

Menu Design: A Review of Literature

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The objective of this study is to review the relevant literature on menu design in an attempt to identify its dimensions and effects on customers' restaurant experiences. Based on previous research, this review shows that menu design has four main dimensions: menu item position, menu item description, menu item label, and menu card characteristics. Furthermore, it is identified that menu design has potential for influencing the item-ordering behavior of restaurant customers. Menu design has two dimensions that have considerable effects on customers' menu item perceptions in four domains including value, quality, healthfulness, and taste. Given the scarcity of research that incorporates evidences and concepts of previous studies into one single study, this review allows for broadening the understanding of menu design and it also forms a basis for future research.

KEYWORDS *customers' perceptions, item choice, menu design, restaurant menu*

INTRODUCTION

Recent years have witnessed a growing academic interest in restaurant menus probably due to the view that menu is a key to success of restaurants (Antun & Gustafson, 2005). In particular, existing studies on menu are related to the areas of menu planning (Kivela, 2003); menu pricing (Iglesias & Guillen, 2002; Raab, Mayer, Kim, & Shoemaker, 2009); menu analysis (Taylor & Brown, 2007), and menu design. Each study area of menu has its own

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research questions and is developing as a unique research context in which the different aspects of menu (e.g., menu item selection process by menu planners, customers' perceptions of menu prices, menu item performance evaluation and development) can be deeply understood.

Menu design has been gaining in popularity among menu researchers and signaling as a freshly developing sub-field of research in the mainstream menu literature. In this context, layout of a menu display is one domain that has received a considerable attention from researchers (Bowen & Morris, 1995; Choi, Lee, & Mok, 2010; Kincaid & Corsun, 2003; Reynolds, Merritt, & Pinckney, 2005; Sobol & Barry, 1980; Yang, 2012). There are, in addition, other domains in which menu design has also been examined. First, descriptions in the menu have been studied in relation to customers' item selections (McCall & Lynn, 2008; Shoemaker, Dawson, & Johnson, 2005). Second, other researchers have focused on investigating menu labels and their impact on item choice (Guéguen & Jacob, 2012; Lockyer, 2006; Wansink, Painter, & Van Ittersum, 2001). Third, a small amount of research has examined the position of menu items in a menu category list (Dayan & Bar-Hillel, 2011). Fourth, some researchers (Choi et al., 2010; Guéguen, Jacob, & Ardiccioni, 2012; Reynolds et al., 2005) investigated the association between design features of a menu card and item sales. Fifth, some of those studies (McCall & Lynn, 2008; Shoemaker et al., 2005; Wansink et al., 2001; Wansink, Van Ittersum, & Painter, 2005) have also established and tested the relationships between menu design variables (e.g., menu labels and descriptions) and customers' perceptions (e.g., taste, value, and quality), and they particularly suggested that menu design may affect customers' perceptions of the menu items. Finally, the issue of information on the menu has been examined from the consumers' perspective (Mills & Thomas, 2008). Alongside those research studies, consultants and professionals also pay attention to menu design issues and principally highlight that design of a menu display provides opportunities for restaurateurs to predict and improve the item-ordering behavior of customers.

Given the above background, it is plausible to claim that both from academic and practical perspectives, menu design is regarded as a variable that has a considerable potential in influencing customers' item-ordering behavior and perceptions. However, despite the growing attention to menu design, there is a lack of an attempt at incorporating the evidences and concepts of previous studies in one single study. Therefore, this article presents a review of relevant literature to frame the current discussion on menu design in attempt to identify its dimensions and effects on restaurant customers' item choices and perceptions. As the menu is a key to influencing consumer behavior in foodservice settings, this study could assist researchers and restaurateurs in broadening the understanding of the role menu design plays in customers' restaurant experiences.

LITERATURE REVIEW

Dimensions of Menu Design and Their Effects on Item Choice

Jones and Mifli (2001) suggest that menu has two separate meanings. First, it refers to the range of food and beverage offerings made by a foodservice outlet. Second, it means a display by which a foodservice establishment communicates its offerings to customers. Menu design has to do with the second meaning. Similarly, Bowen and Morris (1995) define the concept of menu design in relation to the way a menu card or display is created. Ozdemir (2012) also describes menu design concept as the creation of an attractive menu card that not only provides information, but also directs customers' attention to the items that the foodservice establishment wants to sell more. These definitions highlight the important role menu design plays in restaurants' communication with their customers. However, definitions alone are not sufficient to understand the conceptual structure of menu design. Therefore, additional to definitions, an examination of its dimensions is essential to deepen our understanding of the concept.

A growing number of empirical studies investigate menu design and its associations with item sales or item choice and they provide important groundwork for understanding the phenomenon with its dimensions. Based on the conceptual and empirical findings of those studies, it is evident that a distinct set of factors may affect item sales or choice in the context of menu design. These potential factors can be classified into the following four main dimensions: menu item position, menu item description, menu item label, and menu card characteristics. Table 1 presents the four dimensions along with respective studies and factors influencing item sales or choice. The following section elaborates on these dimensions by drawing evidence from the menu design literature.

MENU ITEM POSITION

Menu item position refers to the location of the menu item both on the menu card or board, and in a menu category list. The existing literature on menu item position has sought answers to three major questions. First, does a replacement of an item on a menu card result in an increase in its sales? Second, does the position of a menu item in a menu category list influence its choice by customers? Finally, are there some spots on a menu card that are more visible than the remaining parts?

Existing research on the association between menu item position and item sales has produced mixed findings. Some researchers have shown no significant impact of menu item position on item sales while others have found a positive effect of item position as it increases sales. The study by Sobol and Barry (1980) is an early attempt at investigating the effect of menu

TABLE 1 Research Studies Investigating the Relationships Between Menu Design and Item Sales or Choice

Menu design dimension	Factors influencing item sales or choice	Study
Menu item position	Location of menu item on menu board	Sobol and Barry (1980)
	Location of menu item on menu card	Bowen and Morris (1995) Kincaid and Corsun (2003) Reynolds et al. (2005) Choi et al. (2010)
	Position of menu item in a menu category list	Dayan and Bar-Hillel (2011)
Menu item description	Details of item description	Shoemaker et al. (2005)
	Complexity of menu item descriptions	McCall and Lynn (2008)
	Presentation of nutritional information for menu items	Hwang and Lorenzen (2008)
	Calorie labels of menu items	Roberto, Larsen, Agnew, Baik, and Brownell (2010)
	Presentation of nutritional information for menu items	Pulos and Leng (2010)
Menu item label	Presentation of calorie information in different formats	Liu, Roberto, Liu, and Brownell (2012)
	Descriptive labels of menu items	Wansink et al. (2001)
	Descriptive menu item names	Wansink et al. (2005)
	Names of menu items	Lockyer (2006)
Menu card characteristics	Affective menu item labels	Guéguen and Jacob (2012)
	Boxing of menu item	Reynolds et al. (2005)
	Design features as graphics and marks on menu	Choi et al. (2010)
	Pictures of the sea, countryside, and kitchen scene	Guéguen et al. (2012)

item position on item sales. Specifically, they associate entree location on a menu board with item sales and find that the placement of entrees on a menu board significantly and positively influences item sales. However, research by Bowen and Morris (1995), Kincaid and Corsun (2003), and Reynolds et al. (2005) presents controversial findings. In those studies, researchers employ a similar experimental research design in which targeted menu items' sales are tracked in pre- and post-menu treatment periods. In the post-menu treatment period, the targeted menu items are repositioned in the focal points of menu card where they are expected to receive the most attention from customers. The results of experiments reveal that there is no significant difference in item sales between two subsequent periods. Alternatively, Dayan and Bar-Hillel (2011) investigate the association between the position of items in a menu category list and their sales. The results show that people are more likely to order items at the top or bottom of the list rather than items at the middle of list. This finding signifies that ordering of menu category is important since the position of an item in the list may affect its sales.

The conceptual framework adopted by those studies largely relies on gaze motion studies and the rule of primacy and recency. Briefly, it is argued that there exists an identifiable pattern of customers' gaze movements across the menu card and people can more accurately recall the first and last items on a list. In gaze motion studies, the gaze motion patterns of customers are identified by investigating how they move their eyes across the menu card and how much time they spent in viewing a particular place on the menu. It is suggested that people read menus in a predictable pattern and menu sweet spots emerge depending on where their initial and final glances focus on. These are considered as the menu's most visible locations. Placement of menu items in these spots may increase their sales. However, researchers (Choi et al., 2010; Yang, 2012) have recently begun to question conventional sweet spots proposed by gaze motion studies. Their empirical findings suggest that customers' gaze movements across the menu may not be identical to the models proposed by traditional wisdom. Nevertheless, Choi et al. (2010) also report empirical findings that respondents tend to order items placed on the menu where their eyes first gaze. Despite some controversial findings, much of the relevant literature proposes that the position of items both on a menu card and in a menu category list may affect item sales. Furthermore, the literature also maintains the idea that whether it is consistent with the traditional wisdom or not, there might be sweet spots on the menu card where the customers glance first or finally focus, and items positioned at those spots may generate higher sales than their regular placements.

MENU ITEM DESCRIPTION

Menu item description refers to providing relevant and sufficient information about menu items on menu card. In the relevant literature, there exist two major questions in relation to item descriptions. First, what sort of information do customers expect from menu? Second, do descriptions of menu items affect their sales? Related research presents evidences that restaurant customers expect specific information from menus. For instance, Mills and Thomas (2008) demonstrate that restaurant customers wish to see nutrition information (calorie and fat), product information (harmfulness and ingredients), and food preparation information (cooking method, quality, and ingredients) on menus. Additionally, Mackison, Wrieden, and Anderson (2009) report that consumers welcome information on ingredients and nutrition composition (salt, energy, and fat content) of menu items. The common conclusion of those studies is that relevant information is likely to assist customers in making more informed choices. Additionally, the study by Thomas and Mills (2006) reveals that consumers desire to see a consistency between the information provided in an item's description and its actual presentation. A supporting finding, reported by Hartwell and Edwards (2009), is that menu descriptions are expected to accurately reflect the dish presented in a

hospital foodservice setting. The literature seems to encourage the argument that restaurant customers consider the variety and accuracy of information presented on restaurant menus.

Several studies investigate the associations between menu item descriptions and customers' item choice. In this investigation, researchers hypothesize that detailed description of an item positively influences the probability of choosing that item. This argument receives support from empirical findings of studies by Shoemaker et al. (2005) and McCall and Lynn (2008). Employing an experimental research design, Shoemaker et al. (2005) reveal that since detailed menu descriptions negate the impact of price increases on the menu items, they positively influence item selection. Alternatively, McCall and Lynn (2008) demonstrate that menu items described in more complex terms are more desirable than those items with less complex descriptions. Thus, complexity of an item's description enhances its popularity.

Recently, providing nutrition information in descriptions has begun to receive a particular academic attention because it is believed that informing customers about nutritional content of menu items may help them make healthier choices. Hwang and Lorenzen (2008) show that customers desire to see information about calories, macronutrients (protein, carbohydrates), and fat content of menu items, whereas providing too much nutritional information in item descriptions may overload customers and be ineffective. Moreover, they reveal that a sufficient amount of nutrition information may assist customers in recognizing the healthier menu items and selecting them over unhealthy options. Subsequent research studies also present findings that support this argument. Accordingly, restaurant customers can notice the nutrition information on menu and they may use it in their item ordering (Roberto et al., 2010; Yoon & George, 2012). Additionally, consumers may order items lower in calories and fat when they are provided with nutritional information on menus (Liu et al., 2012; Pulos & Leng, 2010). Presenting the consistent empirical evidences noted above, the relevant literature concludes that menu item descriptions may affect item-ordering behavior of customers.

MENU ITEM LABEL

Menu item label refers to naming menu items with evocative labels instead of regular names. In the relevant literature, it is widely questioned whether names on the labels influence the item choice behavior of customers. In fact, the previous research on menu item label assumes that evocative labels appealing to the senses can help customers blend a positive image what is to come (Lockyer, 2006) and presents empirical evidences that changing menu item labels from regular names to suggestive ones may influence item sales.

Wansink et al. (2001) have made a relatively early attempt at explaining how labels of menu items increase sales. They compare the sales of

evocatively labeled menu items with their regular-label counterparts. Results show that when menu items are labeled with suggestive names, their sales can increase by more than one-fourth. In another research article by Wansink et al. (2005), researchers examine the influence of evocative labels on post-consumption evaluations of menu items. Their underlying assumption is that the pre-consumption expectations assimilated by evocative labels have a sizeable impact on subsequent post-consumption evaluations. In an experimental research design, respondents are asked to comment on menu items that they have consumed at the faculty cafeteria. Qualitative analysis of respondents' comments reveals that those who consume menu items with evocative labels generate a larger number of positive comments than those consume regular-label counterparts.

The previous research also considers the effects of using different words and different types of labels on item selection. For instance, Lockyer (2006) examines the use of different words on menu item labels. Empirical findings obtained through focus groups and survey on potential restaurant customers reveal that some words on menu item labels have a mouth-watering effect and become strong persuaders that influence customers' item choices. Specifically, suggestive words such as "tender," "golden," and "natural" positively affect customers' choice of menu items. Wansink et al. (2001) claim that some adjectives used on a menu item label can help trigger different feelings and expectations of consumers. Accordingly, they suggest four types of labels, including geographic, affective, sensory, and brand labels. An empirical test of different labels' effect on item sales has been recently undertaken by Guéguen and Jacob (2012). Their research focuses on affective labels including family, tradition and patriotism and reveals that these types of labels are associated with greater sales than regular names. Moreover, their findings also indicate that family labels can generate higher sales than traditional and patriotism labels. It seems that literature on menu item label presents sufficient evidences that signify the remarkable effect of labels on customers' item-ordering behavior.

MENU CARD CHARACTERISTICS

Menu card characteristics refer to features of menu card including copy, color, paper, typeface, size, photo, and use of boxes (Bowen & Morris, 1995; Kincaid & Corsun, 2003; Kwong, 2005; Reynolds et al., 2005). Much of the literature on menu card characteristics includes suggestions of industry professionals or menu designers published in industrial magazines or handbooks. For instance, Hensdill (1998) suggests that a menu item with a picture, in a box or in a different color can generate higher sales than its regular presentation. A similar effect on sales can be created through using all uppercase type or a larger type size for words; italicizing the typeface or putting it in

bold print, and using an exotic font (Kotschevar, 1987). In addition, Sheridan (2001) highlights that menu card should be readable in any lighting, its size should be proportional to the size of table, any changes should easily be assembled into the menu card, it should be soil- and water-resistant, and it should also complement the atmosphere and style of restaurant.

There also exist some studies that have empirically tested the effects of menu card characteristics on item sales. However, they have reported conflicting findings. Reynolds et al. (2005) find that presenting menu items in boxes fails to increase sales of those items while Choi et al. (2010) reveal that menu card characteristics may influence the sales of particular items featured by using graphics or marks. Moreover, Guéguen et al. (2012), in an experimental research study, demonstrate that pictures related with the sea significantly increase the consumption of fish dishes, whereas the pictures of a countryside landscape do not significantly affect the consumption of meat dishes. In spite of the controversial findings of previous research, the relevant literature appears to show the potential of menu card characteristics in influencing item selections of customers.

ADDITIONAL EFFECTS OF MENU DESIGN

By reviewing available research evidence in the hospitality literature, this study identified four dimensions of menu design which have considerable effects on item-ordering behavior of customers. Additionally, some of the previous research noted above has also examined the relationships between menu design and customers' perceptions. Thus, relying on the findings of previous research, Table 2 was built to demonstrate the relationships between menu design dimensions and customers' item perceptions. As shown in Table 2, two menu design dimensions (menu item label and descriptions) affect four domains of customers' item perceptions: value, quality, healthfulness, and taste. Undoubtedly, these perceptions are also critical variables of restaurant experiences in relation to restaurant choice, food

TABLE 2 Relationships Between Menu Design Dimensions and Item Perceptions

Menu design dimension	Research studies	Customers' item perception
Menu item description	Shoemaker et al. (2005) McCall and Lynn (2008) Hwang and Lorenzen (2008); Roberto et al. (2010); Pulos and Leng (2010); Liu et al. (2012); Yoon and George (2012)	Value Quality Healthfulness
Menu item label	Wansink et al. (2001) Wansink et al. (2005)	Value; quality Taste

choice, satisfaction, and behavioral intentions. Thus, referring to the literatures on menu design, food choice, restaurant choice, and satisfaction and behavioral intentions in restaurants, each domain of item perception will be detailed in the paragraphs that follow.

Value Perception

In the restaurant service context, numerous research studies have demonstrated the role of perceived value in the customers' purchase decisions and assessments of meal experience (Jensen & Hansen, 2007). For instance, Auty (1992) empirically reveals that value is one of the most influential factors in consumers' restaurant selection decisions. Consumers also consider value as an important selection factor for their meal choices (Myung, McCool, & Feinstein, 2008). Additionally, several researchers empirically demonstrate that perceived value has a significant role in influencing customer satisfaction and behavioral intentions in fine-dining restaurants (Arora & Singer, 2006); quick-casual restaurants (Ryu, Han, & Kim, 2008), and luxury hotel restaurants (Wu & Liang, 2009).

Considering the importance of perceived value in restaurant experiences, some researchers investigate the influence of menu design on value perceptions of customers. Wansink et al. (2001) reveal that customers who consume menu items labeled with evocative names rate them as being better value than do customers who order items with regular labels. Shoemaker et al. (2005) examined the impact of menu item descriptions on value perception and their empirical findings show that detailed descriptions act as an anchor and accordingly, customers focus on that anchor instead of prices while making their judgments about menu items. Thus, descriptions improve their value perceptions of items. Consequently, it is plausible to claim that evocative names and detailed descriptions of menu items reinforce the favorable perceptions of value.

Quality Perception

It is known that food quality plays a pivotal role in the restaurant experience since it is a necessary condition to satisfy the needs and expectations of customers (Teng & Chang, 2013). For example, the findings of research studies by Lewis (1981), Auty (1992), and Cullen (2005) indicate that food quality is the first or second most important restaurant selection factor. Moreover, Kivela, Inbakaran, and Reece (2000), Sulek and Hensley (2004) and Weiss, Feinstein, and Dalbor (2004) empirically show that food quality is significantly related to customer satisfaction and it is also a significant predictor of behavioral intentions.

Regarding the role of food quality in restaurant experiences, menu design researchers also pay attention to association between menu design and quality perceptions of customers. For instance, in order to test the effect of menu item labels on quality perceptions of customers, Wansink et al. (2001) compare the ratings of respondents who order evocatively labeled items with those who choose items with regular names. Findings indicate that menu items with evocative names are rated as being of higher quality than regular-label items. The study by McCall and Lynn (2008) presents empirical evidences that the complexity of descriptions positively affects the customers' quality perceptions of menu items. Specifically, when items are described in more complex terms, customers perceive those items higher in quality. It seems that customers who are exposed to evocative names or complex descriptions may tend to be more positive in their judgments of food quality.

Taste Perception

Taste is one food sensory attribute that can actually be evaluated only after the consumption of food. Nevertheless, consumers try to predict the taste experience before consumption by using some signals, such as brand name, price, and quality labels of food (Lodorfos & Dennis, 2008). In the foodservice context, there is a lack of research on how customers evaluate the taste of food although there exist several research studies that have demonstrated the significant role of taste in food choice (O'Mahony & Hall, 2007) and satisfaction with restaurant services (Kivela et al., 2000).

Some of menu design researchers provide an explanation to how customers evaluate the taste of food in the unique context of menu design. For example, Wansink et al. (2005) investigate whether menu item names suggestively influence the perceived taste of restaurant food. They find that when an item on a restaurant menu is labeled by an evocative name, it is perceived as tastier than when regular name is used for that item. Moreover, Wansink et al. (2005) claim that evocative labels affect not only the pre-consumption expectations but also the post-consumption evaluations of taste. In the pre-consumption phase, evocative names assist customers in predicting the taste experience that is to come, and in the post-consumption phase, those names positively influence how the customers evaluate the taste of food if the actual experience is not far less below the expectations.

Evocative names may also be associated with cultural dimension of taste. Researchers (Allen, Gupta, & Monnier, 2008; O'Mahony & Hall, 2007) highlight the linkage between taste and culture, and posit that consumers consider the cultural symbols and associations of food when they judge its taste besides sensory attributes of food. As mentioned earlier, Guéguen and Jacob (2012) demonstrate that menu item labels of family, tradition, and

patriotism may increase the sales of items with those labels. In fact, those labels have associations with cultural domain. It is probable to assume that family, tradition, and patriotism labels associate with the taste of one's own culture and lead customers to choose menu items with those labels because they believe that those items are culturally familiar to them.

Healthfulness Perception

Relying on the previous studies in the foodservice literature, it is safe to claim that health concerns have considerable effects on consumers' expectations and restaurant and food choices. Examining the important domains of restaurant customers' expectations, Antun, Frash, Costen, and Runyan (2010) find that health including low-calorie options and healthy food is one of the important domains besides food, service, atmosphere, and social factors. Regarding the restaurant choice decisions of consumers, Choi and Zhao (2010) indicate that health issue is the second most important factor which influences consumers' behavior when selecting restaurants in South Florida. In that study, it is also revealed that health issue includes four attributes—low calorie, meals that support personal dietary plan, variety of healthy meals, and nutritional value. Furthermore, Myung et al. (2008) identify four types of meal-choice behavior as extended, repetitive, exploratory, and economic purchase. In the extended purchase, consumers principally consider the health attributes of food including healthy food, nutritional characteristics, and freshness. It seems that restaurant customers are becoming more inclined to choose healthy food and they form their healthfulness perception of food on the attributes such as low calorie, low sodium, low fat, nutritional value, and suitability of food for their dietary plan.

In line with the trend toward healthy eating in restaurants, the recent research by Hwang and Lorenzen (2008), Roberto et al. (2010), Pulos and Leng (2010), Liu et al. (2012), and Yoon and George (2012) reports empirical evidences that the availability of sufficient nutritional information in menu item descriptions has an important effect on customers' healthfulness perception of food. Specifically, this literature advocates that nutrition information leads customers to perceive that particular items are healthy options and accordingly they may change their selection behaviors to make healthier choices.

FUTURE LINES OF RESEARCH

The literature review summarized in Tables 1 and 2 shows that menu design is a multi-dimensional construct, its dimensions have a considerable potential in influencing item-ordering behavior of restaurant customers, and two of

its dimensions (e.g., menu item description and label) may affect customers' menu item perceptions. Thus, a review of existing research shows that menu design has considerable effects on two critical variables of customers' restaurant experiences: item-ordering behavior and item perceptions. This review also provides insights to suggestions for future lines of research in menu design field.

Since there are very few research studies and some of them have questionable empirical validity (i.e., due to small sample sizes, samples including only students or lack of information about validity, and reliability of measurement instruments) it is too early to draw some general conclusions from the existing menu design literature. Therefore, primarily more research studies with larger sample sizes and employing valid and reliable measurement instruments are needed to investigate the relations between menu design and item choice, and menu design and customer perceptions in order to further validate the existing findings of previous research.

From a theoretical perspective, Mehrabian and Russell's (1974) stimulus-organism-response (SOR) model may provide a possible theoretical framework to further investigate the relationships between menu design and item choice. Previously, Guéguen et al. (2012) have used SOR model to explain the theoretical underpinnings of the association between menu card characteristics (pictures of the sea, countryside, and kitchen scene) and item choice. Similarly, this model appears to be helpful for understanding the theoretical background of relationships among menu design, item perception, and item choice. In fact, this theoretical model demonstrates the influence of physical environment on human behavior (Liu & Jang, 2009). The model posits that external environment presents stimuli (S) which lead individuals to make evaluations (O), and these evaluations further elicit their behavioral responses as approach or avoidance (R). In the menu design context, cues provided by a menu display (e.g., menu card or menu board) might be environmental stimuli which activate customers' positive perceptions of a particular menu item because of their associated pre-consumption favorable evaluations such as tasty, healthy, valuable, or quality food. As a result, customers may exhibit an approach behavior and choose that item. Consequently, the subtle cues provided by menu display, which are present in the immediate environment, may have a notable impact on customers' favorable item perceptions and item selection behaviors. For future studies, it is advisable to employ the SOR model while examining the relationships among menu design dimensions, item perceptions, and item choice.

It can be claimed deductively that menu item perceptions of customers, viewed as the interpretation process by which customers make sense of the menu items, may affect item choice. Accordingly, the likelihood of a customer's choosing a specific menu item may increase when he or she has favorable perceptions in the domains of taste, health, value, and quality. However, systematic empirical research is needed to understand the impact

of customers' item perceptions on their item-ordering behavior. Specifically, further research may investigate the mediating role of customer perceptions in the relationship between menu design dimensions and item choice with developing and testing conceptual models.

In fact, menu item choice behavior may be affected by a wide range of interacting factors aside from menu item perceptions of customers. For example, the previous studies (O'Mahony & Hall, 2007; Prescott, Young, O'Neill, Yau, & Stevens, 2002) on food choice suggest that a variety of factors (e.g., price, familiarity, food safety, perceived body image, culture, marketing campaigns, and convenience) have considerable impact on consumers' food choice decisions. Following this argument, it is also possible to suggest that future research may comparatively investigate the effects of food choice factors and menu design on item choice of restaurant customers.

Additionally, information needs of restaurant customers may have an important role in the relationship between menu design and item choice, which has not been examined in the relevant literature. It is known that information search and past experience increase the customers' familiarity with a restaurant and its food offerings (Bei, Chen, Rha, & Widdows, 2003; Pedraja & Yagüe, 2001). Moreover, as discovered by Ryu and Zhong (2012), propensity for risk-taking behavior is a good predictor of menu choice, in that sometimes consumers are inclined to choose a familiar food because they want to reduce potential risks. Thus, familiarity might be a powerful determinant of menu item choice and this argument raises some questions. If customers have sufficient and reliable information about menu item options offered by a restaurant and are familiar with its food offerings before they enter the restaurant, then will they need any information provided in a menu card? In this case, what sort of a role can menu design play? Otherwise, if consumers have no idea of what they want to eat before entering the restaurant, does the information provided by menu card has stronger effects on consumers' item ordering? An empirical attempt at addressing these questions would be an interesting study. Therefore, in further research, it will be appropriate to test the relationships between the customers' need to use menu card as an information source, and their familiarity with restaurant's offerings.

CONCLUSION

The current article provides a review of literature relevant to menu design and this review shows that menu design is a multi-dimensional construct. By analyzing the empirical and conceptual findings of previous studies, the current study proposes that menu design can be theoretically categorized into four main dimensions: menu item position, menu item description,

menu item label, and menu card characteristics. Furthermore, review of menu design research highlights that menu design may influence the customers' item choice and item perceptions. Specifically, menu design affects customers' item perceptions in four domains including taste, healthfulness, value, and quality.

In-depth knowledge pertaining to factors influencing consumers' item choice is extremely valuable to restaurant managers in improving the item-ordering behavior of their customers. In this regard, two perspectives are equally important. From restaurant managers' perspective the key to menu design is to increasing the attractiveness of specific menu items. Indeed, menu design largely focuses on particular menu items and the purpose is to increase the probability that the particular items are more frequently purchased by restaurant customers. From consumers' perspective, restaurant customers need to form their perceptions about menu items on which they base their item choice decisions. From this viewpoint, menu design is supposed to convey enough information to customers so that they can properly choose menu items that they believe to provide best benefits. Thus, menu design may assist customers in making more informed choices. As shown by the review in the current study, menu design, item perception, and item choice are interconnected constructs and all are important in the restaurant consumers' purchase decisions. Therefore, industry professionals should pay far more attention to menu design dimensions in every segment of the industry. Management action should be planned and employed to increase the attractiveness of positive menu items relying on the menu design strategies. In doing so, menu design literature, which is summarized in this article, will help restaurateurs.

REFERENCES

- Allen, M. W., Gupta, R., & Monnier, A. (2008). The interactive effect of cultural symbols and human values on taste evaluation. *Journal of Consumer Research*, 35, 294–308. doi:[10.1086/586908](https://doi.org/10.1086/586908)
- Antun, J. M., Frash, R. E., Costen, W., & Runyan, R. C. (2010). Accurately assessing expectations most important to restaurant patrons: The creation of the DinEX scale. *Journal of Foodservice Business Research*, 13, 360–379. doi:[10.1080/15378020.2010.524539](https://doi.org/10.1080/15378020.2010.524539)
- Antun, J. M., & Gustafson, C. M. (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. doi:[10.1300/J071v03n03_07](https://doi.org/10.1300/J071v03n03_07)
- Arora, R., & Singer, J. (2006). Customer satisfaction and value as drivers of business success for fine dining restaurants. *Services Marketing Quarterly*, 28(1), 89–102. doi:[10.1300/J396v28n01_05](https://doi.org/10.1300/J396v28n01_05)

- Auty, S. (1992). Consumer choice and segmentation in the restaurant industry. *The Service Industries Journal*, 12(3), 324–339. doi:[10.1080/02642069200000042](https://doi.org/10.1080/02642069200000042)
- Bei, L., Chen, E. Y. I., Rha, J. -Y., & Widdows, R. (2003). Consumers' online information search for a new restaurant for dining-out: A comparison of U.S. and Taiwan consumers. *Journal of Foodservice Business Research*, 6(3), 15–36. doi:[10.1300/J369v06n03_03](https://doi.org/10.1300/J369v06n03_03)
- Bowen, J. T., & Morris, A. J. (1995). Menu design: Can menus sell? *International Journal of Contemporary Hospitality Management*, 7(4), 4–9. doi:[10.1108/09596119510091699](https://doi.org/10.1108/09596119510091699)
- Choi, J., & Zhao, J. (2010). Factors influencing restaurant selection in South Florida: Is health issue one of the factors influencing consumers' behavior when selecting a restaurant? *Journal of Foodservice Business Research*, 13, 237–251. doi:[10.1080/15378020.2010.500254](https://doi.org/10.1080/15378020.2010.500254)
- Choi, J. G., Lee, B., & Mok, J. (2010). An experiment on psychological gaze motion: A re-examination of item selection behavior of restaurant customers. *Journal of Global Business and Technology*, 6(1), 68–79.
- Cullen, F. (2005). Factors influencing restaurant selection in Dublin. *Journal of Foodservice Business Research*, 7(2), 53–85. doi:[10.1300/J369v07n02_05](https://doi.org/10.1300/J369v07n02_05)
- Dayan, E., & Bar-Hillel, M. (2011). Nudge to nobesity II: Menu position influences food orders. *Judgment and Decision Making*, 6, 333–342.
- Guéguen, N., & Jacob, C. (2012). The effect of menu labels associated with affect, tradition, and patriotism on sales. *Food Quality and Preference*, 23(1), 86–88. doi:[10.1016/j.foodqual.2011.07.001](https://doi.org/10.1016/j.foodqual.2011.07.001)
- Guéguen, N., Jacob, C., & Ardiccioni, R. (2012). Effect of watermarks as visual cues for guiding consumer choice: An experiment with restaurant menus. *International Journal of Hospitality Management*, 31, 617–619. doi:[10.1016/j.ijhm.2011.04.008](https://doi.org/10.1016/j.ijhm.2011.04.008)
- Hartwell, H., & Edwards, J. (2009). Descriptive menus and branding in hospital foodservice: A pilot study. *International Journal of Contemporary Hospitality Management*, 21, 906–916. doi:[10.1108/09596110910985359](https://doi.org/10.1108/09596110910985359)
- Hensdill, C. (1998). A guide to menu engineering. *Hotels*, 32(1), 69–72.
- Hwang, J., & Lorenzen, C. L. (2008). Effective nutrition labeling of restaurant menu and pricing of healthy menu. *Journal of Foodservice*, 19, 270–276. doi:[10.1111/fri.2008.19.issue-5](https://doi.org/10.1111/fri.2008.19.issue-5)
- Iglesias, M. P., & Guillen, M. J. Y. (2002). The components of total perceived price: An empirical analysis in restaurant services. *Journal of Foodservice Business Research*, 5(1), 1–22. doi:[10.1300/J369v05n01_01](https://doi.org/10.1300/J369v05n01_01)
- Jensen, Ø., & Hansen, K. V. (2007). Consumer values among restaurant customers. *International Journal of Hospitality Management*, 26, 603–622. doi:[10.1016/j.ijhm.2006.05.004](https://doi.org/10.1016/j.ijhm.2006.05.004)
- Jones, P., & Miffl, M. (2001). Menu development and analysis in UK restaurant chains. *Tourism and Hospitality Research*, 3(1), 61–71.
- Kincaid, C. S., & Corsun, D. L. (2003). Are consultants blowing smoke? An empirical test of the impact of menu layout on item sales. *International Journal of Contemporary Hospitality Management*, 15, 226–231. doi:[10.1108/09596110310475685](https://doi.org/10.1108/09596110310475685)

- Kivela, J. (2003). Results of a qualitative approach to menu planning using control and experimental groups. *Journal of Foodservice Business Research*, 6(4), 43–65. doi:[10.1300/J369v06n04_03](https://doi.org/10.1300/J369v06n04_03)
- Kivela, J., Inbakaran, R., & Reece, J. (2000). Consumer research in the restaurant environment. Part 3: Analysis, findings, and conclusions. *International Journal of Contemporary Hospitality Management*, 12(1), 13–30. doi:[10.1108/09596110010304984](https://doi.org/10.1108/09596110010304984)
- Kotschevar, L. H. (1987). *Management by menu*. New York, NY: Wiley.
- Kwong, L. Y. L. (2005). The application of menu engineering and design in Asian restaurants. *International Journal of Hospitality Management*, 24(1), 91–106. doi:[10.1016/j.ijhm.2004.05.002](https://doi.org/10.1016/j.ijhm.2004.05.002)
- Lewis, R. (1981). Restaurant advertising: Appeals and consumers' intentions. *Journal of Advertising Research*, 21(5), 69–74.
- Liu, P. J., Roberto, C. A., Liu, L. J., & Brownell, K. D. (2012). A test of different menu labeling presentations. *Appetite*, 59, 770–777. doi:[10.1016/j.appet.2012.08.011](https://doi.org/10.1016/j.appet.2012.08.011)
- Liu, Y., & Jang, S. S. (2009). The effects of dining atmospherics: An extended Mehrabian-Russell model. *International Journal of Hospitality Management*, 28, 494–503. doi:[10.1016/j.ijhm.2009.01.002](https://doi.org/10.1016/j.ijhm.2009.01.002)
- Lockyer, T. (2006). Would a restaurant menu item by any other name taste as sweet? *FUI Hospitality Review*, 24(1), 21–31.
- Lodorfos, G. N., & Dennis, J. (2008). Consumers' intent: In the organic food market. *Journal of Food Products Marketing*, 14(2), 17–38. doi:[10.1080/10454440801918218](https://doi.org/10.1080/10454440801918218)
- Mackison, D., Wrieden, W. L., & Anderson, A. S. (2009). Making an informed choice in the catering environment: What do consumers want to know? *Journal of Human Nutrition and Dietetics*, 22, 567–573. doi:[10.1111/jhn.2009.22.issue-6](https://doi.org/10.1111/jhn.2009.22.issue-6)
- McCall, M., & Lynn, A. (2008). The effects of restaurant menu item descriptions on perceptions of quality, price, and purchase intention. *Journal of Foodservice Business Research*, 11, 439–445. doi:[10.1080/15378020802519850](https://doi.org/10.1080/15378020802519850)
- Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology*. Cambridge, MA: MIT Press.
- 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. doi:[10.1177/1096348007309569](https://doi.org/10.1177/1096348007309569)
- Myung, E., McCool, A. C., & Feinstein, A. H. (2008). Understanding attributes affecting meal choice decisions in a bundling context. *International Journal of Hospitality Management*, 27(1), 119–125. doi:[10.1016/j.ijhm.2007.07.014](https://doi.org/10.1016/j.ijhm.2007.07.014)
- O'Mahony, B., & Hall, J. (2007). An exploratory analysis of the factors that influence food choice among young women. *International Journal of Hospitality & Tourism Administration*, 8(2), 51–72. doi:[10.1300/J149v08n02_03](https://doi.org/10.1300/J149v08n02_03)
- Ozdemir, B. (2012). A review on menu performance investigation and some guiding propositions. *Journal of Foodservice Business Research*, 15, 378–397. doi:[10.1080/15378020.2012.734217](https://doi.org/10.1080/15378020.2012.734217)
- Pedraja, M., & Yagüe, J. (2001). What information do customers use when choosing a restaurant? *International Journal of Contemporary Hospitality Management*, 13, 316–318. doi:[10.1108/EUM0000000005966](https://doi.org/10.1108/EUM0000000005966)

- Prescott, J., Young, O., O'Neill, L., Yau, N. J. N., & Stevens, R. (2002). Motives for food choice: A comparison of consumers from Japan, Taiwan, Malaysia, and New Zealand. *Food Quality and Preference*, 13, 489–495. doi:[10.1016/S0950-3293\(02\)00010-1](https://doi.org/10.1016/S0950-3293(02)00010-1)
- Pulos, E., & Leng, K. (2010). Evaluation of a voluntary menu-labeling program in full-service restaurants. *American Journal of Public Health*, 100, 1035–1039. doi:[10.2105/AJPH.2009.174839](https://doi.org/10.2105/AJPH.2009.174839)
- Raab, C., Mayer, K., Kim, Y. -S., & Shoemaker, S. (2009). Price-sensitivity measurement: A tool for restaurant menu pricing. *Journal of Hospitality & Tourism Research*, 33(1), 93–105. doi:[10.1177/1096348008329659](https://doi.org/10.1177/1096348008329659)
- Reynolds, D., Merritt, E. A., & Pinckney, S. (2005). Understanding menu psychology: An empirical investigation of menu design and customer response. *International Journal of Hospitality & Tourism Administration*, 6(1), 1–9. doi:[10.1300/J149v06n01_01](https://doi.org/10.1300/J149v06n01_01)
- Roberto, C. A., Larsen, P. D., Agnew, M. H., Baik, J., & Brownell, K. D. (2010). Evaluating the impact of menu labeling on food choices and intake. *American Journal of Public Health*, 100, 312–318. doi:[10.2105/AJPH.2009.160226](https://doi.org/10.2105/AJPH.2009.160226)
- Ryu, K., Han, H., & Kim, T. (2008). The relationships among overall quick-casual restaurant image, perceived value, customer satisfaction, and behavioral intentions. *International Journal of Hospitality Management*, 27, 459–469. doi:[10.1016/j.ijhm.2007.11.001](https://doi.org/10.1016/j.ijhm.2007.11.001)
- Ryu, K., & Zhong, Y. (2012). Antecedents and consequences of customers' menu choice in an authentic Chinese restaurant context. *Journal of Hospitality Marketing & Management*, 21, 852–871. doi:[10.1080/19368623.2011.615023](https://doi.org/10.1080/19368623.2011.615023)
- Sheridan, M. (2001). Essential reading: Designing menus to suit a restaurant. *Restaurants & Institutions*, 111(22), 87.
- Shoemaker, S., Dawson, M., & Johnson, W. (2005). How to increase menu prices without alienating your customers. *International Journal of Contemporary Hospitality Management*, 17, 553–568. doi:[10.1108/09596110510620636](https://doi.org/10.1108/09596110510620636)
- Sobol, M. G., & Barry, T. E. (1980). Item positioning for profits: Menu boards at bonanza international. *The Institute of Management Sciences*, 10(1), 55–60.
- Sulek, J. M., & Hensley, R. L. (2004). The relative importance of food, atmosphere, and fairness of wait: The case of a full-service restaurant. *Cornell Hotel and Restaurant Administration Quarterly*, 45, 235–247. doi:[10.1177/0010880404265345](https://doi.org/10.1177/0010880404265345)
- Taylor, J., & Brown, D. M. (2007). Menu analysis: A review of techniques and approaches. *FUI Hospitality Review*, 25(2), 74–82.
- Teng, C., & Chang, J. (2013). Mechanism of customer value in restaurant consumption: Employee hospitality and entertainment cues as boundary conditions. *International Journal of Hospitality Management*, 32, 169–178. doi:[10.1016/j.ijhm.2012.05.008](https://doi.org/10.1016/j.ijhm.2012.05.008)
- Thomas, L., & Mills, J. E. (2006). Consumer knowledge and expectations of restaurant menus and their governing legislation: A qualitative assessment. *Journal of Foodservice*, 17(1), 6–22. doi:[10.1111/fri.2006.17.issue-1](https://doi.org/10.1111/fri.2006.17.issue-1)
- Wansink, B., Painter, J., & Van Ittersum, K. (2001). Descriptive menu labels' effect on sales. *The Cornell Hotel and Restaurant Administration Quarterly*, 42(6), 68–72.

- Wansink, B., Van Ittersum, K., & Painter, J. E. (2005). How descriptive food names bias sensory perceptions in restaurants. *Food Quality and Preference*, 16, 393–400. doi:[10.1016/j.foodqual.2004.06.005](https://doi.org/10.1016/j.foodqual.2004.06.005)
- Weiss, R., Feinstein, A. H., & Dalbor, M. (2004). Customer satisfaction of theme restaurant attributes and their influence on return intent. *Journal of Foodservice Business Research*, 7(1), 23–41. doi:[10.1300/J369v07n01_03](https://doi.org/10.1300/J369v07n01_03)
- Wu, C. H., & Liang, R. (2009). Effect of experiential value on customer satisfaction with service encounters in luxury-hotel restaurants. *International Journal of Hospitality Management*, 28, 586–593. doi:[10.1016/j.ijhm.2009.03.008](https://doi.org/10.1016/j.ijhm.2009.03.008)
- Yang, S. S. (2012). Eye movements on restaurant menus: A revisitation on gaze motion and consumer scanpaths. *International Journal of Hospitality Management*, 31, 1021–1029. doi:[10.1016/j.ijhm.2011.12.008](https://doi.org/10.1016/j.ijhm.2011.12.008)
- Yoon, H. J., & George, T. (2012). Nutritional information disclosure on the menu: Focusing on the roles of menu context, nutritional knowledge, and motivation. *International Journal of Hospitality Management*, 31, 1187–1194. doi:[10.1016/j.ijhm.2012.02.006](https://doi.org/10.1016/j.ijhm.2012.02.006)

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