Towards Future Customer Experience: Trends and Innovation in Retail

Marisela Rodríguez
Professor. E-mail: marisrod@itesm.mx

Francisco Paredes
Researcher. E-mail: franciscoparedesleon@gmail.com

Tecnológico de Monterrey, Escuela de Ingeniería y Ciencias
Address: Avenida Eugenio Garza Sada 2501 Sur, Colonia Tecnológico, Monterrey, Nuevo León, 64849, México

Gaofeng Yi
Researcher, Higher Education Research Institute,Yancheng Teachers University.
Address: Xiwang Avenue, Yancheng City 224051, Jiangsu Province, P. R. China. E-mail: yigf@yctu.edu.cn

Abstract

Retail companies today face new challenges with more intensified competition due to the accelerated pace of technological change, more sophisticated management practices, and industry consolidation. Hence, retail companies have shifted their focus from not only boosting sales but also to ways of attracting and retaining customers. This paper offers a new perspective on how to improve the performance of retail organizations by enhancing customer experience. It suggests that customer experience and use of technology are fundamental drivers of consumer loyalty. We propose a new shopping experience model based on a synergic combination of design thinking and marketing intelligence methodologies. The role of technology in customer satisfaction is also integrated into this novel approach. Based on this model, we developed a smartphone app and then applied it to a supermarket located in Monterrey, the third largest city in Mexico.

We conclude that technology-based resources can contribute to improving interactions between the store and customers, supporting the latter to make decisions about purchases. However, regardless of how advanced the technology is, these solutions cannot guarantee adding high value to organizations unless an integrated context analysis is used and managers implement appropriate design strategies that enhance customer experiences.

The current research has important implications for decision makers in business strategy, marketing intelligence, and strategic foresight, as well as retail practitioners.

Keywords: customer experience; shopping experience design; retailing trends; innovation; design thinking; marketing intelligence; user-centered design; store loyalty
DOI: 10.17323/1995-459X.2016.3.18.28

Citation: Rodriguez M., Paredes F., Yi G. (2016) Towards Future Customer Experience: Trends and Innovation in Retail. *Foresight and STI Governance*, vol. 10, no 3, pp. 18–28. DOI: 10.17323/1995-459X.2016.3.18.28

In recent years, retailers have recognized the importance of improving customer experience as a key factor in business success [*Verhoef et al.*, 2009; *Levy and Weitz,* 2012; *Petermans et al.*, 2013], especially with the emergence of online competitors that have created new markets and attracted customers through personalized services [*Herring et al.,* 2014]. Future retailing will focus on engaging with customers at a personal level. This irreversible trend is based on enhancing satisfactory customer experiences at different levels — rational, emotional, sensorial, physical, and spiritual. To achieve this, retailers should consider a mindful balance between the deployment of progressive technology systems and the creation of new business models [*Manyika et al.*, 2015].

Customer experience involves peoples' cognitive and emotional assessments when making purchases [*Klaus, Maklan,* 2013]. From the perspective of Meyer and Schwager [*Meyer, Schwager,* 2007], it can be defined as a customer's internal and subjective response to any direct or indirect contact with a company. Direct contact generally occurs during the purchase, use and service, and usually begins with the customer. Indirect contact often involves unplanned approaches to representations of a company's products or services, including advertising, news reports, or reviews.

Current service design theory is guided by technology and globalized consumer empowerment. Designing new customer experience strategies is considered an important aspect of service improvement. Unquestionably, they offer a valuable guide for improving the interactions between people and stores. Retail organizations offer a mix of products and services, for which numerous activities (e.g. the shopping process itself, interactions with store personnel, claims, and devolutions) directly influence the customer's perceptions and experiences [*Nadiri,* 2011]. Retailers devote significant effort to understanding and satisfying their markets' more sophisticated and challenging expectations [*Gerritsen et al.,* 2014]. They are conscious that an effective service design strategy requires a new user-centred approach focused on improving points of interaction in the store [*Clatworthy,* 2011].

This new approach requires a market-driven analysis that recognizes the customer's latent needs and desires, and determines gaps for improving current offers and developing new ones. Within this context, marketing intelligence emerges as an important alternative to understand users and their competitive environments [*Jenster, Solberg,* 2009]. MI can help to quantify intuitions, contextualize markets, and scale opportunities. Combined with design, marketing intelligence can be used to integrate key trends into experience prototyping.

Building on this, this study integrates features from two methodologies: design thinking and marketing intelligence. We propose a strategic model to understand and respond to customers' desires by analysing their expectations and actions in a competitive environment. In the model, the use of emerging technology-based resources is championed to support customer experience during the shopping process.

This paper starts by establishing the importance of retail businesses and the relevance of attaining close connections with customers. It also argues why value co-creation with customers should be the central focus of the design process. Furthermore, the paper illustrates the role of innovation and technology in satisfying customers and the accompanying store loyalty. Next, it analyses a broad literature related to design thinking and marketing intelligence methodologies, on the basis of which we develop our model. We then apply our model to a Mexican retail business (a supermarket) with the aim of proposing an innovative solution for improving customer experience. Subsequently, the paper makes policy recommendations and concludes. Finally, it discusses some limitations of the present study and possible avenues for future research.

Literature review

The retail business

Research on the retail sector is considered one of the mainstays of the marketing field. It has become progressively wider and global in scope. Retailers find themselves in a mature and competitive environment, in which clients' expectations are continuously increasing and evolving [*Grewal et al.,* 2009]. Customer satisfaction derived from their subjective fulfilment of their expectations will determine their continued store choice [*Paul et al.,* 2016].

Initially, retail theory focused on boosting sales in supermarkets, shopping centres, and convenience stores. Attention was mainly paid to the last stage of the supply chain, while fewer studies looked at the experiences produced during shopping [*Berman, Evans,* 2003]. However, now companies face new challenges with more intensified competition due to the accelerated pace of technological change, more sophisticated management practices, and industry consolidation [*Sirohi et al.*, 1998]. This explains why their focus has expanded from sales and growth towards customer loyalty [*Lewrick et al.,* 2015].

Adopting new ideas related to customer experience has encouraged the retail industry to develop new strategies to increase customer satisfaction [*Nadiri,* 2011]. The shopping experience and ambience are the two main factors determining customer satisfaction in the large retail outlets [*Paul et al.,* 2016].

Creating a superior customer experience is the primary objective in today's retailing environment [*Verhoef et al.,* 2009]. Retailers have introduced a diversity of programmes to persuade and retain customers, including customer cards, discount coupons, special offers, and promotions [*Bustos-Reyes, González-*

Benito, 2006]. However, current intensive competition among retailers demands that firms establish new strategies to generate better interactions between customers and stores; many of these strategies are based on technology-based resources. For example, the technology applications of the American retailer, Wal-Mart, are developed through two groups: one in Bentonville, which is more oriented to stores, and another in Silicon Valley, which handles the company's global e-commerce [*Miller,* 2014].

Store environments constitute a fundamental element to retail positioning and enhance shopping experiences [*Levy, Weitz,* 2012] regarding merchandise, service quality, and enjoyment [*Zeithaml,* 1988]. Technology-based resources can contribute to better interactions between the store and customers, supporting decisions about purchase or use, and creating a favourable online or physical environment. However, regardless of how advanced the technology, these solutions could also go unnoticed if managers do not establish appropriate design strategies that consider customer-generated experiences. Highly sophisticated technology solutions cannot guarantee adding high value to organizations if an integrated context analysis is not present. The use of *technology intelligence* methods such as scientific publications, patents, scenarios, portfolios, S-curves, benchmarking, Delphi or roadmapping can provide with sufficient evidence for an appropriate technological approach [*Safdari Ranjbar, Tavakoli,* 2015]. Moreover, retail managers should be aware of four aspects of technology: e-commerce, data analytics, inter-firm technology functions, and software platforms [*Lewrick et al.,* 2015].

In 1994, Kotler and Armstrong presented their 'Triangle model' for analysing company-customer, company-employee, and employee–customer relations throughout the deployment of interactive marketing activities [*Kotler, Armstrong,* 1994]. Two years later, Parasuraman presented the 'Pyramid model' to demonstrate that interactions among companies, employees, and customers are increasingly likely to be mediated by some form of technology [*Parasuraman,* 1996; *Parasuraman, Grewal,* 2000]. However, despite the accelerated pace of technology-based systems in retail, scholarly research on the impact of such systems on customers' experiences is still in its nascent stage [*Verhoef et al.,* 2009].

The role of innovation and technology in customer satisfaction and store loyalty

Innovation and the use of technology represent core elements to develop more satisfying shopping experiences; both enable ambiances that strongly impact on customer persuasion [*Sharma, Stafford,* 2000].

Technology's potential has never changed as rapidly as now [*Foley, Ferry,* 2012]. Retailers are shifting to self-service technologies because they relieve the customer from having to queue up. These technologies include self-scanning, researching items online before buying them in the physical store, or looking through the products in store prior to purchasing them online (also known as showrooming) [*Lewrick et al.,* 2015]. Table 1 depicts emergent technologies that foster customer experience.

Retail organizations, especially large retail stores (supermarkets and malls), are expected to provide unique shopping experiences that could lead to customer satisfaction and store loyalty [*Paul et al.,* 2016]. Hence, loyalty resulting from customer satisfaction is essential for any business to survive, succeed, and develop [*Davis,* 2013; *Paul et al.,* 2016]. For loyal customers, the introduction of technology applications could be more relevant when making shopping decisions compared to price. This is because they are usually less sensitive to price variability and they play a key role in verbal publicity [*Martos-Partal, González-Benito,* 2013].

As summarized in Table 2, the literature covers different approaches to clarify the importance of technology in customer satisfaction.

Technology's impact can be seen from customers' perspectives, as well as from organizational performance metrics (e.g. market share, productivity, revenues) [*Verhoef et al.,* 2009]. Unquestionably, technology plays a vital role in enhancing fruitful interactions that increase customer satisfaction.

Design thinking

In recent years, important efforts have focused on the development of customer-centred design for a better understanding of customer behaviour. It is precisely an approach from the design field that we use in this study. Designers' sensibility has helped them get a better understanding of people's needs during their creative activity using different methodologies. The model presented here encompasses a design thinking methodology, a user-centred tool to develop new concepts, products, and services [*Brown,* 2008].

Design thinking involves a strategic process to identify people's desires, unsatisfied needs, and feelings resulting from interactions with a product or service. The main purpose is to improve the quality of life by positioning customers at the axis of design [*Vianna et al.,* 2011]. During the design process, the designer undergoes a process of thinking, during which internal mental ideas and the external expressions of these ideas are combined and sketched to create a concept [*Cross,* 1999].

According to Tim Brown's approach [*Brown,* 2008], design thinking involves three basic steps, developed through a cyclical process with continuous feedback between stages:

1. *Inspiration.* This stage is focused on identifying and understanding a problem that could be transformed into an offering, whether a product or service. For this purpose, customer actions,

Table 1. **Emergent retail technologies**

Technology	Description
Omni-channel	'Customers interact with a company using several different channels before making a purchase. Differs from the traditional multi-channel concept because there is no longer channel A and channel B consumers. Instead, there is a single consumer base that interacts with retailers across all available channels' [*Dorman*, 2013].
Electronic retailing (e-tailing)	'Selling of retail goods electronically over the Internet' [DMS retail, 2016].
Mobile commerce (m-commerce)	'Internet retailing platforms using mobile phones, tablets, etc.' [Euromonitor, 2016a].
Facebook commerce (F-commerce)	It allows to 'present products, information and offers to consumers, as well as allow consumers to complete transactions within Facebook' [*Gartner,* 2016].
Cloud computing	'A model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction' [*Mell, Grance,* 2011].
Augmented reality	'Virtual objects appear to coexist in the same space as the real world' [Azuma et. al, 2001]. This, for example, 'enables customers to decide on a garment color without having to visit the change room.' [*Ramanan, Ramanakumar*, 2014].
Drones	Amazon is pioneering a drone-carrying system that intends to deliver products in under 30 minutes. It is capable of carrying packages weighing less than 55 pounds to locations within a 10-mile range [Amazon, 2016].
Internet of Things (IoT)	Sensors and actuators connected by networks to computing systems. Examples in retail are unlimited, some of the most expected are automated checkout as clients walk out of the store, layout optimization based on a comprehensive analysis of in-store customer behaviour, or real-time personalized promotions [*Manyika et al.*, 2015].

Source: compiled by the authors based on a review of the literature.

behaviours, and attitudes are observed involving the participation of experts from different areas (e.g. engineers, sociologists, and psychologists).

2. *Ideation*. In this step, brainstorming and sketching are conducted to produce possible solutions to the identified problem. Furthermore, prototyping is carried out and testing is performed to evaluate potential success and recognize possible adjustments. Market, technical, and economical feasibility are determined to find optimal solutions.
3. *Implementation*. This is the stage when the offering is brought to market. The global vision of the offering is accomplished on-site. Ensuring positive customer experiences is essential to success.

According to the approach of the Institute of Design at Stanford [IDS, 2010], the design thinking process comprises five stages:

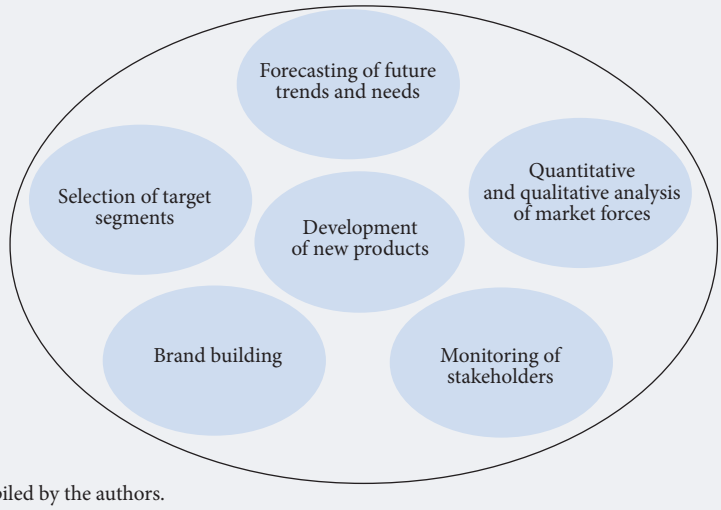
1. *Empathize*. Physical and emotional people's needs are defined to understand the ways in which they conceive the world. Systematic observation is essential in this phase.

Table 2. **Technology's role in customer satisfaction**

Description	Authors
Technology is a major way to boost sales by means of contact with customers.	[*Berman, Evans,* 2003; *Meyer, Schwager,* 2007; *Sharma, Chaubey,* 2014]
Technology improves client satisfaction by creating a superior customer experience. In a retail environment, it is important to focus on the 'right' customers given the highly competitive markets.	[*Sirohi et al.,* 1998; *Verhoef et al.*, 2009]
Technology provides customers with more control over their access to and use of information than ever before. Technology-related developments, such as search engines, mobile devices, mobile interfaces, peer-to-peer communication vehicles, and social networks, have enhanced marketers' ability to reach customers through new touch points.	[*Shankar et al.*, 2011]
Technology has a significant impact on customer perceptions, including those determining customers' lifestyles.	[*Acosta et al.*, 2013]
Ethnographic analyses and field observations demonstrate that technology enhances interactions between people and social structures.	[*Verganti,* 2008; *Jacobs,* 2013]
Design activities — including those that involve the use of technologies — are important parts of the innovation process, particularly for identifying customer needs.	[*Moon et al.*, 2013]
Deep customer understanding significantly aids in the design process and increases customer satisfaction. This process is enriched with technology-based resources.	[*Brown,* 2008; *Vianna et al.*, 2011; *Schneider, Stickdorn,* 2011]
Web experience systems can be used for in-depth analyses of customer experiences in retail environments, enabling deeper insights into different experiential aspects.	[*Petermans et al.*, 2013]
Technology enhances the quality of data analysis, identification of trends, customer needs, and strategies adopted by other firms.	[*Pere et al.*, 1999]
Efficiency- and novelty-centred business model designs indirectly influence technological innovation performance.	[*Hu,* 2014]

Source: compiled by the authors based on a review of the literature.

Figure 1. **Domains of marketing intelligence**



Source: compiled by the authors.

2. *Define*. Analysis of information is made to discover connections and patterns of customer behaviour.
3. *Ideate*. Concepts are generated according to the previous steps; techniques such as: prototyping, brainstorming, bodystorming, mindmapping, and sketching are applied.
4. *Prototype*. Iterative generation of solutions, where prototypes are built trying to accomplish the previously generated insights.
5. *Test*. Exhibition and testing with potential customers to gain knowledge about possible acceptability. The generated insights are considered for feedback and proper adjustments.

Marketing intelligence

Customer experience is influenced not only by internal but also by external factors. For a more complete understanding, it is important to consider the external environment of the company [*Petermans et al.,* 2013]. In this context, a marketing intelligence (MI) methodology can provide a market-driven perspective, producing valuable insights regarding competition, technology, and social trends in specific market spaces. This is a future-oriented activity that adds value to the development of a business environment, providing reliable, timely, and objective business knowledge [*Aaker et al.,* 2003; *Jenster, Solberg,* 2009].

MI helps to understand, investigate, and assess the external environment in relation to events for a company, its customers, competitors, markets, and the industry overall; MI also helps to improve the decision-making process. It provides useful information for identifying uncover opportunities and threats, and enables organizations to anticipate changes and effectively respond with innovative products or services. For this reason, it is considered one of the fundamental capabilities for creating competitive advantage and driving retail success [*Obeng et al.,* 2015]. MI has different domains related to two primary areas: marketing research and customer relationship marketing/database marketing (Figure 1).

The MI process can be as comprehensive or narrow as a company requires, and the information it produces tends to create change. Our research integrates a MI approach that follows the five-stage intelligence cycle of [*Jenster, Solberg,* 2009] (Table 3).

It is important to underline that commitment from top management is crucial for championing this MI process. In addition, when developing MI activity the size of the firm is also important. Small firms are less sensitive to the reliability and diversity of all information sources, in contrast to medium- and big-sized firms [*Cacciolatti, Fearne,* 2013].

Methodology

Shopping Experience Design Model

Based on the above review of the literature, we propose a model called the Shopping Experience Design (Figure 2), which combines the features and steps of both the MI and design thinking methodologies. This study argues that integrating these two approaches can help retailers (and, particularly, supermarkets) understand customer needs during the shopping process. It also considers technology to be an element for obtaining superior customer experience, hence, increasing organizational performance. The main aim is to help organizations offer service solutions that increase customer satisfaction.

Table 3. **Competitive intelligence cycle**

Phase	Description
1. Problem Formulation	Planning activity and problem determination to guide MI efforts.
2. Information Gathering	Comprises internal and external data gathering. In this stage, marketers should collect objective and empirical market research data and analyse the validity and reliability of facts, assumptions, and conclusions.
3. Analysis and Production	Information should be organized and analysed to convey intelligence reports. The aim is to provide valid and reliable interpretations of facts.
4. Presentation	Requires a communication environment that facilitates horizontal and vertical dissemination of intelligence.
5. Feedback	Assessment of insights obtained, executives with substantial industry experience can provide maturity and credibility to intelligence interpretation tasks.

Source: compiled by the authors based on [*Jenster, Solberg,* 2009].

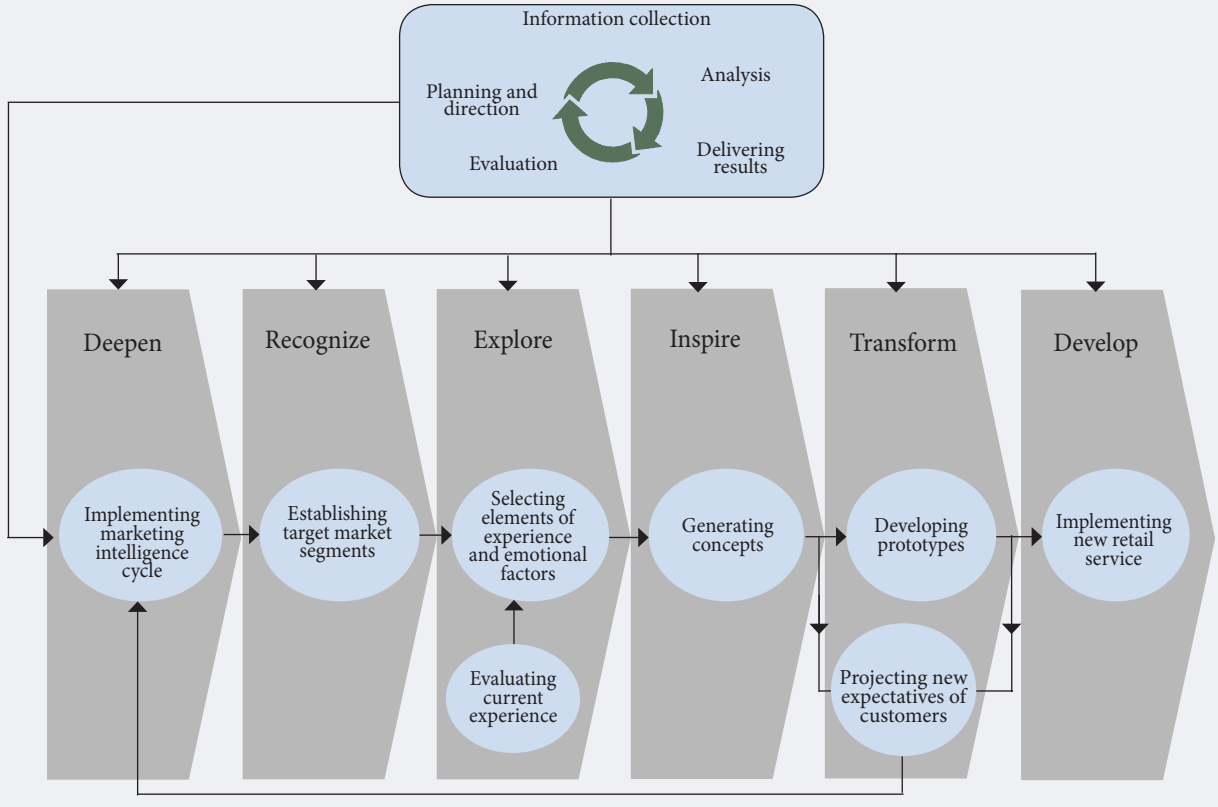
Customer experience is at the heart of the Shopping Experience Design model (Figure 2). Marketers and designers can use this model to enrich the interactions between stores and their customers and increase customer satisfaction. In the model, we envision present and future trends in which technology applications could play a significant role. This approach could be deemed an innovative method to understand and gain insights about customers when interacting with a service.

The model comprises six stages, starting with MI as the central axis. MI is then integrated into the different stages of the design thinking process, with the aim of enriching the user-centred design process (Table 4). This model requires the collaboration of multi-functional teams, including marketers and designers. Feedback among phases should be continuously promoted.

Case study

We applied the Shopping Experience Design model to a company that has been a leader in the Mexican supermarket sector since 1968. The company currently operates more than 674 stores across the country. It is the second largest retailer of product variety in Monterrey and, at the time of this study, was adopting a new corporate identity. For privacy reasons, this company will be called 'Opportunity'.

Figure 2. **Shopping Experience Design**



Source: compiled by the authors.

Table 4. **Stages of Shopping Experience Design**

Stage	Description
1. Deepen	Involves developing market analysis from the perspective of intelligence to identify current trends and improvements to solutions linked to the organization's business.
2. Recognize	Analyses the strengths and weaknesses of the organization from an intelligence perspective, considering and establishing its target market.
3. Explore	Includes an examination of customer behaviours, including touch-points that are present during the shopping experience. This stage is the most important because it performs an ethnographic analysis to identify customers' interaction levels with each point.
4. Inspire	The knowledge generated during the previous phases is analysed to develop solutions for improving customers' shopping experiences.
5. Transform	Involves the development of prototypes with the aim of materializing the features and benefits that the new product or service can bring.
6. Develop	Involves implementing the new service or developing the final product in order to evaluate the results, improve the proposal, and measure the level of enhancement of customers' experiences.

Source: proposed by the authors.

We note that our proposed approach is intended primarily for an emerging market. Currently, 2.6 billion people (one third of the world population) live in emerging-market cities. This figure is expected to reach 3.9 billion people by 2030, while developed-market cities are only expected to grow by 100 million people [*Capizzani et al.,* 2012].

Mexico is a promising land for retail due to its growing middle-class. In 2015, the retail sector grew by 5% [Euromonitor, 2016b]. It is expected to keep rising with the continued growth of the middle-class: 3.8 million households are expected to become middle-class by 2030 [Euromonitor, 2015].

This store has several loyalty programmes, including giveaways, promotions, delivery shopping, phone ordering and agreements with other organizations. Their main programme is a reward system, wherein customers are able to trade cumulated points for certain products. However, in recent years, the store has struggled to retain customers, particularly since they have a diversity of channels (e.g. online, telephone, or traditional brick-and-mortar stores). Meanwhile, Monterrey has experienced an aggressive increase in the number of small stores near consumers' homes, which are successfully competing with the big supermarkets. Given this situation, 'Opportunity' decided to explore a new solution to improve customers' shopping experiences and to introduce a culture of customer satisfaction within the company.

In the next section, we describe each stage of the Shopping Experience Design model as applied to the study of the 'Opportunity' company.

Results

Stage 1. Deepen

This phase is focused on the deployment of the MI Cycle:

Planning and Direction

Planning should include not only the activities and people in charge, but also the allocation of resources and monitoring indicators. This activity was developed aligned to the specific needs of the company involved.

Information Collection

Primary and secondary information were collected with the purpose of identifying market changes since 2012 until the present. Four main competitors of the company were identified, and their main strategies to attract and retain customers were classified in terms of technology use, service management, and campaigns. The information was collected by analysing the competitor's' websites and visiting supermarkets. Additionally, we analysed scholarly papers in the fields of innovation and market trends, as well as statistical databases and reports.

Analysis

By analysing the results obtained, we were able to garner the following insights (Table 5).

Delivering Results and Evaluation

The analysis determined that the main competitors of 'Opportunity' have focused their strategies on providing better shopping process services through both physical and digital solutions. Mobile technology has become an essential part of consumers' current lifestyles. The competition for bigger participation in this industry will continue to grow in the coming years.

Stage 2. Recognize

In this stage, we carried out an internal analysis of the company by evaluating its philosophy, target market, future plans, and external environment movements. Currently, Opportunity's mission is to satisfy the

Table 5. **Insights by source of information**

Source of information	General trends
Competitors	• The 'Opportunity' company has four main direct competitors, which offer a wide diversity of services to their customers without taking advantage of mobile applications: they only use web 2.0 and network information systems. • Only one competitor advertises social activities through their website. • Two of the competitors use technology applications as a resource to facilitate customer contact, either by simplifying actions (e.g. through shopping lists or reward points) or by enabling better communication of suggestions and complaints.
Databases	• The retail industry in Mexico has shown continuous growth. 'Opportunity' leads sales. • Supermarkets represent 20% of the Mexican retail market. • The company in our case study has faced annual declines in sales of up to 0.04%, while the main competitor has increased its sales by 0.01% annually during the last few years. • Although the company studied is the market leader with 55 branches in Monterrey, their sales volume is lower than their competitors.
Specialized reports	• In the future, Mexican consumers, mainly young people, will increasingly use technology applications to facilitate their shopping process. • From 2020, the use of digital resources will become an important factor for the development of shopping processes among consumers.

Source: compiled by the authors.

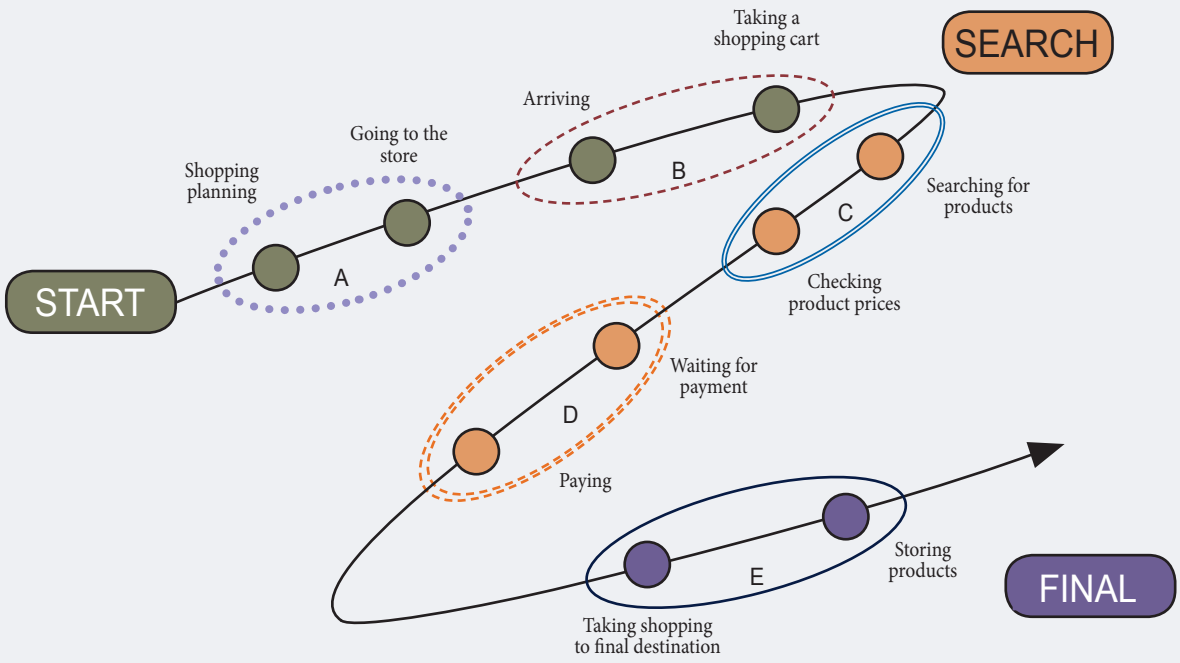
product and service needs of customers by encouraging the development of enduring relationships with clients, society, and the environment. The company's vision is to offer the best customer experience and a comfortable working ambiance. In regard to market segmentation, this company serves the middle-class (C/C- level).

Stage 3. Explore

Tools like client tour mapping and touch-point analyses were applied to identify areas for improvement within the supermarket. As Figure 3 shows, some of the main touch-points detected included shop-and-move decisions (touch-point A), the store entrance (touch-point B), product searches (touch-point C), payment for products (touch-point D), and movements of products (touch-point E). At different days and times, we observed 110 people while they shopped in the store. Additionally, many of these customers agreed to participate in an interview to explain the characteristics of their purchasing process.

Based on this analysis, we found the most significant factors during the shopping process to be the practicality and efficiency in terms of finding promotions and delivery options.

Figure 3. **Touch-point analysis interface**



Source: compiled by the authors.

Stage 4. Inspire

This stage included a brainstorming and subsequent association of solutions based on previous analyses. The final proposal was to develop a digital tool to enhance customers' shopping experiences: an app to facilitate communications between customers and the supermarket regarding products, services, and promotions offered.

Stage 5. Transform

This stage included the development of sketches of smartphone apps. The designs were conceived firstly using Corel X7 design software, taking into consideration all the characteristics of an app. As illustrated in previous sections, the Shopping Experience Design model (Figure 2) promotes feedback among phases where the top management must be committed to the process. Therefore, before testing the prototype designed, executives from 'Opportunity' gave us feedback and recommendations that were included into the app. After this requirement was met, the prototype design was tested to measure customers' responses.

The proposed app allows clients to navigate between the store departments and see the daily offers available (Figures 4-5). The prototype was very well perceived, including the additional features: online shopping including product delivery to the customer's home, and a safe taxi service if the customer prefers to go to the store (Figure 6). Both these additional features can be charged to the total purchase cost.

76% of the interviewees indicated that this digital resource would improve their shopping experience and satisfaction by making the process more efficient and friendly. They also suggested that it would be useful to include functions such as the locations of products, the monitoring of discounts, and taxi services in addition to home delivery.

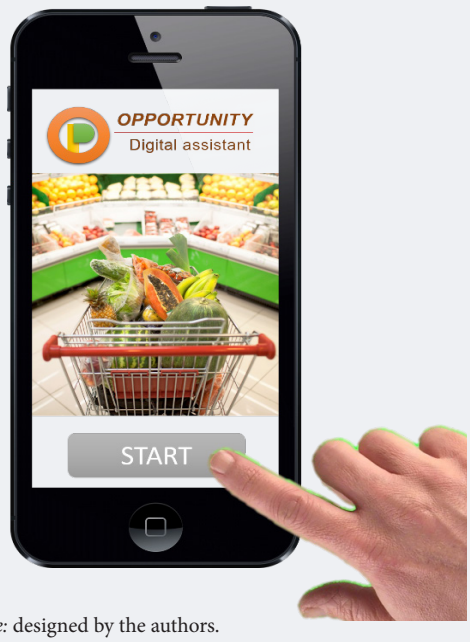
Stage 6. Development

The company involved would be in charge of further implementation. After the app proposed was tested during the Transform stage, company managers agreed that it was properly designed and showed strong interest in implementing it in a forthcoming project.

Conclusions and Recommendations

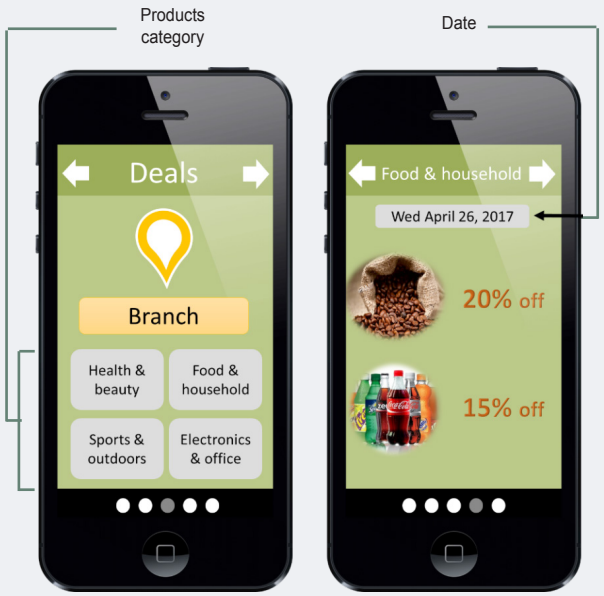
The proposed Shopping Experience Design model outlines a design activity with a broader perspective by considering two fundamental methodologies: design thinking and MI. Elements from both methodologies are integrated into a synergic and cyclical model in which customer experience is central. Using this approach, it is possible to get a deeper understanding of customers' expectations and identify the external events that may strategically impact the design. We showed that the use of technology is a key

Figure 4. **App home screen**



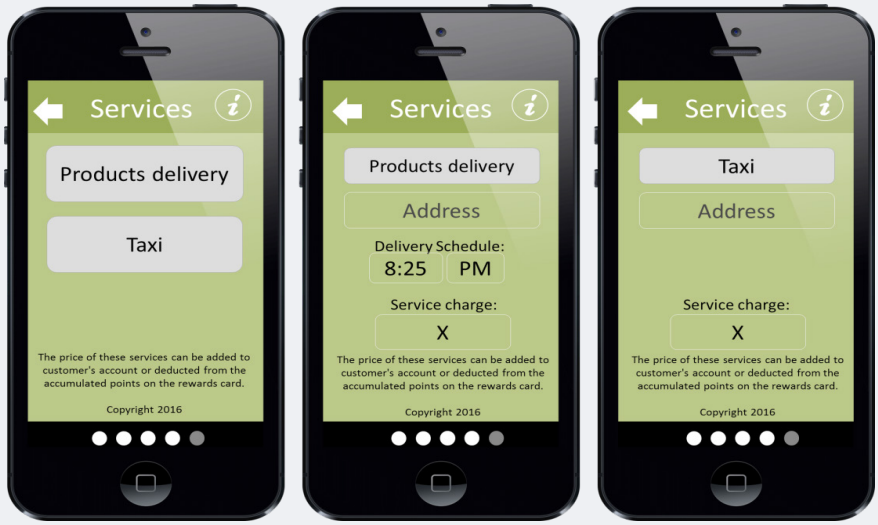
Source: designed by the authors.

Figure 5. **Daily available offers display**



Source: designed by the authors.

Figure 6. **App additional features**



Source: designed by the authors.

factor in creating strong and enduring relationships between people and products or services, and that the customer experience produced during the shopping process can be improved via this methodology.

The proposed model promotes the use of technology to improve customer interactions and experiences. Examples of applications include apps for smart phones, hologram systems in aisles, and intelligent advisors.

Our study found that the Shopping Experience Design model is viable. The results of testing it in our case study gave important insights that led to the development of an innovative solution that was accepted by 76% of the customers involved in the study. Our testing showed that the shopping experience can be significantly improved in this way.

The above conclusions underline that customer experience and use of technology are fundamental drivers for attracting and retaining customers. Our study has implications for decision makers in business strategy, marketing intelligence, as well as retail practitioners.

This paper presented an approach based on a proposed theoretical model. We tested this model in one retail store, for which we then developed a specific technological solution. However, future research should involve testing the app in more branches of the company, adding more features to the app, or even applying it to other types of retail services.

This research was supported by Tecnológico de Monterrey through Centro de Innovación en Diseño y Tecnología and its research group in Advanced Manufacturing.

References

Aaker D., Kumar V., Day G.S., Leone R. (2003) *Marketing Research* (9th ed.), New York: John Wiley and Sons.
Acosta M., Elizondo M., Molina V., García G., Ramos L. (2013) La innovación como proceso interactivo: Estudio descriptivo del sistema regional de innovación de Coahuila. *Revista Internacional Administración & Finanzas*, vol. 6, pp. 89–107.
Amazon (2016) *Amazon Prime Air*. Available at: https://www.amazon.com/b?node=8037720011, accessed 03.06.2016.
Azuma R., Baillot Y., Behringer R., Feiner S., Julier S., MacIntyre B. (2001) Recent advances in augmented reality. *Computer Graphics and Applications, IEEE*, vol. 21, no 6, pp. 34–47.
Berman B.R., Evans, J.R. (2003) *Retail Management: A Strategic Approach* (9th ed.), Upper Saddle River, NJ: Pearson Education.
Brown T. (2008) Design thinking. *Harvard Business Review*, vol. 86, pp. 84–96.
Bustos–Reyes C.A., González–Benito Ó. (2006) Papel del formato comercial en la lealtad al establecimiento minorista. *Información Comercial Española, ICE: Revista de economía*, vol. 828, pp. 269–288.
Cacciolatti L., Fearne A. (2013) Marketing intelligence in SMEs: Implications for the industry and policy makers. *Marketing Intelligence and Planning*, vol. 31, pp. 4–26.
Capizzani M., Huerta F.J.R., e Oliveira P.R. (2012) *Retail in Latin America: Trends, Challenges and Opportunities* (IESE Business School Study no 170), Barcelona: University of Navarra.
Clatworthy S. (2011) Service innovation through touch–points: Development of an innovation toolkit for the first stages of new service development. *International Journal of Design*, vol. 5, pp. 15–28.
Cross N. (1999) Design Research: A Disciplined Conversation. *Design Issues*, vol. 15, no 2, pp. 5–10.

Davis L.Y. (2013) Let us go shopping: Exploring Northwest Chinese consumers' shopping experiences. *International Journal of Consumer Studies*, vol. 37, pp. 353–359.
DMS (2016) *E-tailing and multi-channel retailing.* Available at: http://www.dmsretail.com/etailing.htm, accessed 06.06.2016.
Dorman A.J. (2013) *Omni-channel retail and the new age consumer: An empirical analysis of direct-to-consumer channel interaction in the retail industry* (CMC Senior Theses, Paper 590), Claremont, CA: Claremont McKenna College. Available at: http://scholarship.claremont.edu/cmc_theses/590, accessed 06.06.2016.
Euromonitor International (2015) *Mexico: It's all about the Middle Class*. Available at: http://blog.euromonitor.com/2015/10/mexico-its-all-about-the-middle-class.html, accessed 12.01.2016.
Euromonitor International (2016a) *Internet Retailing in Mexico*. Available at: http://www.euromonitor.com/internet-retailing-in-mexico/report, accessed 12.01.2016.
Euromonitor International (2016b) *Retailing in Mexico*. Available at http://www.euromonitor.com/retailing-in-mexico/report, accessed 12.01.2016.
Foley A., Ferry B. (2012) Technology for people, not disabilities: Ensuring access and inclusion. *Journal of Research in Special Educational Needs*, vol. 12, pp. 192–200.
Gartner (2016) *Facebook Commerce (F-Commerce)*. Available at: http://www.gartner.com/it-glossary/facebook-commerce-f-commerce/, accessed 02.06.2016.
Gerritsen B.H., Soilen K.S., De Visser P.B., Hoogreef P.J., Hulst K., Janssen M.L., Horselenberg L., Van Dijk R.R., Consenheim E. (2014) Social media coming to the mall: A cross–channel response. *Product development in the socio–sphere: Game changing paradigms for 21st century breakthrough product development and innovation* (ed. D. Shaefer), New York: Springer International Publishing, pp. 169–235.
Grewal D., Levy M., Kumar V. (2009) Customer Experience Management in Retailing: An Organizing Framework. *Journal of Retailing*, vol. 85, pp. 1–14.
Herring L., Wachinger T., Wigley C. (2014) Making stores matter in a multichannel world. *Perspectives on retail and consumer goods*, no 3, pp. 4–12.
Hu B. (2014) Linking business models with technological innovation performance through organizational learning. *European Management Journal*, vol. 32, pp. 587–595.
IDS (2010) *Bootcamp bootleg*, Stanford, CA: Institute of Design at Stanford.
Jacobs H. (2013) Co–innovation through multiple social identity processes. *European Business Review*, vol. 25, pp. 42–64.
Jenster P., Solberg S.K. (2009) *Market intelligence: Building strategic insights*, Køge, Denmark: Copenhagen Business School Press.
Klaus P., Maklan S. (2013) Towards a Better Measure of Customer Experience. *International Journal of Market Research*, vol. 55, pp. 227–246.
Kotler P., Armstrong G. (1994) *Principles of Marketing*, Upper Saddle River, NJ: Prentice Hall.
Levy M., Weitz B. (2012) *Retailing Management*, New York: McGraw–Hill, Irwin Publishers.
Lewrick M., Williams R., Omar M., Tjandra N., Lee Z. (2015) Radical and Incremental Innovation Effectiveness in Relation to Market Orientation in the Retail Industry: Triggers, Drivers and Supporters. *Successful Technological Integration for Competitive Advantage in Retail Settings* (ed. E. Pantano), Hershey, PA: IGI Global, pp. 239–268.
Manyika J., Chui M., Bisson P., Woetzel J., Dobbs R., Bughin J., Aharon D. (2015) *The Internet of Things: Mapping the Value beyond the Hype*, McKinsey Global Institute. Available at: https://www.mckinsey.de/sites/mck_files/files/unlocking_the_potential_of_the_internet_of_things_full_report.pdf, accessed 09.06.2016.
Martos-Partal M., González-Benito Ó. (2013) Studying motivations of store-loyal buyers across alternative measures of behavioural loyalty. *European Management Journal*, vol. 31, pp. 348–358.
Mell P., Grance T. (2011) *The NIST definition of cloud computer*, Gaithersburg, MD: National Institute of Standards and Technology.
Meyer C., Schwager A. (2007) Understanding customer experience. *Harvard Business Review*, vol. 85, pp. 117–126.
Miller M. (2014) How Walmart uses technology to connect online. Available at: http://forwardthinking.pcmag.com/none/324483–how–walmart–uses–technology–to–connect–online–retail, accessed 13.07.2015.
Moon H., Miller D., Kim S. (2013) Product design innovation and customer value: Cross–cultural research in the United States and Korea. *Journal of Product Innovation Management*, vol. 30, pp. 31–43.
Nadiri H. (2011) Customers' zone of tolerance for retail stores. *Service Business*, vol. 5, pp. 113–137.
Obeng E., Prescott J., Hulland J., Gilbert R., Maxham III J. (2015) Retail capability systems. *AMS Review*, vol. 5, pp. 103–122.
Parasuraman A. (1996) Understanding and leveraging the role of customer service in external, interactive and internal marketing. *Journal of Service Research*, vol. 2, no 4, pp. 307–320.
Parasuraman A., Grewal, D. (2000) The Impact of Technology on the Quality–Value–Loyalty Chain: A Research Agenda. *Journal of the Academy of Marketing Science*, vol. 28, pp. 168–174.
Paul J., Sankaranarayanan K.G., Mekoth N. (2016) Consumer satisfaction in retail stores: Theory and implications. *International Journal of Consumer Studies* (online version published before inclusion in an issue). Available at: http://onlinelibrary.wiley.com/doi/10.1111/ijcs.12279/abstract, accessed 14.06.2016.
Pere E., Rodríguez–Salvador M., Maspons–Moch R. (1999) Mapas tecnológicos y oportunidades de mercado. *Proceedings of the VIII Seminario bianual latinoamericano de gestión tecnológica ALTEC*, Valencia, Spain, pp. 318–325.
Petermans A., Janssens W., Cleempoel K. (2013) A holistic framework for conceptualizing customer experiences in retail environments. *International Journal of Design,* vol. 7, pp. 2–18.
Ramanan J., Ramanakumar K. (2014) Trends in retail. *International Journal of Business and Management Invention*, vol. 3, pp. 31–34.
Safdari Ranjbar M., Tavakoli G.R. (2015) Toward an inclusive understanding of technology intelligence: A literature review. *Foresight*, vol. 17, no 3, pp. 240–256.
Schneider J., Stickdorn M. (2011) *This is service design thinking*, New Jersey, NJ: John Wiley and Sons Publishers.
Shankar V., Inman J., Mantrala M., Kelley E., Rizley R. (2011) Innovations in shopper marketing: Current insights and future research issues. *Journal of Retailing*, vol. 87, pp. 29–42.
Sharma A., Stafford T. (2000) The Effect of Retail Atmospherics on Customers' Perceptions of Salespeople and Customer Persuasion: An Empirical Investigation. *Journal of Business Research*, vol. 49, pp. 183–191.
Sharma M., Chaubey D. (2014) An empirical study of customer experience and its relationship with customer satisfaction towards the services of banking sector. *Journal of Marketing and Communication*, vol. 9, pp. 18–27.
Sirohi N., McLaughlin E., Wittink D. (1998) A model of consumer perceptions and store loyalty intentions for a supermarket retailer. *Journal of Retailing*, vol. 74, pp. 223–245.
Verganti R. (2008) Design, meanings and radical innovation: A metamodel and a research agenda. *Journal of Product Innovation Management*, vol. 25. pp. 436–456.
Verhoef P., Lemon K., Parasuraman A., Roggeveen A., Tsiros M., Schlesinger L. (2009) Customer Experience Creation: Determinants, Dynamics and Management Strategies. *Journal of Retailing*, vol. 85, pp. 31–41.
Vianna M., Vianna Y., Adler I., Lucena B., Russo B. (2011) *Design Thinking: Business Innovation,* Rio de Janeiro: MJV Press.
Zeithaml V. (1988) Consumer perceptions of price, quality and value: A means ends model and synthesis of evidence. *Journal of Marketing*, vol. 52, pp. 2–22.