The Study of Customer Perception on Contactless Menus at Restaurant.

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Abstract –

Hospitality and tourism were the worst affected sectors in the service industry due to the recent pandemic. The new normal set in after the pandemic had its fair share in installation of many of the technological advances which helped these sectors in difficult times too. Contactless menus at the restaurants can be termed as one of the main installations of it. Long after the phases of restrictions, restaurants are still using it. This technological advancement doesn't only help restaurants by minimising the direct contact but also helps in better clarity, lesser confusion and lesser time lags. This study focusses on contactless menus being used at various restaurant types in Pune city and the perception of these menus by the customers in Pune city. It was observed that these types of menus are used prominently at fine-dine restaurants as well as at bars & pubs. Customers tend to use it more often as it provides clarity in menu. The study was conducted by gathering primary as well as secondary data. This study does not focus on contactless menus used by any other sectors in hospitality.

Key words – Customers, perception, contactless menus, restaurants, Pune city.

Introduction -

As new inventions and technology are securing their place in every field,the hospitality industry is also adapting the new technological systems and installing them forday-to-day operations. When it comes to the Food and beverage department or restaurant food ordering menu,the system plays avital role. The food ordering menu is considered as the list of dishes offered by the restaurant in the set format by which one can place the order accordingly. Traditionally orders are taken by the waiter as per the customer's choice and selection of the dishes from the food menu offered by the restaurant. Now the Standard of living of people has improved, soProgressively people are inclined to spend money on food in restaurants. They expect a Sophisticated system, because of which competition in the catering industry is becoming increasing very fast. This new system of the contactless menu has made everyone's

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job easier in the restaurant. Food ordering menus are setting new trends by which it has become easy to offer menus and operate them smoothly.Electronic interactive food and beverage menus and ordering systems can improve your restaurant business in the hospitality industry. Automation of menu items and ordering systems aim to provide a clear picture and detailed information about the products the restaurant offers. It also facilitates fast ordering and gives you the fast, accurate, and superior service you expect to satisfy your customers. In terms of earnings, an increase in sales is expected. With interactive menus and ordering systems, you can overcome challenges and bridge the communication gap between customers and waiters. (Bayrack&Despinar, 2021)

The menu and ordering system offer the following features:

Combine wireless technology with a mobile operating system to automate the food ordering process. This allows the customer to choose which language to use be it English, Chinese, and many others. Additional information includes a detailed description of the dish, price, portion sizes, nutritional value, main ingredients, spiciness level, and possible food allergies. The types of menus offered at restaurants include: Traditionally paper-based menu cards have been used using restaurant websites, apps, or simply QR codes.

1) Restaurant menu app

Apps are downloaded by users. Users select menus based on their preferences and place orders through the app. The order page has it all. When should I place my order? and have it delivered? The process is very simple.

2) Menu links or website

It allows users to quickly access the whole menu by simply following the link or website provided by the organization to select your menu.

3) QR code

 All customers have to do is, point their mobile device and scan the QR code (which virtually all mobile devices can do) and they're immediately taken to a touchless menu.

What is the contactless menu?

Touchless menus are fully digital menus that customers can access and read on their personal mobile devices, eliminating one of the most common touchpoints in the dining experience. Some digital menu tools have additional features such as pre-ordering before diners arrive at the restaurant, ordering from digital menus at the table, and payment processing.

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All you have to do is, just scan the QR code Which is presented on the table. Once you scan the code whole menu is there on your device & You will have to place your order from your device. The most important part is that restaurants are saving extra costs on printed menus. With the help of this system, one can easily upgrade your menu at any time. Changing or replacing items from the menu and prices of the dishes has become smart. Restaurants don't need to print anything initially they are also saving on labor cost for the same. With this internet system, one is able to manage the human errors which use to happen by the standard order-taking procedure where sometimes waiters use to place the wrong order due to miscommunication with the customer. Which leads to the guest being unsatisfied or not happy with the service provided by the staff. Restaurants are even trying to build adequate interaction between customers and staff while avoiding human errors, getting feedback on the app &following up with the customer by standard practices.

QR codes have come a long way since their introduction. They were originally designed to track inventory at Toyota's manufacturing plants. But in the late 2000s, as personal mobile devices became more commonplace, their capabilities began to wane.

Initially, they were positioned as the next wave of AR technology, but companies have been slow to implement them. As a result, the early use of QR codes was viewed as a novelty rather than a legitimate business tool.

Apple's integration of QR codes into its technology in 2017 and the inevitable impact of COVID-19 in 2020 took nearly a decade for potential use cases to catch up with the technology. Global use of QR codes, especially in the hospitality industry, has grown exponentially since the pandemic began.

Why contactless Menus are used in restaurants:

- The QR code menu was born out of the growing demand for contactless ordering options. Limits the risk of germs and bacteria being transmitted through human contact. In areas where COVID-19 contact tracing is mandated, QR codes can be an effective way to keep guests and employees safe.

- Pay for groceries, drinks, and merchandise with contactless payments once the pandemic is over. This is one of the reasons restaurants are adopting QR code menu ordering and mobile payment systems.

- QR code menus allow consumers with dietary preferences and restrictions to easily filter menus to find meals that suit (or potentially suit) their needs. If you order from the QR code

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menu, you can also easily add allergies and check them in the kitchen. This helps restaurants reduce the risk of serving the wrong dish to people with allergies, restrictions, or preferences.

- Laminated reusable menus are on the high end of the cost spectrum and are expensive to sanitize on an ongoing basis. Disposable paper menu cards also have a big impact on the environment. Not only are these physical menus costly, but they also limit a restaurant's ability to make changes and improvements. Needs a redesign and reprint. Research shows that about 56% of restaurants update their menus weekly. A mobile-friendly digital menu solves all of these problems by allowing you to create, modify, and update multiple menus at once.

- Restaurants maximize profitability by using real-time data, and making decisions on a daily or weekly basis, instead of relying on data from previous years. When fully adopted, restaurants have immediate access to daily, weekly, and monthly data in just a few clicks. Creating reports, and finding opportunities has never been easier. Using data from a digital menu can help optimize many of the restaurants' operational tasks. From food purchases to employee scheduling, a digital ordering system for restaurants will surely limit costs, while supporting incremental revenue. (Rajan et al., 2020)

- QR code menus with dine-in mobile ordering and payment systems also help to allow restaurant staff to focus on more meaningful guest interaction and create a better hospitality experience. A digital menu can give restaurants the breathing room they need to find qualified employees, and not hire strictly out of necessity. Just about every restaurant manager has experienced the chaos that can ensue if an employee calls in sick at the last minute or no-show on a busy night. The effects of being understaffed usually percolate into both food quality and service, which likely do not reflect the standards of the establishment.

How do the contactless Menus work in restaurants? -

Step 1 – Scan the Menu

Guests visiting the restaurant can use their smartphones to scan the QR code placed on each table. This will allow them to access the restaurant menu, get personalized deals and recommendations, as well as explore different combos scheduled for the day.

Step 2 – Order the Food

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After browsing the menu, guests can add the items to the cart and send their order directly to the kitchen. The order is then placed, and an Order Ticket Number is generated. Customers can track the status of their order via the same number.

Step 3 – Contactless Payments

Say no to exchanging Debit/Credit Cards. Guests can make the payment from their own devices using the mode of payment that they prefer the most.

QR-backed contactless ordering system is your key to delivering a safe, frictionless dining experience. In times like these, ensuring the safety of your customers and employees is of the utmost importance. Gone are the days when people would come to your restaurant and order from paper or plastic menus. Touchless menus are the future of food ordering, and it is here to stay for good.

Following are the factors that are beneficial for restaurants to implement the concept of a contactless menu:

- Easy to update and change the menu.
  Contactless menus are easier to update and one can easily make changes accordingly. It does not require a skilled worker to perform this task.
- Better customer data.
  Once the customer uses the particular contactless menu or app displayed by the restaurant, it directly gets saved in their system.
- It leads to better services by avoiding miscommunication.
  Contactless menus are way better while noting some important instructions or orders placed by the customer. it decreases the possibility of miscommunication.
- Reducing extra costs on printed menus.
  Restaurants save on the cost which they use to utilize for printed menus. Better And safe dining experience. (Samsudin et al., 2011)

Review of important literature -

The paper titled "Intelligent Restaurant -Menu Ordering System", by Bankar(2015) focuses on the modified menu ordering system which is useful for providing better accessibilities at restaurants. There are different types of contactless menus which are introduced in restaurants

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industry now such as android application, web based menu ordering system, QR codes also the robots which can be tracked by using sensor system. This research paper highlights the robotic system used in restaurants to ease of the waiting staff. But somehow this paper lacks in the system which only centres the robotic technology and not the menu amendments.The paper titled "Implementing Customizable Online Food Ordering System Using Web Based Application" by, Chavan et al. (2015) focuses on food ordering system in the restaurant where a customer can make a pre order list using a web based application provided by the restaurant in which customers order has been taken under consideration even before he/she approaches to the restaurant. Order placed by the customer will be screened on the digital board setup in kitchen and order will be delivered accordingly.This system may not be able to secure the privacy of the guest which is something should be mentioned in the paper .

The paper titled "A short communication article on contactless menu" by, Rajan, Singh & Agarwal, (2020) focuses on how contactless menus came in as a more efficient, accurate and hygiene friendly way of dealing with customers in the restaurant during the covid-19 pandemic. By giving customers a choice of selecting preferable contactless menu to use in a restaurant to place an order or to make a payment. Using the Contactless menu during pandemic was very important and it made restaurants job easier while following government norms.

The article has been written only by considering the covid-19 pandemic situation and hardly targeting the restaurants perk of using the contactless menu.

The paper titled "Implementation of Smart Restaurant with e-menu Card" by Jakhete and Mankar, (2015) focuses on the way restaurant industry is adapting new technologies and how this system is made with the help of electronics experts based knowledge. What are the different wireless applications that can be used in restaurants is the core of this paper.

But somehow this paper is only centering on the technical part of the ordering process and not the ordering system with all apt guide which will be useful for the restaurants.

The paper titled " A customizable wireless food ordering system with realtime customer feedback" by, Kamal (2011) focuses on the wireless technology which is cost effective and time saver in the service industry such as restaurants .This customize wireless food ordering system is easy to use and one can make the changes easily. It's a onetime investment. Various designs of the food ordering system is shown in the paper

This paper is only covering the profit part of the restaurant and not the demerits of the system once it is installed.The paper titled " Electronic Menu and Ordering Application System: A Strategic Tool for Customer Satisfaction and Profit Enhancement" by, Torres (2016) focuses

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on how the electronic Food and beverage menu system is more transparent and prompt when it comes to tourists who does not know about the food he is ordering then there is a language barrier and also the cultural difference . One can easily get all the information related to the food they are ordering ,one can select the language & can see the picture of the dish and what does it includes then and there with the help of electronic menu of course if the restaurant is providing with that.The study revolves around Korean cuisine and not how the electronic menus can be promoted and can be featured in the Restaurants .

The paper titled "Smart Menu Ordering System in Restaurant" by, Umap et al.(2018) focuses on the Martrixkepay based application which will be placed on tables and the customers have to press the buttons for the specific food preparation which will then displayed on LCD. The order is received in kitchen section and the order will be placed on table by using conveyor belt.Somehow this paper is centering more on self service system in restaurants and how the paper based menu cards can be replaced by smart menu system. The paper titled "Self-Ordering Concept Food Ordering System in Restaurants" by, Alfaren, Arijanto (2021) focuses on the self ordering system which is useful in the restaurant in terms of quick service and It provides order accuracy and saves waiting time.

How it has replaced the manual order taking procedure in the restaurant. But somehow this paper lacks in considering the customers view of adapting this system and are they aware or comfortable using this system.

Methodology of study -

Sources of Data

Primary as well as secondary data was used for this study. 'Purposive random sampling' has been adopted by researchers for this study. The questionnaire was circulated and the sample size for this study was 203. The researcher has adopted combination of descriptive and analytical research design for the present study.

Sources of Primary Data
- Questionnaire

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Sources of Secondary Data

- Research paper
- Books
- Articles

Objectives

1. To study the concept of contactless menu.
2. To understand customers Perception of using a contactless menu to order food and beverage at restaurant.
3. To study the effect of the use of contactless menu on food and beverage ordering

Hypothesis

H_1 People prefer to choose contactless menus instead of physical printed menu at restaurant.

H_2 Contactless menu has significant effect on customers waiting time.

H_3 Contactless menu has significant effect on order accuracy.

Need of the study -

The need of this study is to provide some insights and information to accomplish several things. This study will be the guide for the hospitality personnels to consider customer perception about contactless menus. Customer satisfaction is the essence when it comes to providing contactless services to the guest. Study will play the significant role in restaurants and will be able to connect with the people through technology which will be beneficial for both customers and restaurants. To the customers this study will help them in analyzing and choosing a better suitable contactless services including ordering system, menu and payment to satisfy their needs in the quality of the product .

Data Interpretation & Analysis -

The primary data was collected through a structured questionnaire. There were 203 respondents. Following is the detailed interpretation and analysis of the collected data for this study.
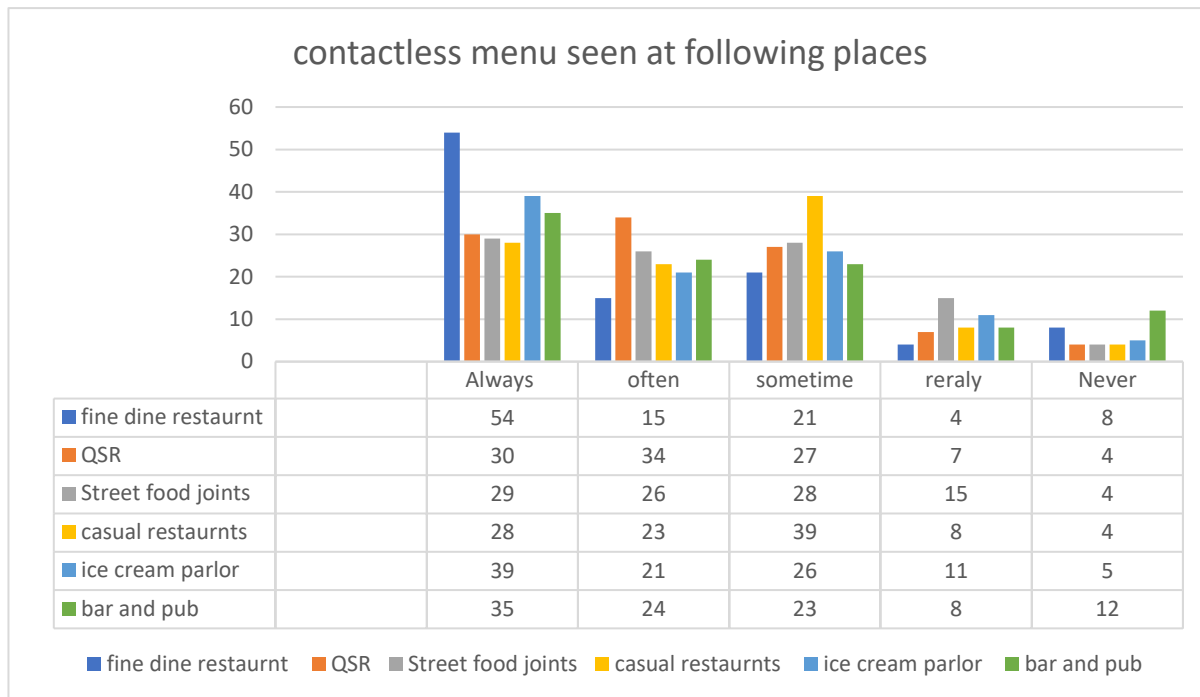
Demographics

Demographic	Particular	Percent
Age	18-30 years	80.4
	31-40 years	10.8
	41-50 years	6.9
	51 years & above	1.9
Gender	Male	58.8
	Female	41.2
Profession	Students	49
	Service	28.4
	Professionals	12.7
	Business	8.8
	Government Employees	1

(Source – primary data)

As per the above table out of 102 respondents 80.4 % are in the age group of 18 to 30 years, followed by 10.8% respondents are in the age group between 31to 40 years, 6.9 % respondents are in the age group of 41 to 50 years, only 1.0% of respondents belongs to the age group of 51 yearsand above.It can be seen from the above table that out of 102 respondents 58.8% respondents are male and rest 41.2% are female respondents. Out of 102 respondents 49% of respondents are students. They hold the majority. People from the service are on the second rank with 28.4%. Around 12.7 % of respondents are professionals and 8.8% are from the business profession. Only 1% of the respondents are government employees.
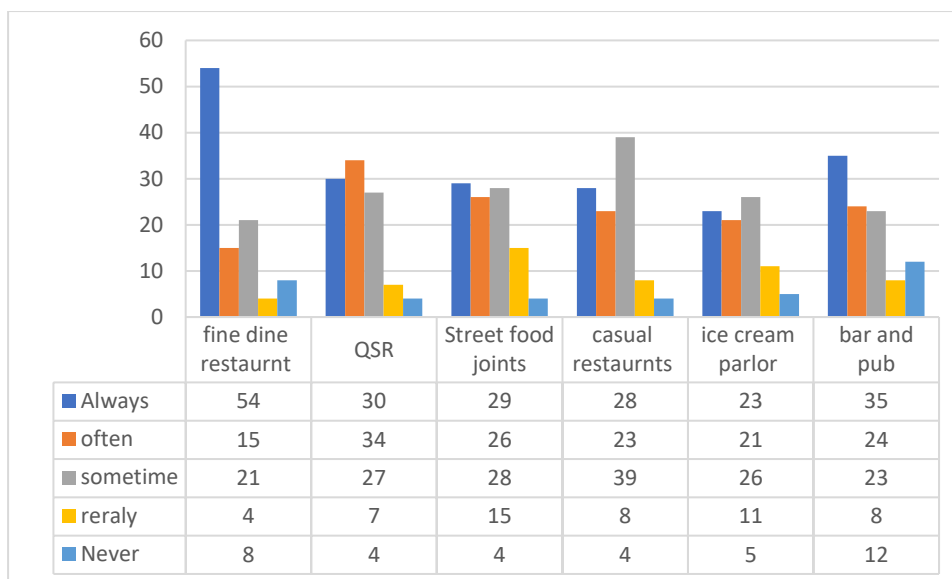
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Places with contactless menu

contactless menu seen at following places

	Always	often	sometime	reraly	Never
fine dine restaurnt	54	15	21	4	8
QSR	30	34	27	7	4
Street food joints	29	26	28	15	4
casual restaurnts	28	23	39	8	4
ice cream parlor	39	21	26	11	5
bar and pub	35	24	23	8	12

fine dine restaurnt QSR Street food joints casual restaurnts ice cream parlor bar and pub

(Source- primary data)

It can be seen from the above table that people always find contactless menus at Fine dine restaurants. There menus are often used for food as well as beverages served at the precinct. Many of the QSR joints also have installed this contact-less menus. Bars and pubs are other operations which frequently use contactless menus at the venues. It can also be seen that street food joints and casual restaurants use the contact less menus the least.

Preferences to use a contactless menu by customers

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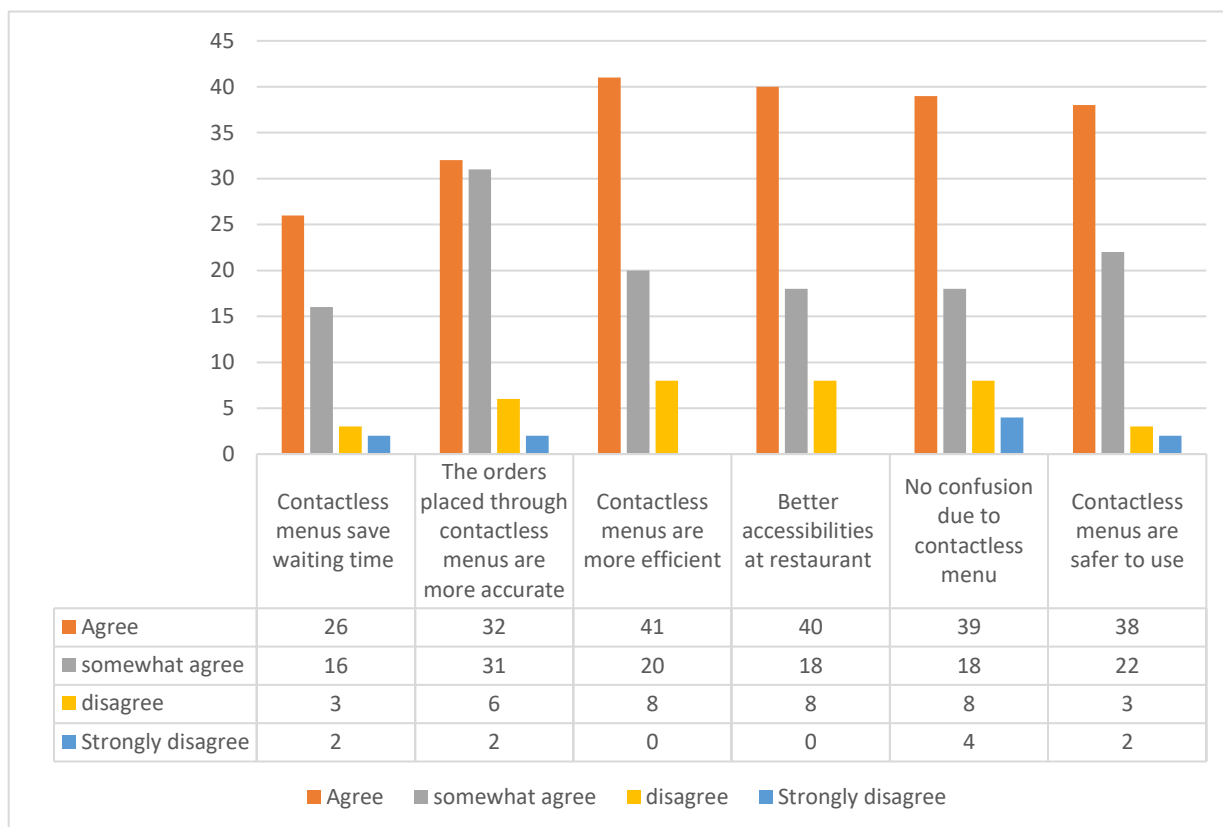|	fine dine restaurnt	QSR	Street food joints	casual restaurnts	ice cream parlor	bar and pub
■ Always	54	30	29	28	23	35
■ often	15	34	26	23	21	24
■ sometime	21	27	28	39	26	23
■ reraly	4	7	15	8	11	8
■ Never	8	4	4	4	5	12

(Source – primary data)

It can be seen from the above figure that 54 respondents always prefer to use contactless menu at the fine dine restaurant. There are 15 respondents who often prefer to use contactless menu at fine dine restaurant. Around 21 respondents prefer to use Contactless menu sometimes at the fine dine restaurant. 4 respondents rarely prefer to use Contactless menu at the fine dine restaurant. Only 8 respondents never prefer to use Contactless menu at the fine dine restaurant followed by 30 respondents who always prefer to use Contactless menu at QSR. There are 34 respondents who often prefer to use Contactless menu at QSR. Around 27 respondents prefer to use Contactless menu sometimes at QSR . 7 respondents rarely prefer to use Contactless menu at QSR. Only 4 respondents never prefer to use Contactless menu at QSR followed by 29 respondents who always prefer to use Contactless menu at street food joints. There are 26 respondents who often prefer to use Contactless menu at street food joints. Around 28 respondents sometimes prefer to use Contactless menu at street food joints. 15 respondents rarely prefer to use Contactless menu at street food joints. And only 4 respondents would never prefer to use Contactless menu at street food joints followed by 28 respondents who always prefer to use Contactless menu at casual restaurant. While 23 respondents who often prefer to use Contactless menu at casual restaurant. Around 39 respondents sometimes and 8 respondents rarely prefer to use Contactless menu at casual restaurant. Only 4 respondents would never prefer to use Contactless menu at casual restaurant.23 respondents have always prefer to use Contactless menu at ice cream parlor. There are 23 respondents who often prefer to use Contactless menu at ice cream parlor. Around 26 respondents would prefer to use Contactless menu at ice cream parlor. Rarely 11 respondents are likely to use Contactless menu

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at ice cream parlor. Only 5 respondents will never prefer to use Contactless menu at ice cream parlor which is followed by 35 respondents who always prefer to use Contactless menu at bar and pubs. While 24 respondents who often prefer to use Contactless menu at bar and pubs. Around 23 respondents would prefer to use Contactless menu at bar and pubs. Rarely 8 respondents and 12 respondents would never prefer to use Contactless menu at bar and pubs.

Reasons of using contactless menu (customer perception)

	Contactless menus save waiting time	The orders placed through contactless menus are more accurate	Contactless menus are more efficient	Better accessibilities at restaurant	No confusion due to contactless menu	Contactless menus are safer to use
■ Agree	26	32	41	40	39	38
■ somewhat agree	16	31	20	18	18	22
■ disagree	3	6	8	8	8	3
■ Strongly disagree	2	2	0	0	4	2

■ Agree ■ somewhat agree ■ disagree ■ Strongly disagree

(Source – primary data)

The above chart shows that 55 respondents are strongly agree with the statements which say that contactless menus save waiting time at restaurant. Similarly 26 respondents are agreeing with the statement. Around 16 respondents are somewhat agree. For the same 3 respondents are disagree and only 2 respondents are strongly disagree with the statement, Followed by 31 respondents who all are strongly agree with the statement which says that The orders placed through Contactless menus are more accurate. Similarly 32 respondents are agreeing with the statement. Around 31 respondents are somewhat agree. For the same 6 respondents are disagree and only 2 respondents are strongly disagree with the statement. On the other hand 33 respondents strongly agree with the statement which says that Contactless menus are more efficient. Similarly 41 respondents are agreeing with the statement. Around 20 respondents are

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somewhat agree. For the same 8 respondents are disagree with the statement.36 respondentsstrongly agree with the statement which says that Contactless menus provide better accessibilities at restaurant. Similarly 40 respondents are agreeing with the statement. Around 18 respondents are somewhat agree. For the same 8 respondents are disagree with the statement.

While talking about the clarity, 33 respondents strongly agree with the statement which says that There is no confusion due to Contactless menus. Similarly 39 respondents are agree with the statement. Around 18 respondents are somewhat agree with the statement. For the same 8 respondents are disagree and 4 respondents are strongly disagreeing with the statement.37 respondents strongly agree with the statement which says that Contactless menus are safer to use. Similarly 38 respondents are agreed with the statement. Around 22 respondents are somewhat agree. For the same 3 respondents are disagree and 2 respondents are strongly disagreed with the statement.

Particulars	Percentage				
	Strongly Agree	Agree	Somewhat Agree	Disagree	Strongly Disagree
Privacy	29	35	22	12	2
Safer bill payment	34	35	23	7	1
Adverse effect on customer service	20	36	31	7	6
Easy to use	23	42	29	5	0
Easy to understand	39	38	18	4	0

(Source: Primary Data)

Privacy

From the above table it can be read that 29% of respondents who all are strongly agree with the statement which says that, Customer privacy at the restaurant is better if contactless menus are used. Similarly, 35% respondents are agreeing with the statement. Respectively 22% respondents are somewhat agreed. While 12% respondents are disagreeing and 2% respondents are strongly disagreed with the statement.

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Safer bill payment

From the above table it can be read that 34% respondents who all are strongly agree with the statement which says that, bill payments are easier if contactless menus are used. Similarly, 35% respondents are agreeing with the statement. For the same 23% respondents are somewhat agree. Respectively 7% respondents are disagreeing and only 1% respondents are strongly disagreed with the statement.

Customer service & contactless menus

From the above table it can be read that 20% respondents who all are strongly agree with the statement which says that, customer service is adversely affected if contactless menus are used.Similarly, 36% respondents are agreeing with the statement. While 31% respondents are somewhat agreed with the statement. Respectively 7% respondents are disagreeing and 6% respondents are strongly disagreed with the statement.

Easy to use

From the above table it can be read that 23% respondents who all are strongly agree with the statement which says that, contactless menus are easier to use. Similarly, 42% respondents are agreeing and 29% respondents are somewhat agreed with the statement. Respectively 5 respondents are disagreed and only 1 respondent is strongly disagreed with the statement.

Easy to understand

From the above table it can be read that 39% respondents who all are strongly agree with the statement which says that, contactless menus give better item description. Similarly, 38% respondents are agreed and 18% respondents are somewhat agreed with the statement. Respectively 4% respondents are disagreed and only 1 respondent is strongly disagreed with the statement.

Hypothesis Testing

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- H_0 People do not prefer to choose contactless menus instead of physical menu at restaurant.

  H_1 People prefer to choose contactless menus instead of physical printed menu at restaurant.

To validate this hypothesis 'z-test- has been used. The test results are -

	Variable 1	*Variable 2*
Mean	3.837438424	1.748768
Known Variance	1.473	0.6254
Observations	203	203
z	20.54346511	
P(Z<=z) one-tail	0	
z Critical one-tail	1.644853627	
P(Z<=z) two-tail	0	
z Critical two-tail	1.959963985	

(Source – Primary Data)

It can be seen from the test results that the p-value is 0.0001. To reject the null hypothesis the p-value should be less than 0.05. In this case the p-value is less than 0.05, hence the null hypothesis is rejected and alternate hypothesis is accepted. It can be further said that People prefer to choose contactless menus instead of physical printed menu at restaurant.

- H_0 Contactless menu has no significant effect on customer waiting time

  H_2 Contactless menu has significant effect on customers waiting time.

To validate this hypothesis 'z-test' has been used. This test will show whether there is an effect of using a contactless menu on customer waiting time or not. The results are –

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Mean	4.261083744
Known Variance	0.93
Observations	203
z	62.95109174
P(Z<=z) one-tail	0.0001
z Critical one-tail	1.644853627
P(Z<=z) two-tail	0.0001
z Critical two-tail	1.959963985

(Source – Primary data)

To reject the null hypothesis the p-value should be less than 0.05. It can be seen from the results above that the p-value is 0.0001 which is less than 0.05. Hence the null hypothesis is rejected and an alternate hypothesis is accepted. It can be further concluded that contactless menu has significant effect on customer waiting time.

- H_0 Contactless menu has no significant effect on order accuracy.

  H_3 Contactless menu has significant effect on order accurancy.

To validate this hypothesis 'z-test' has been used. This test will show whether there is an effect of using a contactless menu on order accuracy or not. The results are –

Mean	3.81773399
Known Variance	0.9961
Observations	203
Z	54.49798121
P(Z<=z) one-tail	0

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z Critical one-tail	1.644853627
P(Z<=z) two-tail	0
z Critical two-tail	1.959963985

(Source – Primary data)

It can be seen that the p-value if 0.0001. If the p-value is less than 0.05 then the null hypothesis is rejected and alternate hypothesis is accepted. In this case p-value < 0.05 hence the null hypothesis is rejected and alternate hypothesis is accepted. It can be further said that contactless menu has significant effect on order accuracy.

Conclusion -

The main aim of this paper was to study the concept of contactless menu and its significance role in restaurant industry.Though the concept of contactless menu is not new but somehow the pandemic has been the main reason to highlight the use of contactless menus in restaurants on a larger scale.Electronic interactive food and beverage menus and ordering systems are making food ordering easier for customers. Now that more and more people are getting connected with the technology, they are aware about the contactless menus. Most probably they are even getting use with the changing trends in restaurants. People find it easy and sufficient for themselves. It was also seen that many restaurants have developed their own system of contactless service of which contactless menu is a part. According to the sourced data it was also seen that people think that there are more benefits than drawbacks of using contactless menus. Somehow millennials are still trying to cope up with the technological changes in the hospitality industry/restaurant industry.

References -

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- Adithya, R., Singh, A., Pathan, S., &Kanade, V. (2017). Online food ordering system. *International Journal of Computer Applications*, *180*(6), pp. 22-24.

- Bayrack, T., Despinar, S., (2021), The research on the usage of contactless technologies during the pandemic: Qr codes, *Communication & Technology Congress – CTC 2021,* Istanbul Aydin University, Istanbul, Turkey, pp. 386-397

- Chavan, V., Jadhav, P., Korade, S., &Teli, P. (2015). Implementing customizable online food ordering system using web based application. International Journal of Innovative Science, Engineering & Technology, 2(4), pp. 722-727.
  DOI:76?7@AB5C","DE"?57C(*(57?6BB

- Jakhete, M. D., &Mankar, P. C. (2015). Implementation of Smart Restaurant with e-menu Card. *International Journal of computer applications*, *119*(21).

- Mishra, N., Goyal, D., & Sharma, A. D. (2018). Automation in restaurants: ordering to robots in restaurant via smart ordering system. *Int J Technol Manage*, *4*(1), pp. 1-4.

- Noor, M. Z. H., Rahman, A. A. A., Saaid, M. F., Ali, M. S. A. M., &Zolkapli, M. (2012, July). The development of self-service restaurant ordering system (SROS). In 2012 IEEE Control and System Graduate Research Colloquium (pp. 348-353). IEEE.

- Plumlee, M. (2022, January 25). 10 reasons printed menus will never disappear. Hospitality Technology. Retrieved November 18, 2022, from https://hospitalitytech.com/10-reasons-printed-menus-will-never-disappear

- Ranjan, K. S., Singh, B., & Aggarwal, D. (2020). A short communication article on contactless menu. *International Journal of Research in Industrial Engineering*, *9*(4), pp. 313-317.

- Samsudin, N. A., Khalid, S. K. A., Kohar, M. F. A. M., Senin, Z., &Ihkasan, M. N. (2011, September). A customizable wireless food ordering system with realtime customer feedback. In 2011 IEEE Symposium on Wireless Technology and Applications (ISWTA) pp. 186-191, IEEE.

- Scifo, D., Scifo, M., Scifo, D., Valente, L., & Valente, R. (2009). U.S. Patent Application No. 12/069,895.

- Torres, A. M. (2016). Electronic Menu and Ordering Application System: A Strategic Tool for Customer Satisfaction and Profit Enhancement. *International Journal of u-and e-Service, Science and Technology*, *9*(4), pp. 401-410.

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