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Does restaurant menu information affect customer attitudes and behavioral intentions? A cross-segment empirical analysis using PLS-SEM

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ABSTRACT

This research looks at how consumer desires for restaurant menu information including "nutritional information", "product characteristics", and "preparation and ingredients" influence customers' attitudes and behavioural intentions toward restaurants. A theoretically derived model is empirically tested on data collected from 293 customers from three segments of the restaurant sector – High-Scale, Mid-Scale and Low-Scale. Partial least squares structural equation modelling (PLS-SEM) and multigroup analysis confirms that the relationship between menu information and behavioural intentions is mediated by consumers' attitudes toward the restaurant. Furthermore, 'preparation and ingredients' and 'nutritional information' were the two strongest predictors of attitudes and behavioural intentions for high- and mid-scale restaurants, whereas 'product characteristics' was the most significant for low-scale restaurants. These findings present new knowledge on how different types of information drive consumers' purchase intentions across different segments of the industry.

1. Introduction

Within increased competition in the global restaurant industry, customer satisfaction has become more essential for building customer loyalty and improving business performance (Namkung and Jang, 2007). There is certainly more focus on healthier food items (Parsa and Kahn, 1991; Kim et al., 2013). As restaurant meals tend to be higher in fat and calorie content and larger in portion sizes more people are struggling from reduced dietary quality and obesity (Morley et al., 2013; Mah and Timmings 2015; Kang et al., 2015). The percentage of people eating away from home is increasing rapidly with almost half of all food expenditure in the US occurring in restaurants (see, Pulos and Leng, 2010; Morley et al., 2013). Restaurants are now under increased pressure to contribute positively to this problem (Wansink and Love 2014; Josiam and Foster, 2009).

Governments are also placing more focus on this issue. Several menu laws have already been implemented across several countries, such as the Menu Education and Labeling [MEAL] bill and Truth-in-Menu law in the United States (Giles and Temby, 2014), where restaurants with 20 or more branches are now required to provide calorie content information, fat, saturated fat, cholesterol, sodium, total carbohydrates, sugars, fiber and protein for standard menu items (Kim et al., 2013). Such menu labelling regulations are still however restricted to developed Western economies (e.g. the US, the UK, and Australia) (Din et al., 2012). Several food authorities have also criticised the fact that food consumption choices should be determined by consumers and not by governments (Mills and Thomas, 2008).

Certainly, modern consumers require more transparency on menu items; they need to know as much as possible about these items and where they are coming from (Hartwell and Edwards, 2009; Mills and Thomas, 2008). The restaurant menu is the main vehicle for communicating such information (McCall and Lynn, 2008). Previous research has also shown that more description of

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menu items can influence consumers' pre and post consumption evaluations, perceived quality of the restaurant, customer satisfaction, price expectations (Wansink and Love, 2014; McCall and Lynn, 2008; Hartwell and Edwards, 2009), as well as customers' attitudes and decision making processes (Mills and Thomas, 2008).

The extant literature has provided several interesting findings about consumers' attitudes and behavioural intentions toward menu items. Feldman et al. (2014), for example, found that restaurants, through menu psychology can be part of the solution in dealing with obesity. Wansink and Love, (2014) found that menu psychology can enable businesses to promote healthy food items with high margins. Consumers usually make changes to their behaviors and purchase lower-calorie items if the menu included nutritional information (Piron et al., 2009). Menu labelling that is clear and easy to understand can also increase satisfaction and repurchase decisions (Chu et al., 2014). Josiam and Foster (2009) also indicated that the frequency of eating out would be higher for certain market segments if the menu included enough details. Kim et al. (2013) used the "Theory of Planned Behaviour" as the theoretical framework to examine consumers' attitudes toward menu labelling. Their model found a direct relationship between attitudes toward menu information and behavioural intentions. Providing consumers with calorie information at time of purchase should reduce the ambiguity of the decision and lead to consumers making more healthy decisions for themselves and for their children (Wei and Miao, 2013; Lee et al., 2015).

While the extant literature provides important evidence about the importance of menu information, studies assessing the specific types of information desired by consumers remains limited (Mills &Thomas, 2008). The Customer Information Expectation of Restaurant Menus (CIERM) model proposes three main categories of menu information: nutritional information, product information, and food preparation (Mills and Thomas, 2008). These three categories of menu information each influence customer satisfaction, restaurant profitability and performance (Mills and Thomas, 2008). Information about product characteristics (e.g. brands) and origins is particularly important and provides consumers with a quality guarantee reducing perceived risks (Hartwell and Edwards, 2009). More recent studies have highlighted that consumer responses to menu information are diverse and vary based on consumer and restaurant characteristics (Yoon and George, 2012; Mah and Timmings 2015; Kang et al., 2015). For example, consumer responses to nutritional information are different in the context fine dining restaurants as compared to fast food restaurants; the higher the cost of the menu item the more information is expected by the consumer (Mills and Thomas, 2008; Alexander et al., 2010).

A major limitation of previous studies is the use of experimental research designs often conducted in a narrow context and limited to homogenous groups from University colleges, health clinics, or small local communities (see, Feldman et al., 2014; Yoon and George, 2012; Wei and Miao, 2013). Although scenario based experiments have their value in exploring new phenomenon, such approaches allow researchers to manipulate variables to causal inference (Wei and Mao, 2013). Future studies need to examine consumer reactions in real restaurant settings (Chu et al., 2014). Studies are usually conducted in one type of restaurant sector, e.g. quick service restaurants (QSR) (Hur and Jang, 2015a,b), creating limitations on how much the findings can be generalized to the overall industry (Wei and Miao, 2013). Few studies have empirically examined how the restaurants' provision of menu information impacts on consumer's attitudes toward the restaurant and their consequent behavioural intentions (see Mills and Thomas, 2008). Thus, are there any benefits to restaurants who invest in providing and validating this information? Can descriptive menu information help develop a restaurant's competitive advantage by attracting greater interest from customers? What types of information do consumers expect to see and how do these influence consumer attitudes and behavioural intentions?

The current research addresses these important gaps. Motivated by Mills and Thomas (2008), we develop a theoretically structural model to examine the relationships among menu information dimensions [Nutritional Information (NI), Product Characteristics (PC), Preparation and Ingredients (PI)] on forming consumer's attitudes and behavioural intentions toward restaurants. Furthermore, based on recent studies suggesting consumer responses to menu information is influenced by the type of sector (see, Yoon and George, 2012; Kang et al., 2015), we examine these relationships across different segments, specifically, high-scale, mid-scale and lower scale establishments. Research in this field is desperately needed in a new context outside the US and developed Western economies, this study takes place in a developing country (Lebanon) where the disclosure of menu information is not required by law but is considered a business strategy for restaurants seeking to address consumer demand. In 2013, The Lonely Planet ranked Lebanon among the top 10 food destinations in the world and the country was also judged by CNN to be the world's best breakfast destination (The Lebanon Brief, 2013).

Data for this study were collected between October and December 2014 through interviews with 293 subjects in a major dining district in Beirut. Participants were surveyed upon leaving the district and were asked questions on what types of menu information they expect to see on a menu and how this information would affect their attitudes and behavioural intentions toward the restaurant. Data was examined through structural equation modelling (SEM) (using the partial least squares [PLS] approach in XL-STAT software) to assess the network of structural relationships. Multi-group *t*-test and permutation tests were used to examine how the model behaved across consumers from different sectors of the restaurant industry (high-scale, mid-scale, low-scale). Through this approach, the study presents both theoretical and practical contributions. It advances the body of knowledge on menu labelling and how information influences consumer attitudes and behaviors in different segments of the industry. It also provides a framework for restaurant owners to understand the specific types of information customers require and their anticipated responses to such information.

2. Theoretical model development

The proposed theoretical model (Fig. 1) extends the Customer Information Expectation of Restaurant Menus (CIERM) model (Mills and Thomas, 2008), which was the first attempt to empirically examine the multiple aspects/dimensions of the menu information construct. We extend the CIERM model in three ways: (1) Expand and validate the multiple indicators (measures) of the three latent factors of Nutritional Information (NI), Product Characteristics (PC) and Preparation and Ingredients (PI), (2) Examine the extent to which each of these information variables influence consumer attitudes and behavioural intentions toward the restaurant, and (3) Examine the model across consumers from three sectors of the restaurant industry.

In extending the CIERM model to include the effects of menu information on consumer attitudes and behavioural intentions, we follow the Theory of Planned Behavior (Ajzen, 1991). The Theory of Planned Behaviour (Ajzen, 1991, 2012) is a reasoned action model and a "major framework for understanding, predicting, and changing social behavior" (Ajzen, 2012, p.438). It proposes that attitude towards a behavior is developed through the 'expectancy-value model' where individuals can hold a number of behavioural beliefs to any given behavior. In this model we test how individual's beliefs