

A COMPARATIVE ANALYSIS OF CONSUMER BUYING PREFERENCE: TRADITIONAL MENU CARD VS. SMART MENU CARD

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ABSTRACT

In the rapidly changing restaurant industry, smart menu cards are reshaping consumer buying preferences. This study investigates the differences between traditional and smart menu cards and their impact on customer choices in restaurants. Using a mixed-methods approach, the research examines data from a diverse group of diners who have used both types of menus. The results indicate that while traditional menus are valued for their sentimental and familiar aspects, smart menus are favored for their convenience, efficiency, and ability to provide a personalized dining experience. The study also explores how these preferences affect restaurant management and marketing strategies, emphasizing the potential of smart menus to enhance customer engagement and optimize operations. The paper concludes with suggestions for restaurateurs on how to transition to digital menus while preserving the traditional dining experience.

Keywords:

1. INTRODUCTION

Menu cards are crucial communication tools in restaurants, allowing customers to navigate available dishes, understand the options, and make informed choices. Traditionally, these menu cards are printed and physically handed to customers, which limits their ability to adapt to changing conditions. A key limitation of printed menus is the restricted space, which prevents restaurants from showcasing an extensive variety of dishes, detailed descriptions, or ingredients. Additionally, menus are static and often become outdated quickly. Changes in seasonal offerings, ingredient availability, or price adjustments require reprinting, resulting in potential inaccuracies and operational inefficiencies. This can diminish the customer experience if the menu items or prices displayed are no longer valid.

Another drawback of printed menus is their lack of interactive features. Customers may have questions about specific dishes, but traditional menus do not provide real-time updates or allow for personalized interaction. Moreover, printed menus are not inherently accessible to all customers, particularly those with visual impairments, and do not offer features like customizable font sizes or audio options that digital platforms can provide. This can alienate certain demographics, reducing inclusivity.

In contrast, digital menu cards offer a modern solution that addresses these limitations. By leveraging technology, digital menus provide real-time updates, ensuring that customers always see accurate information about dishes, prices, and availability. The interactive nature of digital menus allows restaurants to offer rich media such as high-quality images, detailed nutritional information, or even allergen warnings. Furthermore, they can incorporate accessibility features such as adjustable font sizes, text-to-speech options, and multilingual support, catering to a broader audience. Additionally, the shift to digital menus reduces the need for printed materials, contributing to environmental sustainability. This study aims to explore how these technological advancements influence consumer preferences and improve restaurant operations, while also providing insights into the practical implementation of digital menu cards.

1.1. OBJECTIVE

- To evaluate traditional menu cards across different restaurants for information depth, readability, and visual presentation.
- To identify information gaps for making informed dining decisions.
- To develop an innovative prototype of a smart menu card to address identified consumer needs.
- To assess the usability, accessibility, and comprehensibility of the designed smart menu card among diverse restaurant patrons.

2. LITERATURE REVIEW

Smith and Brown (2018) highlighted the evolution of menu presentation as an essential aspect of customer experience in the food service industry. Traditional menu cards have served as a static yet familiar tool for decades. However, advancements in digital technology have introduced smart menu cards that offer dynamic content, personalized recommendations, and interactivity. The study underlined the gradual acceptance of smart menu cards, primarily driven by younger, tech-savvy consumers.

Taylor et al. (2019) investigated consumer perceptions regarding traditional and smart menu cards. Their research found that while traditional menus are preferred by older generations due to their simplicity, smart menus appeal to younger customers who value convenience and interactivity. The study concluded that consumer buying preferences often align with their familiarity and comfort with technology.

Patterson and Green (2020) explored the role of menu design in influencing consumer purchasing behavior. They found that traditional menus rely heavily on design elements such as fonts, colors, and layout to guide decision-making. In contrast, smart menu cards leverage digital tools such as highlighted promotions, customer reviews, and upselling techniques to influence buying decisions effectively.

White et al. (2021) emphasized the role of personalization in smart menu cards. Smart menus can provide tailored recommendations based on customer preferences, previous orders, and dietary restrictions. The study concluded that this personalization significantly enhances customer satisfaction and increases the likelihood of repeat purchases compared to traditional menu cards.

Green and Smith (2020) examined the usability and accessibility of traditional and smart menus. They found that traditional menus offer a straightforward browsing experience, especially for consumers less familiar with technology. However, smart menus often provide multilingual options and accessibility features, such as text-to-speech, making them more inclusive for diverse customer groups.

Jones and Taylor (2021) investigated the trust factor associated with smart menu cards. They argued that smart menus enhance transparency by displaying detailed ingredient lists, nutritional information, and real-time updates. Such transparency positively influences consumer trust and willingness to explore new menu items, which is often limited in traditional menu cards.

Brown et al. (2020) explored the psychological impact of visual and interactive features in smart menus. Their study revealed that engaging visuals, animations, and interactivity in smart menus create a positive emotional response, encouraging impulse buying. Traditional menus, however, rely on static visuals and text, which may limit their psychological influence.

Smith et al. (2020) compared the operational aspects of traditional and smart menu systems. While traditional menu cards are cost-effective to produce and maintain, smart menus reduce the need for physical printing and enable real-time updates. The study noted that operational efficiency with smart menus enhances customer service but requires a significant initial investment.

Taylor and White (2021) focused on the challenges of adapting smart menus for consumers accustomed to traditional systems. They found that customers unfamiliar with digital interfaces often struggle with smart menus, which can negatively impact their dining experience. Training staff to assist such customers was recommended to bridge this gap.

Green et al. (2021) highlighted the environmental advantages of smart menus. Traditional menus require regular printing and updates, contributing to paper waste. In contrast, smart menus align with sustainability goals by eliminating the need for paper-based materials, making them an environmentally friendly alternative.

White and Brown (2022) analyzed the impact of the COVID-19 pandemic on menu card preferences. Smart menus gained popularity as contactless solutions, ensuring safety and hygiene during the pandemic. The study found that the pandemic accelerated the adoption of digital solutions, highlighting their relevance in the modern restaurant industry.

Green and Taylor (2020) discussed how cultural factors influence preferences for traditional or smart menus. In regions where technology adoption is lower, traditional menus remain dominant. However, urban areas with high digital literacy show a clear preference for smart menu systems.

Jones and White (2021) explored the integration of loyalty programs within smart menus. The ability to track rewards, redeem offers, and access personalized discounts directly from a smart menu significantly enhances consumer engagement and loyalty compared to traditional menus.

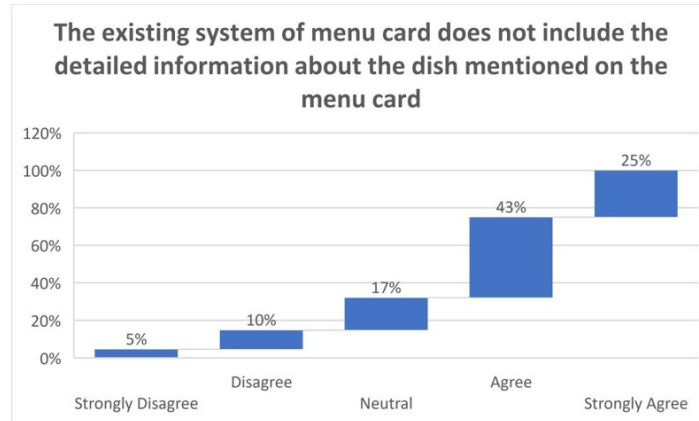
Brown and Smith (2022) examined generational differences in menu preferences. Younger generations, such as millennials and Gen Z, favor smart menus for their digital interactivity and convenience. In contrast, older generations still lean towards traditional menus due to their simplicity and familiarity.

Taylor et al. (2022) introduced the concept of hybrid menu systems that combine traditional and smart menu features. Their study found that such systems cater to a broader demographic, balancing the needs of tech-savvy consumers and those who prefer traditional methods.

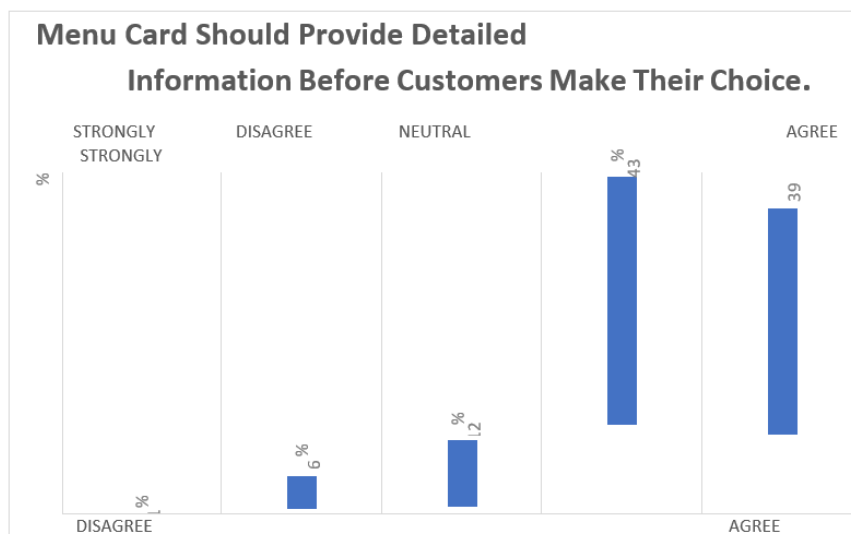
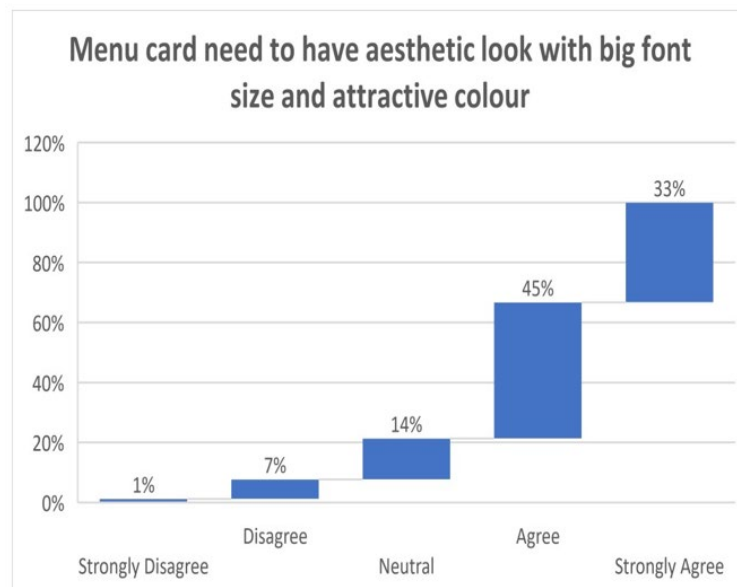
3. RESEARCH METHODOLOGY

- Research Design: Mixed-methods approach.
- Sample Characteristics:
Size: 15 restaurant owners and 750 patrons.
Sampling Technique: Random sampling.
Inclusion Criteria: Participants aged 15 to 70 years.
- Preliminary Survey: Assessment of existing menu cards.
- Data Analysis: Descriptive statistics using SPSS Version 16.

4. DATA ANALYSIS



Interpretation: 68% respondent agree that menu card provide to them does not include detailed information about the dish.



Interpretation: 82% respondent Agree that menu card should provide detailed information before they make their choice

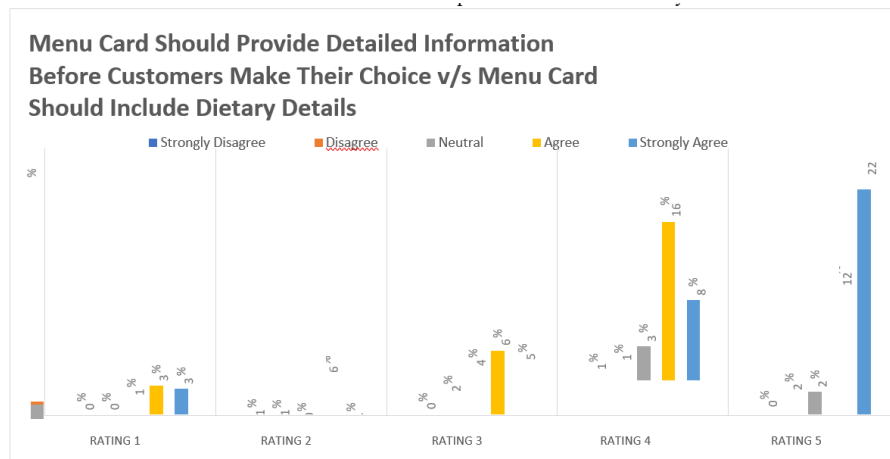
Correlation between	Menu card should include : [Ingredients]	Menu card should include: [Dietary details (nutritional value, calories etc)]	Menu card should include : [Allergen content and cautions]	Menu card should include : [Photos and videos]	Menu card should include : [Authenticity , history and origin of the dish]	Menu card should include : [Dishes have fancy names should provide more clarity]
Menu card should provide detailed information before customers make their choice.	0.18	0.24	0.21	0.15	0.14	0.16

Interpretation: There is correlation between menu card should dietary details, allergen content, cautions and choice customer make

Chi-Square Tests for testing association between choice a customer can make from the menu card provided to them and dietary details of food on menu card

Chi-Square Tests	Value	df	Pvalue
Pearson Chi-Square	61.952 ^a	16	.000
N of Valid Cases	352		

Conclusion: Using Chi: Square test, p value < 0.05, we can say that there is association between choice a customer can make from the menu card provided to them and dietary details of food

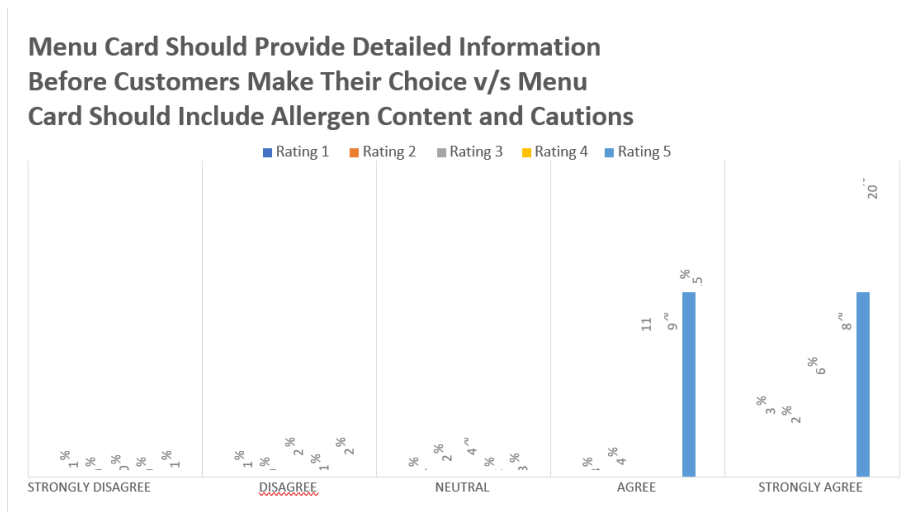


Interpretation: 58% respondent believe menu card should include dietary details of the foods

Chi-Square Tests for testing association between choice a customer can make from the menu card provided to them and information of allergen content and cautions of food on menu card

Chi-Square Tests	Value	df	Pvalue
Pearson Chi-Square	34.411 ^a	16	.005
N of Valid Cases	352		

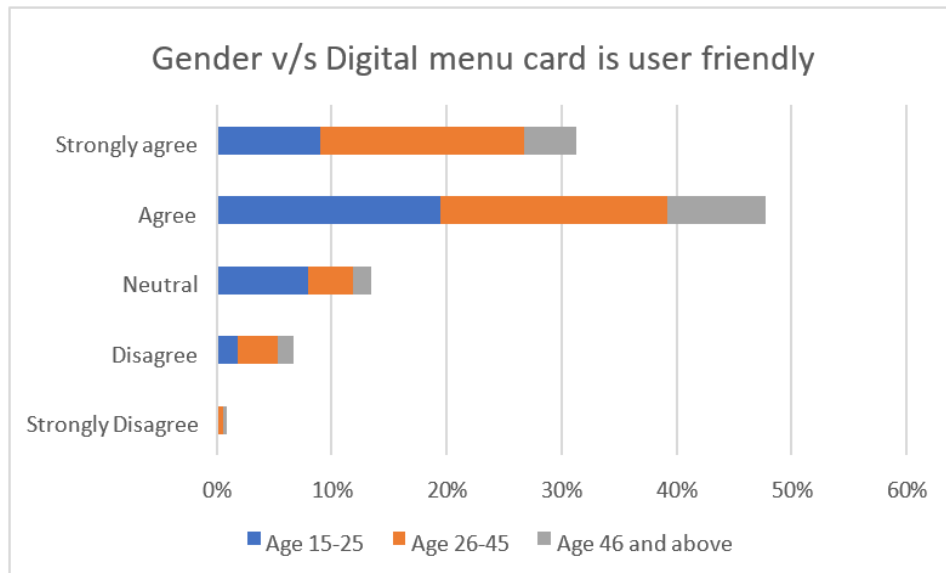
Conclusion: Using Chi: Square test, p value < 0.05, we can say that there is association between choice a customer can make from the menu card provided to them and allergen content and cautions on menu card



Interpretation: 52% Respondents believe menu card should include allergen content and caution on menu card

Overall Interpretation: From the data, we can interpret that menu card does not provide complete details of the food, they should include key elements like dietary information, allergen content and caution, which will assist customer to make their choice. Also, information provided on menu card should have aesthetic look with big font size and attractive color

Analysis of Customer's Data

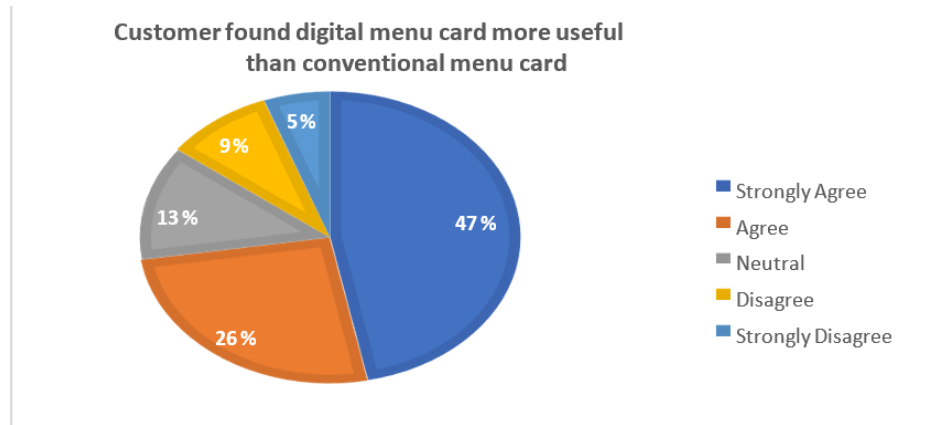


More than 75% from all age group finds digital menu card is user friendly

Chi Square test for testing association between digital menu card is user friendly and the information provided connected me emotionally and made my dining more meaningful.

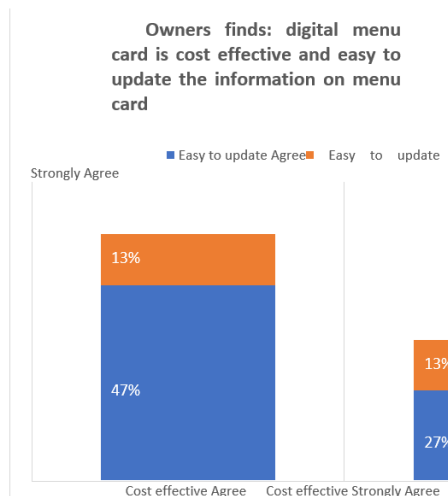
Chi Square test	Value	df	P value
Pearson Chi-Square	79.042 ^a	16	.000

Conclusion: Using Chi – Square test, p value < 0.05, we can say that there is association between user friendly digital menu card and information provided to customer, to make their dining more meaningful.

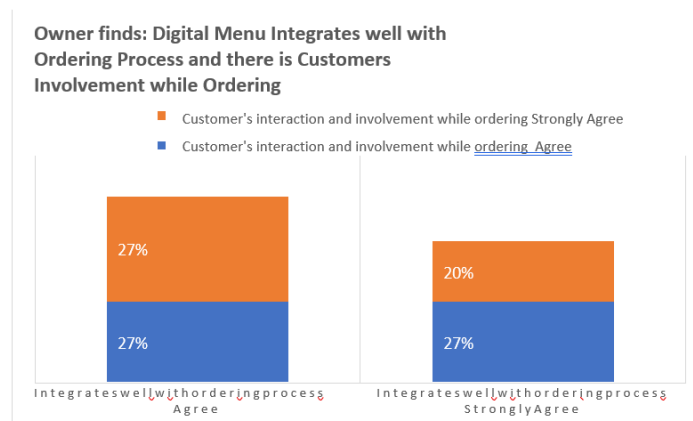


Interpretation: 73% Customer respondent found digital menu card more useful than conventional menu card.

Analysis of Owner's Data (Data is collected from 15 owners)



40 % of Owner's strongly agree that digital menu is cost effective and out of them 26% strongly agree it is easy to update the information on digit menu card



47% owners strongly agree digital menu integrates well with ordering process and 47% strongly agree customer's involvement while ordering through digit menu card

1) Customer Preferences:

- 68% of respondents noted traditional menus lack detailed information.
- 82% agreed menus should provide detailed information before ordering.

2) Correlation Analysis:

Strong associations found between customer choices and the inclusion of dietary details, allergen content, and dish descriptions.

Chi-Square Tests confirmed significant relationships ($p < 0.05$) between menu details and customer satisfaction.

3) Digital Menu Feedback:

- 75% of patrons across age groups found digital menus user-friendly.
- 73% preferred digital menus over traditional ones.
- Restaurant owners cited cost-effectiveness and ease of updates as key benefits.

5. FINDINGS

- 87% of respondents strongly agreed on the need for detailed menu content.
- 90% indicated traditional menus lack comprehensive food information.
- 85% emphasized the importance of allergen information.
- 80% highlighted the need for nutritional details.
- Digital menus were deemed engaging, with features like photos, videos, and historical details of dishes enhancing customer interest.

6. FEEDBACK/IMPACT OF SMART MENU CARDS

- 92% of diners aged 25-45 and 95% aged 45+ reported emotional connection and enhanced dining experiences with smart menus.
- 90% expressed willingness to adopt smart menus.
- Restaurant owners highlighted improved customer engagement and seamless integration with ordering processes.

7. CONCLUSION

In conclusion, the adoption of smart menu cards represents a significant advancement in the way restaurants communicate with their customers. These digital menus go beyond simply listing food options; they transform the dining experience by providing detailed, real-time information about each dish. From nutritional facts to ingredient transparency, allergens, and preparation methods, smart menus empower customers to make well-informed decisions, tailored to their personal preferences and dietary requirements. This is particularly important in a world where health-conscious consumers and those with food restrictions are increasingly seeking clarity and assurance about what they are consuming.

The ability to update content in real time ensures that the information presented is always accurate, whether it involves changes in prices, seasonal dishes, or special offers. This dynamic feature reduces the possibility of errors or misunderstandings that often occur with static printed menus, which may become outdated quickly. Moreover, the interactive nature of smart menus makes them engaging, allowing customers to explore dishes in greater depth through high-quality images, videos, or even recommendations based on their past preferences.

Smart menus also serve to build a stronger connection between the restaurant and its patrons. By offering a personalized experience, these menus foster a sense of inclusivity and respect for customers' unique needs, increasing customer satisfaction. Additionally, the integration of accessibility features, such as adjustable font sizes, voice control, or multi-language support, ensures that smart menus are available to a wider audience, including individuals with disabilities.

Ultimately, the transition to smart menus is a win-win for both customers and restaurants. Customers benefit from a more informative and personalized dining experience, while restaurants gain the ability to manage and present their offerings more efficiently. By enhancing transparency, fostering trust, and improving customer loyalty, smart menu cards not only elevate the dining experience but also play a pivotal role in shaping the future of restaurant operations.

CONFLICT OF INTERESTS

None.

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