

Technology In the Dining Industry

And How it Will Evolve in 2022/2023

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03/18/2021



Table of Contents

Table of Contents	1
Abstract	2
Introduction	2
Background/Secondary Research	3
Methodology/Analysis	3
Discussion	5
Application of Our Findings	5
Conclusion	6
Bibliography	7
Appendices	9
Survey Response Graphs	9
Chart A:	9
Chart C:	10
Chart D:	10
Chart E:	11
Chart F:	11
Chart G:	12
Chart H:	12
Chart I:	13
Chart J:	13
Chart K:	14

Abstract

The question brought by our client of what food trends will be like in a couple years in our future has inspired our team to conduct research into the latest trends and activities of the food world. Through our research, we found that the application of technology to restaurants in 2022/23 is going to transform how customers and staff alike interact with the dining industry worldwide, as business focuses shifted towards the maximization of technological involvement. After investigating the advancements technology has already had in the dining industry, we conducted a survey that explored individual preferences into the current state of restaurant services, and we found that based on current events, people are tentatively receptive to the digitization of eating out, and that the advancements will likely continue.

Introduction

Amid the COVID-19 pandemic, to avoid succumbing to closure, many restaurants began to rely on technology more than ever and experiment with alternate solutions to continue providing customers with their service. Technology had already existed in this way for a while amongst assorted locations, but due to the prevalent threat of the COVID-19, and restraints on both customers and businesses, many restaurants were forced to make changes, prompting a significant rise in the concept's popularity.

Some examples of pre-existing technology featured in restaurant settings were digital service platforms and online ordering or delivery services. Fast food restaurants like McDonald's and casual dining chains like Applebee's installed screens to act as ordering and payment interfaces to redistribute the workload of staff and resources. This initial method prepared consumers for the restaurant industry's inevitable modernization, but skyrocketing global demand generated a new wave of innovation, from virtual hangouts to advanced robotics.

The concept of technology integration was an expected one, as technology has a proclivity for imbuing itself in multiple fields, but what we have found is that while the advancement was anticipated, it is still not trusted. This is clearly displayed by customer reactions to e-commerce and digital receipts, which has generally failed in both practical application and as effective marketing. (Johnson)

Therefore if technology is to succeed in the dining industry, it must be among other things, convenient, reliable, and trustworthy to the consumers

Background/Secondary Research

As we mentioned prior to this, we conducted a significant amount of research into the concept of technology as it would establish itself within the dining industry. While there isn't a specific identifiable area that pioneered this concept, we did find that fast food restaurants specifically were at the forefront of acclimating consumers to digital dining, and utilized technology the most after the pandemic.


Prior to the pandemic, implementation of technology into the dining industry was already well under way. Smartphone usage to order online rose over 350% between the years 2015-2018, and research showed that customers were willing to spend more money online than in store. (Dobriła) Many chain brands were also finding new ways to distribute resources and establish unique connections with their customers, like McDonalds and Applebee's who directed customers to in-restaurant kiosks that provided a streamlined, automated service to substitute for interacting with staff. (MRM Staff)

There were two main areas in which technology was developing in terms of being applied to restaurants, and they can be classified in the following categories; customer experience and food production. These categories both tied in to how respective companies have approached their marketing strategies, and choices were made depending on which area the businesses wanted to invest in. Lower-end restaurants, like casual dining and fast food tended to invest more in customer experience, while higher-end restaurants invested in the more experimental, and expensive, area of food production.

Methodology/Analysis

To gain better insight into how technology has influenced the dining industry, we used a survey to ask users about their experience with technology while dining. This way, we will be able to analyze the customer-business relationship and determine the right course of action for implementing more technology within the restaurant industry. We aimed our survey mainly at 18-24-year-olds, most likely college students or part-time workers, and collected various responses. The reason for targeting this specific demographic is because people between the ages of 18-29 eat at restaurants at least once a week, making them an ideal focus group for collecting research (Gaille).

The questions asked about consumers' relationship with restaurants before and during the pandemic were designed to gauge how users react to such technology. The results were unanimous in most aspects but are occasionally split. Questions were asked about the survey-taker's favorite aspect of in-person dining and their most significant concerns when ordering from a restaurant in 2020/2021. 40.5% of voters said that their favorite aspect of




dining was the experience of going out to a restaurant (see figure H). In contrast, almost 80% of voters said their main concern was accidentally contracting the COVID-19 Virus, which has affected the ability of in-person dining due to social distancing (see figure B). These particular points illustrate those restaurant-goers are willing to sacrifice the in-person experience if it means protecting their safety. This means that restaurants will have to adapt by creating delivery services or using delivery services in order to abide by COVID-19 safety guidelines and be able to gain profit during this time.

Out of the virtual ordering methods provided, 56.8% of respondents used food delivery apps like UberEats, Doordash, etc. (see figure E). This serves as both a convenience to both customers and restaurants as these services provide the delivery service without restaurants having to pay extra for delivery. 43.2% of respondents mainly ordered from fast food and casual dining restaurants (see figure D). This provides a few valuable insights. Fast food restaurants are the current leaders in advanced mobile ordering, as all of the major chains are available on all delivery platforms, making them the most accessible. On top of that, technology greatly benefits the speed aspect of fast-food branding and services. Fast food prides itself on being quick and easy, and using delivery apps makes these chain restaurants all the more accessible to those who need a quick meal but can't physically drive there.

The uptake in casual dining takeout also illustrates the demands for higher end food for family dinners. Because the setting of casual dining is no longer available in most areas, takeout is a must have. Additionally, casual restaurants can adapt because their meals are meant for casual dining. While their meals are made to order (unlike fast-food restaurants), they're made to be accessible to those who need take-out and those who would want to dine inside the restaurant. This makes delivery way easier to do if they decide to use a delivery app. The cons of this come at the cost of using delivery apps, which take a significant amount of the money in order and leaving the restaurant with a lesser amount of money. This is a massive issue for small businesses because creating their delivery system takes time and money that, during a pandemic, they may not have.

When asked about what technology applications they would like to see in restaurants, over 90% of respondents said they would like to see more advanced menu interfaces. These interfaces could be integrated into delivery apps or services or even implemented in the restaurants themselves through permanent screen interfaces. In the same question, less than 4% of respondents said they would like virtual communities to be implemented into restaurants (see figure F). This ties in with our first question about what respondents like about going to a restaurant. They don't necessarily put social interaction as the most essential aspect. This may be different for places such as bars/clubs, but it seems highly likely for sit-down restaurants. However, this doesn't mean that people won't go to restaurants after the pandemic is under control and places start opening up again. While for the small majority, it depends on the restaurant, 35.1% of respondents said they prefer to give their order to a human cashier or waiter instead of virtual methods (see figure I).



This cements that the use of delivery services will still be of use in the future and still as prominent, but it will not stop in-person dining/interaction. Nearly 65% of respondents said that the application of technology within dining services would help them trust dining services more (see figure J). This indicates that customers are alright with the use of technology, unless it starts to affect their experience.

Discussion

As the world continues to modernize, it is to be expected that technology will continue to evolve and infiltrate every element of our society, and the dining industry is no exception. Our research and data collection has supported the expected rise of technology within the restaurant field. That result is consistent with the application of technology in many customer-service areas, both within and outside the food industry's larger parent realm. The initial secondary research that we collected also supports this by providing precedent to this aspect by clearly demonstrating trends leaning in that direction before the pandemic and the amplified aftermath.

However, there is a conditional element to this trend in that if the technology implementation is to succeed, it must also be convenient and accessible. Our survey also included a short response area in which our respondents could leave comments, and one comment, in particular, focused on this issue. They stated that the current state of technology within restaurants "...often feels shoehorned, annoying, or distracting more than it feels useful." This is a response to the fact that the pandemic did force a rapid amount of technological innovation and implementation without the appropriate amount of testing or training to accustom dining industry workers and consumers. Restaurants will need to imbue feedback on their respective options to maintain their modernization, as customer experience holds significant sway over even the largest corporations in this business.

Application of Our Findings

In the foreseeable future, the two main categories in which technology has developed will continue to do so as we see extended periods of customer usage, but we do recommend that businesses embrace the modernization of their practices in alternative ways.

With regards to food production on the other hand, restaurants will need to carefully consider which investments work suitably for their business models. Advanced robotics and state-of-the-art appliances have become capable of cutting down on human staff by fulfilling tasks from food delivery to meal preparation, but remain expensive, and cannot



reasonably be delivered in large-scale dining chains, leaving this option geared more towards higher-end restaurants.

When it comes to customer experience however, the main areas to focus on are the parts of the restaurant the customers will interact with. This covers both the domain of communication between the consumer and the staff, and the consumers with each other. We know from our secondary research and survey that above everything else, the consumers value the services as part of their experience, therefore as platforms evolve to host these services, businesses need to assess their ease of accessibility and reliability to reinforce trust. Only then should companies consider how the application of technology can further enhance their environments to prevent consumers from feeling frustrated with business practices and priorities.

Conclusion

We have concluded through our research that the development and improvement of technology is both anticipated and required in the dining industry as the world continues to react to the pandemic's impact. As both restaurants and consumers continue to adapt in this COVID-induced landscape, the innovation will take many forms based on what individual businesses consider important in order to augment customer experiences, providing they keep in mind that the aspect of convenience and reliability is important to consumers beyond modernization.

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Appendices

Survey Response Graphs

Chart A:

How do you pay for your meals from delivery/pickup most of the time?



Chart B:

What was your biggest concern about using restaurant services during the pandemic?

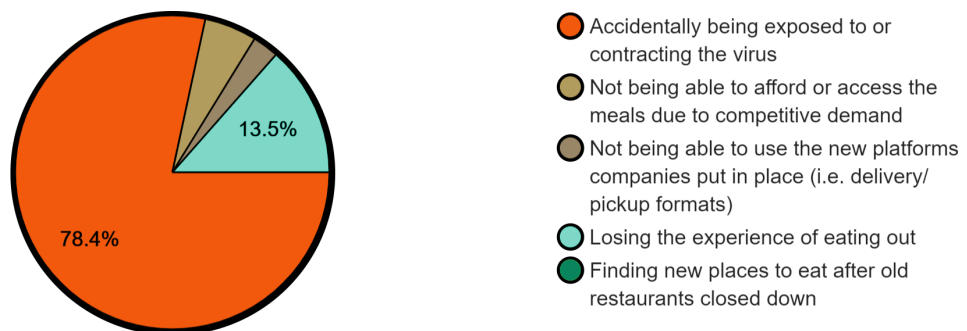


Chart C:

Would the application of technology make you trust dining services more?

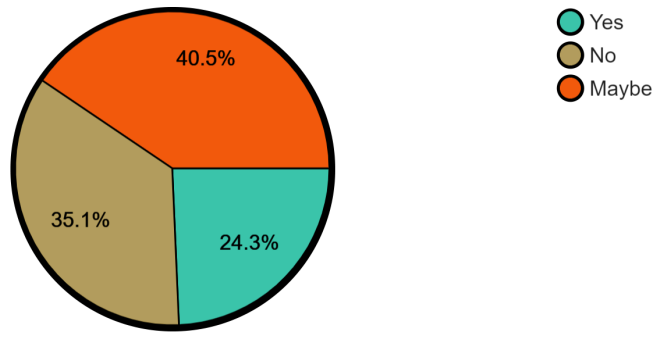


Chart D:

Which of the following types of restaurants do you order the most from (after March 2020)?



Chart E:

What virtual ordering methods do you use the most?

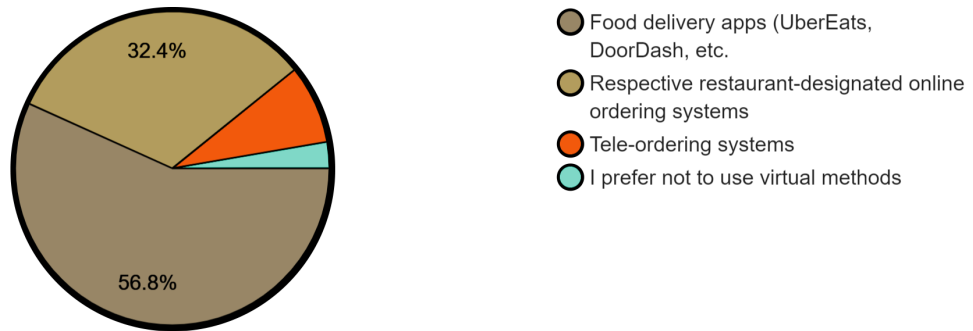


Chart F:

What technological advancement would you like to see applied in restaurants?

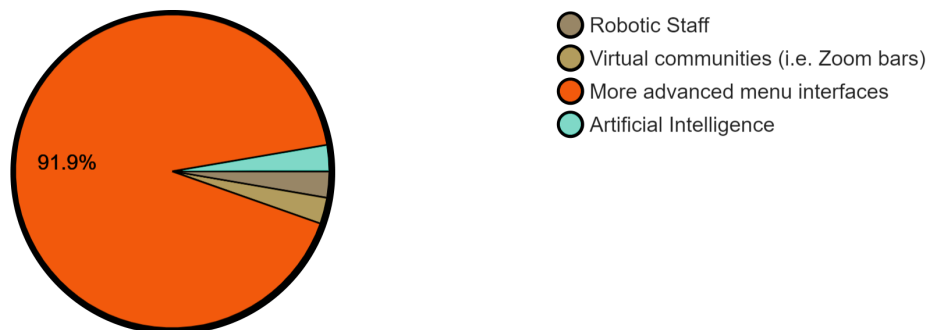


Chart G:

Would you be interested in restaurants using information that they collect on you to influence their approach to your dining habits?

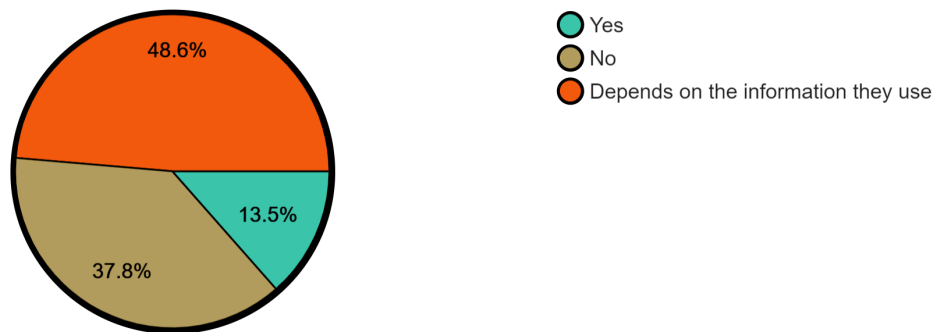


Chart H:

What is your favorite aspect of in-person dining?

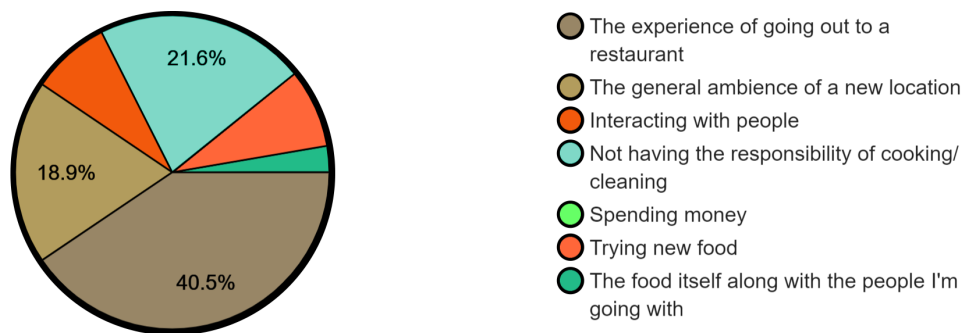


Chart I:

What is your preferred interface when ordering your food?

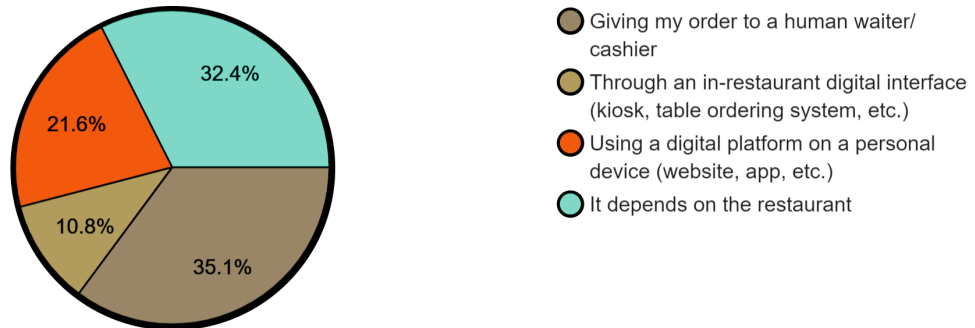


Chart J:

How comfortable are you with using technology to access your food?

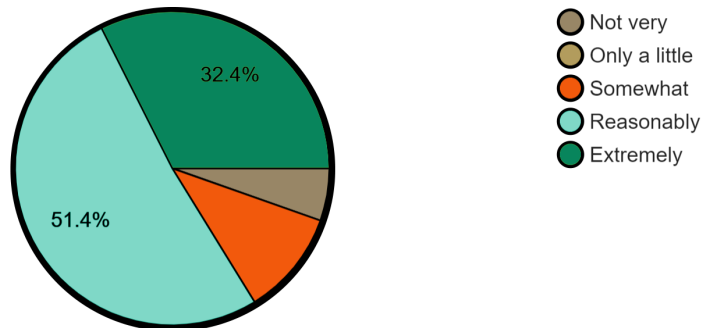


Chart K:

How much did you order delivery before March 2020?

