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Consumers' Perception of Menu Card Quality: The Case of Istanbul Province

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Abstract

The menu/menu card is an important element for communication and marketing of a food and beverage business. Besides, menus help customers to decide their dining selection. Today, with the increasing importance of digitalization in our lives, menus have started to be announced/presented with various materials such as menu card, digital menu, sign board, writing on the board. These materials can affect the perception of quality. Usage preferences and perception of menu card quality may vary according to the demographic characteristics of consumers. In this study, it is aimed to investigated the menu card quality perception of consumers over the age of 18 living in Istanbul during the December 2023. The evaluation of the questions in the questionnaire study was used with a five-point Likert scale. Data from 438 completed questionnaires were analysed and the responses of the participants to the survey questions analyzed in SPSS 24.0 (Statistical Package for the Social Sciences) program. Reliability analysis, factor analysis, t-test and ANOVA tests were used. According to the results obtained, 65.3% of participants preferred traditional menus and hygiene is the major factor for menu card quality. The findings also show that there was significant effect of age groups on content and sustainability sections. In line with these results, it is thought that it would be beneficial for food and beverage businesses to (re)design their menu cards.

Keywords: Quality perception, menu types, sustainability, restaurants

Tüketicilerin Menü Kartı Kalitesi Algısı: İstanbul İli Örneği

Öz

Menü/menü kartı, bir yiyecek-içecek işletmesinin iletişimi ve pazarlaması için önemli bir unsurdur. Ayrıca menüler müşterilerin yemek seçimine karar vermelerine yardımcı olur. Günümüzde dijitalleşmenin öneminin artmasıyla birlikte menüler, menü kartı, dijital menü, tabela, tahta gibi çeşitli materyallerle duyurulmaya/sunulmaya başlandı. Bu malzemelerin kullanımı tüketicilerin kalite algısını etkilemektedir. Ayrıca tüketicilerin demografik özellikleri de kullanım tercihleri ve menü kartı kalite algısını etkileyebilmektedir. Bu çalışmayla Aralık 2023 döneminde İstanbul'da yaşayan 18 yaş üstü tüketicilerin menü kartı kalite algısının araştırılması amaçlanmaktadır. Anket çalışmasında soruların değerlendirilmesinde 5'li Likert ölçeği kullanılmıştır. Tamamlanan 438 anketten elde edilen veriler analiz edilmiş ve katılımcıların anket sorularına verdikleri yanıtlar SPSS 24.0 (Sosyal Bilimler İstatistik Paketi) programında analiz edilmiştir. Güvenilirlik analizi, faktör analizi, t-testi ve ANOVA testleri kullanılmıştır. Elde edilen sonuçlara göre katılımcıların %65,3'ü geleneksel menüleri tercih etmekte olup, menü kartı kalitesini etkileyen en önemli faktörün hijyen olduğu görülmüştür. Bulgular ayrıca içerik ve sürdürülebilirlik boyutlarında yaş gruplarının önemli etkisinin olduğunu göstermektedir. Bu sonuçlar doğrultusunda yiyecek-içecek işletmelerinin menü kartlarını (yeniden) tasarlamalarının faydalı olacağı düşünülmektedir.

Anahtar kelimeler: *Kalite algısı, menü çeşitleri, sürdürülebilirlik, restoranlar.*

Introduction

In today's living conditions, with the decrease in the time spent at home, people are intensely meeting their eating needs in restaurants outside. The most important guide in choosing and ordering food in the restaurant is the menu / menu card. A well-designed menu card should satisfy the consumer, ensure regular service, facilitate cost control, create a positive image, and contribute to the success of management. Therefore, it is important to design the menu card carefully and correctly. To achieve this, it is necessary to understand what consumers want. In order to gain insight into consumer preferences, we conducted a research study to assess their perception of menu card quality. This research includes consumers' opinions on sustainability in menu cards, in addition to other studies.

The terms menu and menu card are often used interchangeably. While the "menu" expresses the whole of the food and beverages to be served, it is also used as an expression of the way they are presented and introduced to the customer (Erdem Türk & Yılmaz, 2023). The menu is defined as "an ordered set of dishes designed for a particular meal" or "a food group from which a restaurant can choose according to the preferences of its customers". The term menu card means the tools used to announce the menu containing the food groups that the customer will prefer. In addition to the meals, the menu card may include price, promotional information (Bekar & Demirci, 2015), product images, explanations and nutritional values (Mills & Thomas, 2008).

The menu/menu card is an important element that can positively affect the customer's dining experience when visiting a restaurant (Şahin, 2020). The menu serves a variety of functions for both the restaurant workers and the consumer. In addition, the menus should be clear, accurate, attractive and understandable introductory products of the restaurant in a way

that facilitates the customer's selection (Antun & Gustafson, 2005; Bowen & Morris, 1995).

The menu is one of the most important communication, marketing and sales tools of a food and beverage business. Technological developments and increasing competition have led the industry to use electronic media and related applications for information exchange. This situation leads food and beverage businesses to innovation and service differentiation (Jakhete & Mankar, 2015; Şahin, 2020).

Menus used in restaurants can be announced to customers in various ways such as menu card, digital menu, sign board, writing on the board, etc. Today, with the increasing importance of digitalization in our lives, menus have started to be announced/presented with digital materials (Erdem Türk, 2022). The best example of this is the introduction of digital menus in restaurants. The increasing importance of hygiene, especially after the Covid-19 pandemic, encourages the use of digital menus (Brewer & Sebby, 2020).

A digital menu means an electronic screen that presents information and images about food and beverage to consumers and includes personal interaction with the customer to order (Tan, 2021). The digital menu types are quite diverse. Examples of these are non-touch screen and touch screen menus, self-service technologies, static and dynamic digital menu signage, tablet menus, kiosks, mobile phone applications, business websites and online ordering applications (Erdem Türk, 2022). At the same time, QR (quick response) codes appear as an innovative technology (Lou et al., 2017). In addition, with the spread of e-commerce, it was inevitable that the restaurant industry would also be affected by this situation. Access to digital menus has become easier with QR code scanning and it has started to replace the use of paper menus (Avşar & Tandoğan, 2022).

Today, consumers use both classic menu cards and digital menus. However, usage preferences and menu card quality perception may vary according to the demographic characteristics of consumers. In this study, it is aimed to examine the menu card quality perception of consumers over the age of 18 living in Istanbul. According to the results, consumer preferences for menu design in the restaurant sector were determined. In line with these preferences, suggestions were made for the creation of menus.

Literature Review

The most important communication, marketing and selling tools of restaurant business are menus. Therefore, quality and design of menus must provide consumers with unforgettable experiences. One of the key points of a successful food and beverage business is to make the right menu planning towards customer's behavioral intentions (usefulness, interactivity, consumption visions and behavioral intentions) in menus image in the restaurant sector (Sezgin et al., 2008).

Day by day, understanding the importance of technology developments and increasing competitive environment in the restaurant sector, businesses are trying to produce new approaches to menu planning, pricing and designing (Özdemir & Çalışkan, 2014). The food and beverage business also has important impressions on the environment and society. Therefore, to improve the sustainability of food and beverage service, consumer preferences should be designed to be more responsible. For example, menus can be (re)designed to inform customers about the environmental and communal effects of their choices and so 'nudge' the option of more benign food selections (Filimonau & Krivcova, 2017).

Through, there are numerous studies on the considered of significant points of menus. The studies facilitate to menu design and planning

in the food and beverage businesses. One of them is McCall and Lynn's study (2008) which research on the effects of menu item descriptions on perceptions of quality, price, and purchase intention. The study gives a variety of suggestions about restaurant menu strategy, increasing perceptions of item quality, expected price, and selection likelihood.

In a similar study, Cankül (2019) examined the influence of menu design elements in restaurants on customers' behavioral intention. Because of the study, it has been shown that there are five basic dimensions (material, form and dimension, image and cover, content, font style) of menu design and the both as a whole and with the sub-dimensions have an affirmative effect on the revisit intentions of customers.

In another study, the use of menu design elements in Alanya province of Turkey was determined. According to the findings obtained from 86 menu cards in the region restaurant directors rarely, use menu design elements for increasing sales of high-price menu items. However, findings confirm the view that use of menu design elements of region restaurants was a random situation, not done consciously (Özdemir & Nebioğlu, 2018).

In Bingöl province, Uzun's study (2019) investigated the benefits of the color, content and design of menu cards of restaurant businesses, to determine the level of menu planning and menu analysis practices in the businesses and measuring the importance given to the menu by hotel restaurants. The result of the study has shown that the concept of menu engineering in restaurants has not been willfully formed, and the expectations from the menus in restaurants can be measured by examining the work done from the customer's point of view.

A 2015 study, which evaluates effect of qualities of menu cards on the preferences of customers' food and beverage, found that customers were influenced by the content of menu cards more than physical qualities of menu cards. Especially, while visual perception and clarity factors affect women and diversity factor affect men (Bekar & Demirci, 2015).

The present studies show that customers agreed that the physical characteristics of the traditional and digital menus should be harmonious with the restaurant concept and the card or digital menus should be of high quality. Moreover, it is seen that demographic factors (gender, educational level and age) have significant effect on customer's preference (Çetinsöz & Polat, 2018; Türk & Yılmaz, 2023).

Menu design studies should not only be aimed at improving and developing traditional menus, but also at digital menus. In addition, traditional menu cards and digital menu offerings have become a matter of choice for customers. Recently, numerous food and beverage business have launched technology-based menus by replacing their traditional printed menus due to the customers' preferences.

In the four European countries (UK, Greece, France, and Denmark), researchers studied on consumer choices for the use of an new menu form in public canteen services. According to study, taken important points' notes for the next design of a food-quality-focused digital menu solution in canteen services adapted to the specific country and population context to encourage informed consumer food preferences (Chen et al., 2021).

In addition, sustainability of menu card design is another significant point. Mainly, environmental factors should be reduced to facilitate progress of the food and beverage sector towards sustainability (Filimonau et al., 2017; Kızıldemir & Kaderoğlu, 2021). As a result of this, food and beverage sector have minimized the use of traditional menus and started to use digital menus. Because, in

terms of sustainability, it has benefits such as being hygienic, saving time, reducing costs, product variety, facilitating menu changes, rich in visuals and updates to food and beverage businesses (Avşar & Tandoğan, 2022).

In conclusion, the sector of food and beverage business is determined that menus can be designed according to customers' perspectives. In addition, consumption preferences are important mediators of interactivity effects in the menu. Therefore, customer choice should be take into consideration, before designing a menu.

Methodology

For this study, ethics committee approval (date:27.10.2023 and number: 07) was obtained from Haliç University Social Sciences and Humanities Research Ethics Committee. In the research, in which consumers' quality perceptions of menu cards were tried to be determined, the general survey model was used as a method (Büyüköztürk et al., 2008). The population of the study consists of consumers over the age of 18 residing in Istanbul. In determining the sample number, it was determined that 438 people should be reached by using simple random sampling method (n=t².p.q/d²), 95% confidence level and ±0.05 deviation interval. After determining the number of participants, the questionnaire form was developed in terms of sustainability by using the "menu card quality perception scale" in Türk and Yılmaz's (2023) study and it was applied to the consumers during the December 2023. The first part of the questionnaire consists of six questions (demographic characteristics) and the second part consists of twenty four questions (scale). The evaluation of the questions in the questionnaire study was used with a five-point Likert scale (Strongly Disagree: 1; Strongly Agree: 5). The data collection process was applied to be conducted online and face-to-face in 2023. The responses of the participants to the survey questions analyzed in SPSS 24.0 (Statistical Package for the Social Sciences) program and reliability analysis, factor analysis, t-test and ANOVA tests were used.

Results and Discussion

The socio-demographic information and menu choices of participants are summarized in Table 1. A total of participants consisted of 303 females (69.2%) and 135 males (30.8%). Respondents between the ages of 26–38 (33.8%) are the highest participation group. Accordingly, the menu preference of participants was concentrated on traditional menu (65.3%) and the education level of participants was master degree and higher (40.9%). A significant majority of participants' (69%) employment sector was non-food sector (73.1%) and the occupation status was non-student (72.6%).

Cronbach's alpha value of the questionnaire was .921. According to Hair et al. (1998), Cronchbach's Alpha value was 'excellent', which satisfied the minimum required level of .70. These result shows that all variables can be reliable enough for research purposes. Kaiser-Meyer-Olkin (KMO) value (0.917) and the Bartlett test of sphericity (Chi-squared, df = 190; *P*-value <0.000), were used to establish sampling adequacy. This was followed by factor analysis using principal component analysis and varimax rotation to examine domain structure.

Table 1

Socio-demographic information and menu choices of participants

	N	%		N	%
Gender			**Educational level**		
Female	303	69.2	Associate degree or below	93	21.2
Male	135	30.8	Bachelor's degree	166	37.9
Age			Master degree and higher	179	40.9
18-25	79	18.0			
26-38	148	33.8	**Industry**		
39-51	141	32.2	Food sector	118	26.9
52-64	54	12.3	Other	320	73.1
≥65	16	3.7			
Menu choice			**Occupation**		
Traditional menu	286	65.3	Student	120	27.4
Digital menu	152	34.7	Non student	318	72.6

Table 2 provides information about the results of mean, standard deviation and factor loadings of the scale items. Firstly, the factor loadings for all twenty four items ranged from 0.548 to 0.897. Secondly, all items were measured using five-point Likert scale adapted from the literature and average of items ranged from 2.72 to 4.64.According to the results in physical characteristics section, "Menu card should be compatible with the concept of the restaurant" ($\overline{x}$=4.01) item has the highest average and "The size of the menu card influences my ordering" ($\overline{x}$=2.72) has the lowest average. Additionally, visual perception section shows that "The menu card must be clean." ($\overline{x}$=4.64) is the most effective item for menu card quality perception. According to clarity scale, means of items changed from 4.49 to 4.55, therefore clarity's all items is generally important for perception of menu card quality. Moreover, in attitudes of participants related to content section, the items; use of appropriate language, allergen warnings, garnish and sauce information, service time, alternative products and energy value information on the menu card have means that above $\overline{x}$=3.53 in the respondents' perception of menu card quality.These results supported by Çetinsöz and Polat (2018)'s study, which participants stated that they attach more importance to "product features" and "preparation & ingredients" information on menu card information in restaurants. In the literature, Fakif et al. (2016) stated that "nutritional information" and "preparation & ingredient" are strong determinants of consumers' behavioral intentions towards high-scale and mid-scale restaurants, while "product characteristics" are the strongest determinant of consumer behavioral intentions in low-scale restaurants. In Malaysia, Din et al. (2012) stated that if basic nutritional information is not stated on the menu, it does not help the Malaysian customers to better understand the ingredients of the food. However, Delverani et al. (2013) found that nutritional information has no effect on consumers' behavioral intentions in fast food establishments.In sustainability section, item means lower than other sections. It is seen that the statement with the highest mean in attitudes towards sustainability is "Digital menus are beneficial for sustainability." ($\overline{x}$=3.54) and the item with the lowest mean is "Menu cards cause paper waste." ($\overline{x}$=2.92). The findings of a research on evaluation of the websites of food and beverage enterprises showing a green marketing tendency case of Ankara shows that no findings were found about sustainability in the comments examined (Yazıcıoğlu et al., 2018).

On the other hand, in the literature, to enhance sustainability of food service provision, consumer choice ought to be architected to make it more responsible. Therefore, menu cards can be (re-)designed to inform customers about the environmental and societal implications of their choice (Filimonau & Krivcova, 2017).

Table 2

Mean, standard deviation and factor loadings explained total variance and explained variance ratios of items of items

	Mean	Standard deviation	Factor loading	Total variance	% of variance
Physical characteristics					
The size of the menu card influences my ordering.	2.72	1.253	0.810	9.872	41.135
The shape of the menu card influences my ordering.	3.02	1.287	0.874	3.268	13.616
The color of the menu card influences my ordering.	2.94	1.286	0.880	2.788	11.618
The quality of the menu card influences my ordering.	3.41	1.332	0.769	1.308	5.448
Menu card should be compatible with the concept of the restaurant.	4.01	1.198	0.548	0.829	3.454
Visual perception					
The menu card must be clean.	4.64	0.876	0.897	0.696	2.898
The text on the menu card should be easy to read.	4.58	0.910	0.895	0.595	2.478
Representative pictures on the menu card should be compatible with the food and beverage served.	4.59	0.930	0.892	0.541	2.255
The fact that the food and beverage pictures on the menu card are vivid and attractive is effective in my ordering.	4.21	1.047	0.663	0.499	2.080
The menu card should not be worn out.	4.38	1.010	0.757	0.463	1.928
Clarity					
Food and beverage prices should be clearly indicated on the menu card.	4.55	1.029	0.790	0.397	1.656
The ingredients of foods and beverages should be clearly indicated on the menu card.	4.49	1.016	0.786	0.363	1.513
Separating food and beverages according to a certain category (soups, main courses, etc.) on the menu card makes it easier for me to order.	4.50	1.023	0.768	0.359	1.497
Content					
It is important to indicate the energy values of food and beverages on the menu card.	3.53	1.131	0.740	0.317	1.320
Allergen warning about the food and beverage should be made on the menu card.	4.34	1.005	0.553	0.300	1.250
Food and beverage names should be written in the appropriate language on the menu card.	4.40	0.967	0.670	0.274	1.142
Indication of service times of food and beverages on the menu card affects my order preference.	4.14	1.046	0.701	0.248	1.034
The garnishes and sauces to be served with the food should be clearly indicated on the menu card.	4.28	1.007	0.658	0.214	0.893
Having many alternatives for food and beverage selection on the menu card affects my ordering.	3.97	1.126	0.627	0.171	0.714
Sustainability					
Menu cards cause paper waste.	2.92	1.303	0.784	0.155	0.644
Digital menus are beneficial for sustainability.	3.54	1.283	0.836	0.104	0.433
Digitalization of menus increases consumers' environmental awareness.	3.31	1.368	0.883	0.094	0.390
Restaurants using digital menus give importance to waste free/green kitchen practices.	3.03	1.347	0.858	0.082	0.341
Restaurants using digital menus cause less damage to the ecosystem.	3.14	1.362	0.871	0.063	0.264

The independent samples t-test is used to compare two sample means from unrelated groups. Therefore, comparing of employment sector and perception of menu card quality is given Table 3. According to results of the employment sector and perception of menu card quality, there is a significant difference between food sector employees and non-food sector employees on clarity perception (P =0.044, P <0,05). However, a significant difference was not determined between physical characteristics, visual perception, content, sustainability sections and employment sector.

Table 3

T- test results of employment sector and perception of menu card quality

	Employment sector	N	Mean	Standard deviation	f	t	*P*
Clarity	Food sector	118	4.4463	1.12489	4.083	-0.872	.044*
	Other	320	4.5396	.94049			

The effect of menu choice in terms of visual perception (P =0.023, P <0,05), clarity (P =0.030, P <0,05) and content (P =0.22, P <0,05) on perception of menu card quality was determined significantly different (Table 4). Especially, digital menu means are higher for visual perception, clarity and content sections than traditional menus. However, a study of Avşar and Tandoğan (2022) shows that digital menus have some disadvantages, although they have several advantages such as reducing paper usage, less ecosystem damage and easily ordering. Similarly, our study supported these results, because it was determined that although digital menus have significant difference in terms of visual perception, clarity and content, participants were preferred traditional menus due to the its disadvantages like internet connection, data security and digital device problems.

Table 4

T- test results of menu choice and perception of menu card quality

	Menu choice	N	Mean	Standard deviation	f	t	*P*
Visual Perception	Traditional Menu	286	4.4182	.95848	5.184	-1.843	.023*
	Digital Menu	152	4.5796	.68204			
Clarity	Traditional Menu	286	4.4639	1.06735	4.722	-1.464	.030*
	Digital Menu	152	4.6096	.83059			
Content	Traditional Menu	286	3.9902	.90265	5.309	-2.073	.022*
	Digital Menu	152	4.1671	.74066			

In order to determine to compare the means of groups (age, educational level) One-Way ANOVA ("analysis of variance") was used and results of age groups and perception of menu card quality were given in Table 5. Statistically, results proved that physical characteristics (F=2.800, *P* =0.026), content (F=2.531 *P* =0.040) and sustainability (F=5.572; *P* =0.000).

were significantly different. The findings of the study also show that the physical characteristics between age groups was no significant difference (*P* >0.05). In addition, results indicated that there was significant main effect of age groups on content section (39-51, *P* =0.049) and sustainability sections (39-51, *P* =0.009 and 52-64, *P* =0.002).

Table 5

ANOVA (Tukey test) results of age groups and perception of menu card quality

		F	p	Age	N	Mean	Mean difference	*P*
Physical characteristics	Between groups	2.800	.026*	18-25	79	3.4329	-.48291	.413
				26-38	148	3.3338	-.38378	.604
	Within groups			39-51	141	3.0936	-.14362	.983
				52-64	54	3.0000	-.05000	1.000
				≥65	16	2.9500		
Content	Between groups	2.531	.040*	18-25	79	4.0962	-.59620	.078
				26-38	148	4.0892	-.58919	.065
				39-51	141	4.1135	-.61348*	.049*
	Within groups			52-64	54	3.8852	-.38519	.500
				≥65	16	3.5000		
Sustainability	Between groups	5.572	.000*	18-25	79	3.5468		
				26-38	148	3.3405	.20629	.686
				39-51	141	3.0213	.52556*	.009*
	Within groups			52-64	54	2.7926	.75424*	.002*
				≥65	16	2.7875	.75934	.105

Table 6 presents whether perceptions towards menu card quality differ according to educational level. From the table, the ANOVA test indicated that there was a significant difference but there is no significant effect. Therefore we used Tukey HSD post-hoc tests and it has been determined that the participants' perceptions of the dimensions show a significant difference according to the education variable (respectively; F=6.326, P =0.002; F=4.279, P =0.014; F=6.904, P =0.001).

Notably, the difference between the participants with Bachelor's degree and master degree and

higher is significant (*P* <0.05). It was determined that participants with master's degree and higher education level ($\bar{x}$=4.59) paid more attention to visual perception than those with Bachelor's degree education level ($\bar{x}$=4.49). In terms of clarity, a significant difference was found between participants with master's degree and higher education level (*P* <0.05).

In addition, education level creates a significant difference in participants' menu card quality perceptions (*P* <0.05). The differences in the effects were observed between the groups of educational level. Besides, it was determined

that participants with master's degree and above ($\overline{x}$=4.16) paid more attention to the content than participants with bachelor's degree ($\overline{x}$=4.07).

These findings are largely in line with the outcome of previous studies aiming to explore the inter-linkages between the levels of education and perception of menu card quality (Filimonau et al., 2017). In another study, when it comes to effect of educational levels on perception of menu card quality, there is a significant difference. This result supported that the difference is significant for visual perception and content like our study (Türk & Yılmaz, 2023). Finally, according to the educational level of participants it can be taught that sustainability is important, but the statistical results show that there is no significant difference (P >0.05).

Table 6
ANOVA (Tukey test) results of educational level and perception of menu card quality

		F	p	Educational level	n	Mean	Mean difference	P
Visual perception	Between groups	6.326	.002	Associate degree or below	93	4.2043		
	Within groups			Bachelor's degree	166	4.4952	-.29088*	.026*
				Master degree and higher	179	4.5950	-.39067*	.001*
Clarity	Between groups	4.279	.014	Associate degree or below	93	4.2760		
	Within groups			Bachelor's degree	166	4.5080	-.23205	.165
				Master degree and higher	179	4.6443	-.36833*	.010*
Content	Between groups	6.904	.001	Associate degree or below	93	3.7742		
	Within groups			Bachelor's degree	166	4.0795	-.30532*	.015*
				Master degree and higher	179	4.1698	-.39564*	.001*

Conclusion

This study focuses on analyzing consumers' perception of menu card quality. Based on the result of research, 65.3% of participants preferred traditional menus, although participants think that digital menus have difference on perception of menu card quality according to t-test results. The findings also show that there was significant difference of age groups on content section (39-51 ages) and sustainability sections (39-51 and 52-64 ages). The results demonstrate, as in the studies conducted by Çetinsöz and Polat (2018) and Türk and Yılmaz (2023), that demographic factors have an impact on menu card quality perception.

According to scale items, average of items ranged from 2.72 (The size of the menu card influences my ordering) to 4.64 (The menu card must be clean). Therefore, hygiene is the major factor for menu card quality.

The attitudes of participants related to content section has high means which supported by Çetinsöz and Polat (2018)'study, which participants stated that they attach more importance to "product features" and "preparation & ingredients" information on menu card information in restaurants. Additionally, Fakif et al. (2016) stated that "nutritional information" and "preparation & ingredient" are strong determinants of

consumers' behavioral intentions towards high-scale and mid-scale restaurants, while "product characteristics" are the strongest determinant of consumer behavioral intentions in low-scale restaurants. However, Delverani et. al. (2013) found that nutritional information has no effect on consumers' behavioral intentions in fast food establishments.

Based on the result of the questionnaire, it appears that the educational level of participants it can be taught that sustainability is important, but the statistical results show that there is no significant difference ($P > 0.05$). In the literature, a research on the evaluation of the websites of food and beverage businesses showing green marketing tendency in the case of Ankara shows that there is no evidence of sustainability in consumer comments (Yazıcıoğlu et al., 2018).

In terms of preference of menu types, the use of digital menus has increased day by day because of their sustainability. However, some customers have been worried about them because of their disadvantages such as security problems, internet connection and digital device problems.

In sum, our result can be used by the sector of food and beverage business for designing menus according to customers' perception of menu card quality. Therefore, consumption preferences were important mediators of interactivity effects in the menu. Hence, customer choice should be take into consideration for their quality perception.

References

Antun, J. M., Gustafson, C. (2005). Menu analysis: design, merchandising, and pricing strategies used by successful restaurants and private clubs. *Journal of Nutrition in Recipe & Menu Development, 3*(3-4), 81–102.

Avşar, M., Tandoğan, G. K. (2022). Karekod (QR kod) menü kullanan restoran işletmeleri üzerine bir araştırma: Amasya örneği. *Sosyal, Beşeri ve İdari Bilimler Dergisi*, 5(7), 858–869.

Bekar, A., Demirci, Z. (2015). Menü kartlarının müşterilerin yiyecek içecek tercihi üzerindeki etkisi. *Seyahat ve Otel İşletmeciliği Dergisi, 12*(3), 21–33.

Bowen, J. T., Morris, A. J. (1995). Menu design: can menus sell. *International Journal of Contemporary Hospitality Management, 7*(4), 4–9.

Brewer, P., Sebby, A. G. (2021). The effect of online restaurant menus on consumers' purchase intentions during the COVID-19 pandemic. *International Journal of Hospitality Management, 94*, 102777. https://www.sciencedirect.com/science/article/pii/S0278431920303297

Büyüköztürk, Ş., Kılıç-Çakmak, E., Akgün, Ö., Karadeniz, Ş., Demirel, F. (2008). *Eğitimde bilimsel araştırma yöntemleri*. Pegem Akademi.

Cankül, D. (2019). Restoranlardaki menü tasarım unsurlarının müşterilerin tekrar ziyaret etme niyeti üzerindeki etkisi. *Turizm Akademik Dergisi, 6*(1), 249–261.

Chen, Y., Perez-Cueto, F. J., Giboreau, A., Mavridis, I., Hartwell, H. (2021). Consumer preferences for the use of an innovative digital menu solution in public food service settings in four European countries. *Food Quality and Preference, 94*, 104324. https://www.sciencedirect.com/science/article/pii/S095032932100207X

Çetinsöz, B. C., Polat, A. S. (2018). Restoranlarda menü bilgilerinin tüketicilerin davranışsal niyeti üzerine etkisi [The impact of menu informations on behavioral intention of customers in restaurants]. *Journal of Tourism & Gastronomy Studies*, 6(4), 3–20.

Din, N., Zahari, M. S. M., Shariff, S. M.

(2012). Customer perception on nutritional information in restaurant menu. *Procedia-Social and Behavioral Sciences*, *42,* 413–421.

Erdem Türk, A. (2022). Klasik menü kartlarının ve dijital menülerin işletme için önemi ve müşteriler üzerindeki etkisinin karşılaştırılması [Yayımlanmamış yüksek lisans tezi]. Başkent Üniversitesi.

Erdem Türk, A., Yılmaz, İ. (2023). Menü kartları ile dijital menülerin karşılaştırmalı incelenmesi. *Journal of Tourism & Gastronomy Studies, 11*(2), 1433–1461.

Fakih, K., Assaker, G., Assaf, A. G., Hallak, R. (2016). Does restaurant menu information affect customer attitudes and behavioral intentions? A cross-segment empirical analysis using PLS-SEM. *International Journal of Hospitality Management, 57*, 71–83.

Filimonau, V., Krivcova, M. (2017). Restaurant menu design and more responsible consumer food choice: An exploratory study of managerial perceptions. *Journal of Cleaner Production, 143*, 516–527.

Filimonau, V., Lemmer, C., Marshall, D., Bejjani, G. (2017). 'Nudging'as an architect of more responsible consumer choice in food service provision: The role of restaurant menu design. *Journal of Cleaner Production, 144*, 161–170.

Jakhete, M. D., Mankar, P. C. (2015). Implementation of smart restaurant with e-menu card. *International Journal of Computer Applications, 119*(21), 23–27.

Kizildemir, Ö., Kaderoğlu, G. H. (2021). Yiyecek içecek işletmelerindeki menü tasarimlarinin sürdürülebilirlik kapsaminda değerlendirilmesi. *Journal of Tourism Intelligence and Smartness, 4*(2), 296–322.

Lou, L., Tian, Z., Koh, J. (2017). Tourist satisfaction enhancement using mobile QR code payment: an empirical investigation, *Sustainability, 9*(7), 1186. https://doi.org/10.3390/su9071186

McCall, M., Lynn, A. (2008). The effects of restaurant menu item descriptions on perceptions of quality, price, and purchase intention. *Journal of Food Service Business Research, 11*(4), 439–445.

Mills, J.E., Thomas, L. (2008). Assessing customer expectations of information provided on restaurant menus: A confirmatory factor analysis approach*, Journal of Hospitality & Tourism Research, 32*(1), 62–88.

Ozdemir, B., Caliskan, O. (2014). A review of literature on restaurant menus: Specifying the managerial issues. *International Journal of Gastronomy and Food Science, 2*(1), 3–13.

Özdemir, B., Nebioğlu, O. (2018). Use of menu design techniques: Evidences from menu cards of restaurants in Alanya. *Advances in Hospitality and Tourism Research (AHTR), 6*(2), 205–227.

Sezgin, M., Zerenler, M., Karaman, A. (2008). Otel işletmelerinin menü planlamasında yaratıcılık, yenilikçilik, girişimcilik faaliyetleri üzerine bir araştırma. *Sosyoekonomi, 8*(8), 127–142.

Şahin, E. (2020). An evaluation of digital menu types and their advantages. *Journal of Tourism & Gastronomy Studies, 8*(4), 2374–2386.

Tan, T. (2021). *Digital menu for restaurants in Finland as a saas web application: definition, functionality, feasibility* [Bachelor's thesis, Haaga-Helia University of Applied Sicences]. LibGuides.https://www.theseus.fi/bitstream/handle/10024/500243/TimurTan2021.pdf?sequence=2&isAllow ed=y

Türk, A. E., Yılmaz, İ. (2023). Menü kartları ile dijital menülerin karşılaştırmalı incelenmesi (comparative examination of menu cards and digital menus). *Journal of Tourism & Gastronomy Studies, 11*(2), 1433–1461.

Uzun, D. (2019). Bingöl ilindeki turizm işletme belgeli otel restoranlarının menü mühendisliği analizi. *Tourism and Recreation, 1*(1), 9–14.

Yazicioğlu, İ., Özata, E., Yariş, A. (2018). Sürdürülebilir yiyecek ve içecek işletmeciliği: Ankara ilinde bir araştırma. *Journal of Tourism & Gastronomy Studies*, *6*(2), 350–368.