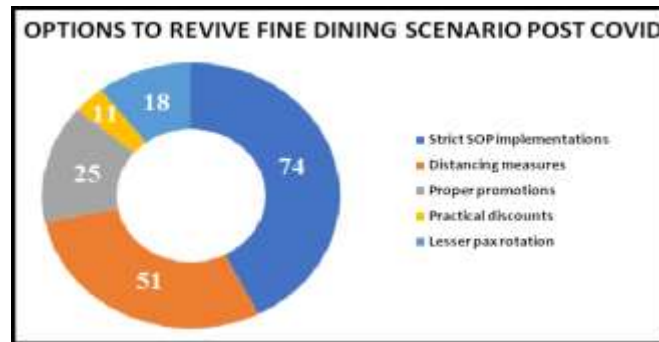


Fig. 7. Sample suggested options to revive fine dining scenario post COVID (Source: Author)

The last question enquired about the strategies to revive the fine dining scenario post COVID in Hyderabad. The majority of samples voted for 'strict SOP implementation' with 74 samples, 'distancing measures' with 51 samples, 'proper promotions' with 25 samples, 'Lesser pax. rotation' with 18 samples and lastly the 'practical discounts' with 11 samples, as discounts in the present time is not a good option when business is not good.

6 Conclusion

The purpose of writing this paper was to analyse the on-ground market situation in Hyderabad. The study adopted an exploratory study to know more about the perception people of Hyderabad carry around on the topic of going out to fine dining. The study divided the samples into male and female categories so as to have a wider scope on the study. It was found out that 86% of the samples liked to dine out, with about 31 male samples eating out every weekend and 30 female samples dining out once every month. Majority of the samples liked 'Biryani' and 'Double ka Meetha' when asked about their favourite fine dining dishes. 91 samples believed that fine dining out will be lesser than before COVID, and 'Improper COVID SOP Implementation' was voted the highest when asked about this lesser frequency of dining out.

7 Limitations

- Only Indian dishes were considered for the study, even though there are a lot of European and continental spots especially in the sample area of Jubilee Hills
- Only 1 area of the city was considered, even though areas like Banjara Hills and Hi-tech city are popular places to get great food for sampling, which may have reduced the scope of study and may have resulted in a not-so-wider analysis and discussion
- Due to COVID norms, the authors couldn't properly study the site when physically visited as samples were not very helpful due to the news and scare of COVID distancing

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A nutritional study of covid-19 and its implications on comorbidities of diabetes mellitus and obesity in Agra

Shikha Dixit¹

Abstract. Whole world has come to a standstill during Covid-19 pandemic. Trend of work from home has started. Due to paucity of time and non-availability of seasonal fruits and vegetables, due to lack in supply chain system, focus is shifted from nutritious food to easy to made food items which in the long run are detrimental for the overall health of the body especially for those suffering from underlying health conditions and when medical aid is not available. Volunteer survey of around 50 people in 50-60yrs age group having co-morbidity of Diabetes Mellitus and obesity was conducted for 6 weeks in Agra district of U.P. A closed questionnaire was structured along with diet plan, nutritious easily available and stored food and is mailed to the participants of the study. Telephonic counselling was also conducted regarding their diet and physical activity. Blood sugars levels were monitored by self-monitoring system using Glucometer. It has been observed that 80% of the respondents with co-morbidities of Diabetes and obesity, were able to maintain their parameters in normal range during the lockdown period without visiting their doctors as they were not available, with the diet prescribed, their regular medication and physical activity.

1 Introduction

The novel corona virus has taken the world by storm. Alongside covid-19 Diabetes is a long-standing global Pandemic (1). Older people and people with pre-existing medical conditions such as Diabetes and other diseases appear to be more vulnerable to become severely ill with covid-19 virus. IDF (International Diabetes Federation) estimates that there are 463 million adults worldwide living with Diabetes (2).

Type 2 diabetes (formerly called non-insulin dependent, or adult onset) results from the body's ineffective use of insulin. The majority of people suffering with diabetes, have type-2 diabetes mellitus. This type of diabetes is largely the result of excess body weight and physical activity.

Obesity is a state of excess accumulation of fat in the body. In clinical terms, Obesity is a condition of excess body weight when a person is 20% or more above the ideal body weight. Obesity is a significant risk factor and contributor to increased morbidity and mortality, most importantly from diabetes and cardiovascular disease, but also from cancer and chronic diseases like including osteoporosis, liver, sleep apnea and depression (3). Obesity is a worldwide pandemic, with an estimated 57.8% of adults worldwide expected to be classified as obese by 2030 according to figures released by the World Health Organization (WHO) (4). Obesity is characterized by an excessive of body fat that give rise to significant comorbidities, such as Diabetes Mellitus, hypertension, dyslipidemia, cardiovascular disease and many cancers (5-7). Therefore, obesity invariably referred to as a crucial public health problem and requires urgent attention in order to prevent obesity and related health outcomes.

As country introduce measures to restrict movement as part of efforts to reduce the number of people infected with covid-19, people are making huge changes to their daily routines. People are bound to work from home, children are doing home schooling putting extra pressure on house wives. This has aggravated the problem of obesity further. This has several implications on food habits both individually and globally. In a recent market survey food consumption pattern was evaluated during the early period of covid-19 epidemic in Italy, showed a higher consumption of pasta, eggs, long life and frozen food items and a reduction in fresh fruits and vegetables when compared to same period in 2019 (8).

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A large (n=3533) Italian survey showed that 53.9% of the participants have changed their lifestyle during covid-19 lockdown period in 2/3rd higher consumption of junk foods and sweets and reduced intake of fruits and vegetables as compared to usual intake (9). A recent survey on patients with Type-2 Diabetes Mellitus during the lockdown period in India showed increase level of snacking, carbohydrate intake and weight gain which has the potential to destabilize glucose control (10). The WHO (World Health Organization) has announced dietary guidelines during the covid-19 outbreak stressing the importance of a balanced diet to maintain a strong immune system and to avoid or minimize chronic disease infections (11). It appears that while we are tackling anxiety due to pandemic and eagerly waiting for solutions, basics of Diet and lifestyle have been ignored. So, the present study was undertaken to magnify the effect of optimum nutrition and age-old yoga and Ayurveda especially in comorbidities of Diabetes Mellitus and obesity during current COVID-19 pandemic.

2 Methodology

A total of 50 individuals of Agra district, 25 men and 25 women with Type 2 Diabetes aged between 50-60yrs of age, not on insulin therapy, not taking any medicine for other health conditions except diabetes. All subjects are taking sulphonyl urea drugs and medication did not change during the study were selected. All subjects were in obesity grade -1 (BMI < 30) (12). After briefing them about the objective of the study a 3 days dietary recall was taken initially.

The different food items consumed were converted into their raw equivalents, categorized into their respective food groups and the average daily intake of protein, energy, fat and carbohydrate were calculated using the tables of nutritive value of Indian foods (13). Their background information regarding their occupation, medical history, dietary habits and intake was collected by telephonic interview cum questionnaire method. Subjects were asked to fill their basic anthropometric measurements, Body weight was measured by digital weighing scale and Height by their own ways as salters spring balance is not available to everyone. BMI was calculated by using the formula given by Garrow (14) i.e., BMI = WT (kilogram)/HT (in meter square) as shown in Table: 3 and their basic parameters like Blood Pressure (morning, evening) were taken on daily basis, Random Glucose levels were taken using Glucometer (self-Blood Glucose Monitoring).

A Diabetic Diet containing Low Glycemic Index foods (as shown in Table: 2), High protein and High Fiber diet (with inclusion of frozen peas, soybean chunks as COVID-19 has actually affected the supply chain) with special inclusion of Quinoa, oats and cinnamon is given to them. Special instructions were given about eating patterns (6 meal pattern) is given, with a list of food items to be included and restricted as shown in Table No: 1, along with list of low Glycemic index food items is mailed to them. Different food alternatives were also given to them which were low in calories too as shown in Table No: 4.

Regular use of Giloy (*Tinospora Cordifolia*), Ashwagandha (*Withania Somnifera*), Tulsi (*Ocimum tenuiflorum*) was also suggested (15) to boost up their immunity. Yoga, which originated in India more than 5000 years ago, aims at balancing and harmonizing the body, mind and emotions (16). Increasing evidence suggests that yoga practice tackles the pathophysiologic mechanisms of diabetes and its complications (17). Along with that it has role in controlling weight too. Although yoga has been practiced since ancient times, Yoga as a therapy is still relatively new and emerging trend in health care field. So here in this study 45 minutes of Yoga is suggested with links shared for various asanas (18) which includes shukshama yogic kriyaein followed by kapal Bharati (skull shining breathing technique), Supta-Matsyendrasana (Lying down body twist), Dhanurasana (Bow pose), Paschimottanasana (Seated forward bend), ArdhaMatsyendrasana (sitting half spinal twist), Shavasanas (corpse pose). (19) In a 2009 study, people who participated in a 12-week yoga course saw improvements in their weight, insulin levels, blood pressure, and triglycerides, all of which play a role in the emergence of type 2 diabetes and other aspects of metabolic syndrome (20). Regular follow up was done using mails and telephonic conversation and other media for six weeks.

Table 1. Food choices

Foods not allowed	Foods restricted	Foods used freely
Glucose	Potatoes	Green leafy vegetables
Sugar	Yam	Tomatoes
Honey	Arbi	Cucumber
All sweets	Sweet potatoes	Raddish
Chocolates	Mangoes	Lemon
Candies	Grapes	Clear soups
	Bananas	Black coffee
	Alcoholic beverages	Tea w/o sugar
	Fried foods	Buttermilk
	Paranthas	Sour chutneys
	Pooris	Pickles w/0 oil
	Pakorras	Quiona
	Dalmoth	Oats
	Mathris	
	Deep fried vegetables	
	Dry fruits	
	Salad oils	
	Cakes & pastries	

Source: Textbook of Nutrition & Dietetics by Kumud Khanna, page 198 (21)

Table 2. Glycemic index <60 of certain food items

Food item	G. Index
Peas	51
Rajmah	29
Lentils	29
Apples	39
Orange	40
Methi	34
Curd	36
Barley	31
Oats	49
Buckwheat	51
Corn	51
Quinoa	53

Source: Textbook of Nutrition and Dietetics by Kumud Khanna, page 302 (22)

*glycemic index is a measure of how carbohydrate food affects our blood glucose levels

Table 3. Various grades of obesity

Grade	BMI
Underweight	<18.5
Normal range	<18.5-24.9
Overweight/preobese	>25
Grade I	30-34.9
Grade II	35-39.9
Grade III	>40.0

Source: Textbook of Nutrition and Dietetics by Kumud Khanna, page 189 (23)

Table 4. Healthy food alternatives suggested

Items	Alternatives
Paratha (200 calories)	Plain chapati (80 calories)
Pulao/fried rice (170 calories/75gm)	Plain boiled rice (80 calories/75 gm)
Fried vegetables (140 calories/100 gram)	Baked vegetables (50 calories/100gm)
Fried or curried chicken or fish preparation(250cal/135gm)	Grilled (tandoori) chicken/fish (160cal/135gm)
Fried eggs; omelet (120cal)	Poached/half boiled egg (60 calories)
Salad oil/mayonnaise dressing (100 cal/1 tbs/14 gm)	Lemon dressing (0 cal)
Sour cream (210 cal/100 gm)	Yoghurt (60 cal/100gm)
Regular sugar (20 cal/1tsp)	Caramelized sugar (5 cal/1tsp)
Regular pudding or dessert (average 150 cal/serving)	Fresh fruits as dessert (40 cal/piece)
Aerated soft drink (cal 60-80)	Plain soda with fresh lime (0 cal)
Whole milk (170 cal/glass)	Skimmed milk (80 cal/glass)
Sherbet (80 cal/glass)	Butter milk (40 cal/glass)

Source: A Diabetics Guide to Healthy Eating by Rekha Sharma (24)

3 Analysis

Results are analyzed using SPSS 25 version and descriptive statistics of all the parameters shows the following results.

Table 5. Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age	50	50.00	60.00	54.9200	3.36755
Weight	50	76.00	90.00	81.9000	4.07206
BMI	50	30.00	35.00	32.2400	1.84678
Glucose	50	130.00	150.00	140.3400	5.84706
Weight after 6 weeks	50	72.30	86.60	78.7140	4.03323
BMI After	50	26.10	32.00	28.6320	1.95317
Glucose after 6 weeks	50	120.00	135.00	128.0000	5.07495
Valid N (list wise)	50				

3.1 Hypothesis:

- H1: There is a significant impact of the yoga and diet recommended on weight (reduced)
 H2: There is a significant impact of the yoga and diet recommended on BMI (reduced)
 H3: There is a significant impact of the yoga and diet recommended on Glucose levels (reduced)

Paired t test: Paired t test is used to check and validate the hypothesis and results are discussed in table 5-10

H1: There is a significant impact of the yoga and diet recommended on weight (reduced)

Paired t test is used to analyze the effect of the recommendations given over six weeks and gave the results given in table 5 & 6:

Table 6. Paired sample statistics-Weight

		MEAN	N	STD DEVIATION	
PAIR 1	WEIGHT	82.8800	50	4.77511	.67530
	WEIGHT(A)	79.6940	50	4.73047	.66899

Table 7. PAIRED SAMPLE STATISTICS

PAIRED DIFFERENCES									
		MEAN	STD. DEVIATION	STD.ERROR MEAN	95% CONFIDENCE INTERVAL OF THE DIFFERENCE		T	df	Sig
					Lower	Upper			
Pair 1	Weight Weight(a)	3.18600	.37363	.05284	3.07982	3.29218	60.297	49	.000

Result H1: Since the p value is 0.00 which is a strong evidence to validate our first research hypothesis and it concluded at 1% level of significance that there is significant drop in the weight after six weeks of diet and yoga recommended to the respondents.

H2: There is a significant impact of the yoga and diet recommended on BMI (reduced)
 Results of paired t test (table 7&8)

Table 8. BMI

PAIRED SAMPLE STATISTICS					
		MEAN	N	STD.DEVIATION	STD.ERROR MEAN
PAIR 1	BMI	32,5200	50	1.75243	.24783
	BMI (A)	28,9120	50	1.76654	.24983

Table 9. BMI

PAIRED SAMPLE TEST									
PAIRED DIFFERENCES									
		MEAN	STD. DEVIATION	STD. Error Mean	95% confidence Interval of the Dif-ference		T	Df	Sig(2-tailed)
					Lower	Upper			
PAIR 1	BMI BMI (A)	3.60800	.27168		1.53079	3.68521	93.905	49	.000

Since the p value is 0.00 which is a strong evidence to validate that there is a significant drop in the BMI after 6 weeks of diet and yoga recommended to the subjects.

Result H2: Since the p value is 0.00 which is a strong evidence to validate our first research hypothesis and it concluded at 1% level of significance that there is significant drop in the BMI after six weeks of diet and yoga recommended to the respondents.

H3: There is a significant impact of the yoga and diet recommended on Glucose levels (reduced)
Results of paired t test are given in table 10&11

Table 10. Paired Samples Statistics-Glucose

Paired Samples Statistics-Glucose					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	R. Glucose	140.3400	50	5.84706	.82690
	R. Glucose After	128.0000	50	5.07495	.71771

Table 11. -Paired Samples Test-Glucose

Paired Samples Test-Glucose									
		Paired Differences					T	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	R. Glucose R. Glucose After	12.34000	6.65049	.94052	10.44995	14.23005	13.120	49	.000

Result H3: Since the p value is 0.00 which is a strong evidence to validate our first research hypothesis and it concluded at 1% level of significance that there is significant drop in the Glucose levels after six weeks of diet and yoga recommended to the respondents.

4 Findings

It was seen that before counselling meal pattern that was followed was usually 3 meal patterns i.e., breakfast, lunch and dinner and sometimes just having deep fried food items in gaps in between. And especially during lockdown it was more of munching on fried food items, biscuits, namkeen, cakes n frozen food items with no fixed timings. The meal pattern of the subjects after the dietary modifications changed to 6 meal patterns with total cut down on fried and frozen food items and healthy easily available options were given to them. Eating habits improved during this 6-month time period. Initially due to restriction of movement the subjects were physically inactive. After counselling they were taught through videos about 45 minutes of yoga. The study has shown the efficacy of yoga and its effect on their flexibility.

The impact of dietary modification and yoga for 6 weeks has shown a drastic change in their weights as subjects lost 3.5 kgs on an average during this 6-week time period. The impact of weight was seen on BMI, the BMI levels shifted to pre-obese range from obesity grade-I. There is improvement in blood glucose levels as measured by Glucometer (self-blood glucose monitoring). There were more stable and much towards the normal range meant for diabetic patients. It was also noted that none of the subject fall ill during this entire course of study as herbs were introduced into the diet of the subjects According to Ayurveda, Giloy is an exceptional herb that builds immunity. It is rich in anti-oxidant that fight free radicals and keep cells healthy (25). Ayurveda being the science of life, propagates the gift of nature in maintaining healthy and happy living. Ayurveda is a bland based science. The simplicity of awareness about oneself and the harmony each individual can achieve by uplifting and maintaining his or her immunity is emphasized across Ayurveda's classic scriptures. (26).

5 Implications

The dietary modifications and inclusion of herbs along with yoga resulted in overall improvement in the subjects having co-morbidities of Diabetes and obesity. This combination could be applied to other comorbidities too. This study will be helpful in self-management of Diabetes, which is a work in progress, which requires a shift in patient provider interaction beyond the walls of the clinics and hospitals. The need of the hour is innovative patient education programs as well as numerous ideas on how to improve meal plans (with inclusion of Ayurveda) and physical activity especially our age-old yoga.

This study prompts the fact that there is an urgent need of self-management of lifestyle diseases like diabetes, obesity especially in conditions when medical advice is not available for longer period of time. This study shows that this combination of optimum nutrition, Ayurveda and yoga could be applied to other comorbidities.

6 Limitations

Due to lockdown and restricted movement and lack of face-to-face interaction, it was difficult to monitor respondents accurately for longer periods of time, so restricted the duration to six weeks, which otherwise proved to have given more accurate results.

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