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Exploring innovation's impact on full-service restaurant industry within Guadalajara's metropolitan area: A customers approach

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Abstract

The highly competitive environment of the restaurant industry drives the search for new ways and elements of efficient performance on a daily basis. One of the inner trends in this sphere is the development and application of a wide range of innovations and new factors that can serve as a powerful impetus for the development of such an industry. Innovations of all kinds are essential for both the viability and competitiveness of these enterprises. The current study aims to unveil the key drivers from a customer's approach by considering a sample for infinitive populations. The measurement instrument was specifically designed to assess the impact on each dimension. Knowing what the real market demands and cares for ensures enterprises' growth and competitiveness. As a result, the analyzed data provided the whole industry with valuable considerations that will eventually turn into strategies.

Keywords: Innovation, service, competitiveness

Introduction

Regarding ordering from a restaurant, each person values certain aspects of the experience, thanks to their habits, budget, and personal preferences. Some consumers may select chain restaurants under the very circumstances that others would opt for independent locations. But other factors specific to the eatery, such as atmosphere or convenience, can also heavily influence a consumer's choice. This is pretty much what is expected in the current study since there is nothing more constant than change itself.

A wide range of studies have uncovered patterns regarding some of the abovementioned factors. Consumers looking for a more convenient and standard experience are more likely to visit a local chain franchise, whereas Most people might actually state that taste is what differentiates their restaurant of choice from other eateries. However, practical studies demonstrate the opposite. And this happens due to the fact that customers are keen to experience more than food and drinks, they assess some other aspects when they are about to go through the whole stay.

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Innovation turns out to be the key element to consider. Innovation can be tracked down from the very beginning of the experience, it could be delivered in many ways. The current study focuses on 4 main dimensions where innovation intervenes: Food innovation, beverage innovation, service innovation, and environment innovation. Customer service is also a deciding factor for many: more than two-thirds of consumers who visit both chain and independent restaurants say that they value the continuity of waitstaff, an opinion held more frequently by consumers who dine exclusively in independent restaurants, those who dine exclusively at chain restaurants, millennials and high-income earners. Chain restaurants are leaning into technology-driven efficiencies, however, and some are beginning to consider the metaverse.

Objective

- Determining the innovation's impact on full-service restaurant industry within Guadalajara's metropolitan area (GMA) through customers' judgments

Specific objectives

- Analyzing the theoretical reality regarding innovation in the restaurant industry within GMA
- Identifying the key factors that intervene in the restaurant industry within GMA

Theoretical framework

Innovation is recognized as one of the main elements of a company's success. Its role turns out to be utterly fundamental in determining outstanding performance and ensuring a company's survival in the market. Generally, any new development adopted by any given enterprise is considered as an innovation.

Such terms can actually involve creating or reengineering products or services to somehow meet market demand, introducing new and different processes to improve productivity, developing or applying new marketing techniques, and, of course, new forms of management systems to improve operational efficiency. According to Damanpour and Schneider (2009), innovation can be determined by pressure from the external environment, especially by competitiveness, deregulation, shortage of resources, and customer demand. For these reasons, a company changes its behavior and organization in order to maintain or enhance its performance and remain competitive in the bloody and chaotic market.

As a matter of fact, companies have therefore adopted different kinds of innovative development processes to create new products, services, environments, and experiences. Thus, these processes led to the adoption of innovative technological solutions and new business models. In most food companies, these new product development processes are frequently based on internal innovation. However, a limited but growing number of food industries are developing new products by adopting technological solutions from

other companies. This highlights the difficulty of some companies in facing and managing innovation internally (Sarkar & Costa, 2008).

Changes in the restaurant market are constant and mainly happen silently. These changes are driven by demographic evolution, and modern buyers' needs and they are also affected by the global economic crisis. Due to the invisibility of these market changes, most retail companies miss chances to gain and/or retain competitive advantages. Companies that miss these opportunities often face a decrease in market share.

The loss of the market share also reflects a decrease in the number of both regular and non-regular customers, a slow speed turnover, smaller profit, further economic disadvantages, and low service quality. When these companies become aware of such a situation they are usually unable to follow market demand without time-consuming in-depth research and significant investments. On the other hand, more proactive market-oriented companies can benefit from adaptive concepts and well-timed business decisions. Moreover, by being able to recognize a beneficial course in the market, companies will be able to maintain their market position with investments that should not be significantly higher in comparison to those previously made. Modern consumers and their constantly changing lives require a prompt response and service tailored according to their needs.

In order to get deep into the current study, it is important to focus on the restaurant industry. Restaurants represent places where people go to eat, socialize, do business, and at the same time to buy a unique and valuable experience. A key to providing a unique experience in the restaurant sector relies on flexibility. It means that managers must leave a traditional business model and adopt new management and supervision styles in order to develop empathy with each individual customer.

The majority of Mexico's retail workers in the food sector are employed by traditional stores. It can be a clear signal that technology is gradually replacing human labor in the restaurant industry, from street kiosks to fine dining establishments.

According to Kyriakidou (2015), innovations in the restaurant industry appear as conceptual solutions in four main areas: Atmosphere (e.g. interior and exterior appearance, colors, music, etc.), Food and beverages (e.g. portion size, new ingredients, allergen-free, etc.) and service (e.g. PMS, POS terminals, online reservations, smartphone applications, social media, etc.). He also states that innovations and creativity represent crucial factors for success in a highly competitive market in the future.

There are diverse types of innovations. These include gradual innovation in which new technologies, products, or services that only redesign or modify existing ones are introduced (Van Lancker et al., 2016). There are technical innovations where the physical appearance of the product or service is provided (Nirere, 2022). Technical innovation may also entail changes in performance parameters or production processes (Fana & Villani, 2022). Managerial innovation involves changes in the methods of

production and product delivery processes. Unlike other types of innovations described above, radical innovation entails ground-breaking solutions that transform the market by introducing absolutely new solutions, materials, and technologies that affect the price or quality of the product (Van Lancker et al., 2016).

The theoretical premise of this study is that restaurants in most developing countries, and thus, their rate of technological transition is constrained. This consequently negatively impacts their growth and profitability (Comin & Mestieri, 2018). In the restaurant industry, innovation entails the fundamental transition to more contactless changes so as to stay relevant, attract new clients, and have a point of difference from competitors thus increasing opportunities for growth. Such transition can be managed in several ways and the processes of innovation management require action on many levels simultaneously (Van Lancker et al., 2016).

Innovation management also requires individualized actions, taking into account the nature and goals of each enterprise. With regard to radical technological transition, management requires each enterprise to develop its own approach based on its own circumstances and goals. Radical technology transition requires an enterprise to first have all the resources that can foreseeably be regarded as sufficient before the project can commence.

While restaurants in developed countries have more opportunities to access funding from public and private institutions to support their technology transition projects (Cirera et al., 2022; Comin & Mestieri, 2018), their counterparts in most developing countries do not have the same privileges, and thus, their technology adoption rate lags behind (Ishak et al., 2021). In developed countries, including Canada, Singapore, and the United Kingdom, government agencies provide small subsidies in the form of vouchers and grants to small and medium enterprises, such as restaurants for basic technology upgrading and digitalization projects, in the belief that extensive digitalization of businesses generates positive externalities (Comin & Mestieri, 2018).

The results from the macro literature support show that while the lag between developing and developed countries in the adoption of technology has narrowed, the gap in the intensity of use of adopted technologies has increased (Comin & Mestieri, 2018). In the restaurant sector, although the pace of technology diffusion has speeded up, diffusion is uneven, resulting in an increasing technology gap across different types of restaurants (corporate and independent) and countries.

The general condition of developing countries, such as relatively low standards of living, an undeveloped industrial base, and a low Human Development Index in terms of poverty, literacy, education, education, life expectancy, and other factors for countries globally (United Nations, 2008) is widely implicated for this condition (Mun & Jang, 2018; Nkosana & Robertson, 2018; Skinner & Goodier, 2016). Available studies mostly focus on the benefits of technology innovation (Asefa et al., 2020; Kim et al.,

2021; Kumaning & Godfred, 2019) while little focus is devoted to understanding of the challenges of radical technological transition to high-risk firms such as restaurants.

For instance, Alawamleh et al. (2022) explored the barriers to open innovation in the food industry in Jordanian food industry but did not link these identified barriers to the socioeconomic challenges at the national level. Esposito et al. (2022) examined the potential, benefits of technology innovation but did not explore the factors that could hamper restaurants from adopting radical technological transitions. Other studies emphasize the internal conditions of restaurants as a major barrier to technology transition, and fail to take into account the challenges of capital accessibility from public and private institutions to speed up technological transitions (Kansakar et al., 2019; Korede et al., 2021; Nkosana et al., 2016). Thus, available studies do not problematize the national and regional social-economic statuses when examining the challenges of restaurants to radical technological transition.

Nowadays restaurants are also able to effectively *manage* marketing and service practices. Restaurants are able to collect and store specific data about their customers. The data mostly comes from comment cards/online surveys (Heavin & Power, 2018). The knowledge of the preferences of patrons and their consumption patterns enables restaurants to position their products or services more effectively. Smart technologies also enable restaurants to improve performance by improving the speed of service (Frey et al., 2019).

The reviewed literature shows that most developing countries, particularly in Africa, Latin America, and South Asia, lack adequate resources to extend to small businesses such as independent restaurants (Ishak et al., 2021; Nkosana et al., 2016). Due to a lack of funding nearly 40% of new businesses, especially independent restaurants fail in their first year, a further 60% in their second year, and 90% in their first 10 years of existence (Bhorat et al., 2018). Businesses such as restaurants in developing countries mostly rely on personal savings both in starting up their enterprises and for taking them forward (Ramukumba, 2014).

Service innovation has increasingly gained attention from practitioners and scholars as the means to develop new services. Service innovation is also critical to satisfying customer expectations for new experiences. Studies have focused on the application of technological products in service operations to leverage customer satisfaction (Morrar 2014; Stanko *et al.* 2014; Wuenderlich *et al.* 2015; Kuo *et al.* 2017; Zhang and Hou 2017). Research also discussed how customers accepted technological and digital applications in service operations (Kattara and El-Said 2014; Durst *et al.* 2015; Rosenbaum and Wong 2015).

According to Service-Dominant Logic, customers not only experience the product or service but also assess the process of encountering the services (Lusch and Nambisan 2015). From this perspective, customers perceive the innovation and evaluate the innovativeness of service operations; they play as

stakeholders in creating service innovation. Thus, operational performance for mutual benefits between customers and the operations can be optimized (Lusch and Nambisan 2015). Besides, gaining customer feedback about the clues of innovative clues is important to understanding customer perception and evaluating of innovativeness of service operations (Ordanini *et al.* 2014; Rosenbaum and Wong 2015). Exploring customer perception and attitude toward the innovativeness of the restaurant industry operations can help owners and decision-makers to optimize their marketing strategies as well as improve operational efficiency.

This section reviews the perspectives of the service innovation field to emphasize the importance of innovative service clues on customer satisfaction. Studies of service innovation have indicated that operational performance and customer evaluation are important mutually to one another. In other words, to create a successful innovation it is not only the matter of organizing and operating but also the contribution of customers via feedback. Besides, there is a call in the hospitality industry for service innovation that focuses on delighting customers with a new and unique experience, which is different from commercial standardization.

Researchers highlight the importance of the integrated definition of service innovation that is not limited to technological innovations; they also argue that the definition of service innovation must be broad enough to encompass manufacturing and pure-service operations (Snyder *et al.* 2016). This synthesis perspective proposes that the combination of both perspectives may influence significantly and feasibly to economic growth (Gallouj 2002; Witell *et al.* 2016).

Customer satisfaction is not only influenced by product and physical values but also by the intangible values of service delivery (Parasuraman *et al.* 1990). The reaction of customers as evaluating and giving opinions about the service quality of every individual event is defined as Transaction-Specific Satisfaction (Bitner and Hubbert 1994; Jones and Suh 2000). Before evaluating the services, customers have their expectations of the service performance which is the antecedent of satisfaction (Zeithaml *et al.* 1990). The expectation, which is formed by accumulated experience, knowledge, information and demand, influences customer actual perception. The actual perception of service performance involves comparing the expected values and the actual values that they receive (Oliver 1977; Zeithaml *et al.* 1990). Thus, the satisfaction level can be higher or lower depending on expectations. Understanding how customers perceive and evaluate the services are critical points for promoting favorable behavioral intentions such as returning and recommending (Chua *et al.* 2014; Haddad *et al.* 2015; Ali *et al.* 2016; Ahmad *et al.* 2017).

Regarding the highly competitive market, scholars have investigated the implications of service innovation to be distinct from competitors. The innovation should be consistent with customer needs and preferences to be accepted (Rogers 2010).

Research methodology

The study relies on research into full-service casual dining restaurant customers. They were interviewed in person after they had been explained how to form their answers correctly. Every single customer was asked to rank the most important areas of innovation by allocating the points (1=completely disagree, 5 = completely agree), to reveal how they feel regarding each innovation's dimension (brought up from the literature) and to forecast dominant trends in the restaurant industry. Additionally, they were asked to fulfil short control questions in order to acquire confirmatory data. The interviews were organized in 44 restaurants. Due to the nature of the universe (customers in this industry) some considerations were taken into account. Statistically speaking, the formula for infinite populations was applied, getting an output of 386. Therefore, 386 observations were gathered within Guadalajara's metropolitan area, Mexico within a time lapse from June to July 2023. In order to analyze the provided data, it was necessary to process it through SPSS 20.0 software.

As for the measurement instrument, a hybridization was considered. The current study aimed to analyzed four dimensions: atmosphere innovation (e.g. interior and exterior appearance, colors, music, etc.), food innovation, (e.g. portion size, new ingredients, allergen free, etc.), beverage innovation (flavor, size, mixology, quality, etc.) and service innovation (e.g. POS terminals, online reservations, smart phone applications, promptness, etc.).

Having said that, such instrument considered such dimensions and pinpointed to delve into 32 items which were analyzed through a Likert scale measuring accordance level from 1 – 5 (see table 1).

- Atmosphere innovation (7)
- Food innovation (5)
- Beverage innovation (6)
- Service innovation (14)

Table 1

1	2	3	4	5
Totally disagree	Disagree	Neutral	Agree	Totally agree

Source: own elaboration

By doing so, several statistical techniques were applied. Mainly, an exploratory factorial analysis was carried out in order to distinguish impact degrees.

Results and discussion

Innovation is a multifactorial variable that theoretically subsides through the compression and combination of the variables atmosphere innovation, food innovation, beverage innovation, and service innovation. The

construction of the Restaurant Innovation Index (RII) arises from the correlation of the variables that operationalize it. Table 2 shows that the variables are positively associated between 53 and 70 percent, which suggests that the dimensions show a statistical dependence between them. As this dependency exists, it is plausible to conceptualize and empirically generate the restaurant innovation index (RII).

Table 2

Correlations

		Admosphere	Beverages	Food	Service
Atmosphere innovation	Pearson´s correlation	1	.537**	.588**	.575**
	Sig. (bilateral)		.000	.000	.000
	N	376	376	376	376
Beverage innovation	Pearson´s correlation	.537**	1	.668**	.591**
	Sig. (bilateral)	.000		.000	.000
	N	376	376	376	376
Food innovation	Pearson´s correlation	.588**	.668**	1	.703**
	Sig. (bilateral)	.000	.000		.000
	N	376	376	376	376
Service innovation	Pearson´s correlation	.575**	.591**	.703**	1
	Sig. (bilateral)	.000	.000	.000	
	N	376	376	376	376

** . The correlation is significative at 0,01 (bilateral)

Source: own elaboration

The consistency scale of Cronbach's Alpha .862 (see table 3) allows us to verify that the scale presents considerable reliability since it lies in the "very good" categorized range. In this sense, in order to support, with greater weight, the feasibility of the operationalization of the RII global indicator, the reader is shown the Kasiser Meyer Olkin (KMO) measure of general adequacy and the Bartlett test of sphericity (see table 4). This test shows, in general terms, how strong or adequate the factor analysis solution would be. In more detailed terms, it shows what percentage of the total variance the analyzed variables have in common, it turned out to be 0.817, a value close to one, which indicates that the factorial analysis by principal components is not only desirable but also presents an excellent adaptation to the data structure.

Table 3

Feasibility statistics

Cronbach's alpha	N of elements
.862	4

Source: own elaboration

Table 4

KMO and Bartlett's test

Sample adequacy measurement	Kaiser-Meyer-Olkin.	.817
	Chi-squared	696.285
Bartlett test	Ld	6
	Sig.	.000

Source: own elaboration

As for Bartlett's sphericity test (see table 4), the test shows that the critical level is less than 0.01 to support what was already observed in the correlation matrix. Therefore, it is possible to reject the null hypothesis that the correlation matrix of our variables is an identity (I). Considering the adjustment of the variables through factor analysis as appropriate.

Table 5

Comunalities

	Initial	Extraction
Atmosphere	1.000	.631
Beverages	1.000	.689
Food	1.000	.782
Service	1.000	.732

Extraction method: Principal components analysis

Source: own elaboration

Finally, through the spectral decomposition of the correlation matrix, the eigenvalues of the correlation matrix were obtained, and it turned out that the linear combination of the study variables leads to a total explained variance of the RII of 70.85% in its principal component (see table 6).

Table 6

Total explained variance

Component	Initial eigenvalues			Squared saturation additions of the extraction		
	Total	% variance	% accumulated	Total	% variance	% accumulated
1	2.834	70.856	70.856	2.834	70.856	70.856
2	.479	11.978	82.833			
3	.407	10.184	93.017			
4	.279	6.983	100.000			

Source: own elaboration

The RII is empirically conceptualized as follows

$$IIR_j = U_1FI_j + U_2SI_j + U_3BI_j + U_4AI_j$$

Where:

IIR_j = Restaurant innovation index j th restaurant

SI_j = Service innovation j th restaurant

FI_j = Food innovation j th restaurant

BI_j = Beverage innovation j th restaurant

AI_j = Atmosphere innovation j th restaurant

U_k = Shows the relative weight that each variable has regarding RII

The components matrix shows the relative weight that contributes to each dimension of the global indicator

Table 7

Components matrix

	Component
	1
Food innovation	.884
Service innovation	.855
Beverage innovation	.830
Atmosphere innovation	.794

Extraction method: Principal components analysis.

a. 1 Extracted component

Source: own elaboration

Once having gotten all of the data analysis, it is important to stand out the fact that the objectives of the current study have been achieved. Throughout the whole process, adjustments were required to reach them.

The creation of the Restaurant Innovation Index was necessary to carry out the study. Otherwise, it would have been impossible to conclude. In general, it all started by analyzing every single dimension separately. This move was intended to create a lonely weight for each factor. It enabled the most suitable way to handle them due to the nature of the study.

On the one hand, the theoretical reality regarding innovation in the restaurant industry within GMA was properly analyzed. Furthermore, concrete and practical data were put to the test to contrast both of them. On the other hand, key factors that intervene in the restaurant industry within GMA were identified and determined.

Regardless of the complexity of the phenomenon, several statistical techniques were applied. They demonstrated a strong correlation between variables, the measurement was suitable, and the techniques were pertinent. Therefore, it is important to highlight that the output was quite outstanding since the variables' association was positive. By stating this, the study provides enough evidence to declare that both, the theoretical framework and what we customers experience in a daily basis turns out to be consistent. It all has been analyzed from a customer's perspective.

The main goal was to determine the innovation's impact on the full-service restaurant industry in Guadalajara's metropolitan area. In order to do this, an index innovation was made up based on its four main dimensions. Food innovation (.884) turned out to be the most important one, meaning customers care

a lot about what they eat. It means that the restaurant industry should be cautious regarding food proposals, changes, or modifications overall. Either way, there is statistical and scientific evidence regarding staying sharp. As it has already been stated, food and service innovations are the main reasons why customers go out. The whole experience is firstly influenced by how they perceive features such as flavor, quality, smell, portion, uniqueness, presentation, and novelty degree. This is the key element, the inner core reason to stick up to the culinary experience.

Service innovation (.855) was the second key element in here. The components matrix showed that it fell a bit behind food innovation. Even though both figures seem to be quite acceptable, a gap was visible. It means that these two dimensions go pretty much along. Service innovation might need a bit of a leap of faith to exceed customers' expectations since previous studies have shown that the industry has been regarded as one of the best ones in Guadalajara's metropolitan area.

As for beverage innovation (.830), the industry seems to be doing alright. However, there might be a couple of aspect which have not been quite covered. As a matter of fact, there is not much of a huge difference between food, service and beverages. The impact that the study has shown does not really hurt the industry. There is a slight gap of .054 regarding food innovation.

At last, but not least, atmosphere innovation, which was also included, did not fall that behind (.794). To sum up, customers' judgments show that the whole industry remains quite competitive. In all, this is why it was necessary to come up with the idea to create the global indicator, which helped to determine the innovation impact on such industry.

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