# SMART TECHNOLOGY APPLICATIONS IN CONTEMPORARY SHOPPING MALLS

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## ABSTRACT:

The uses of smart technology in shopping malls are both variable and necessary for all shopping malls where shopping mall management wants to provide basic and mandatory technological needs like for security, energy management and conservation as well as for entertainment and commercial aims, customer tracking and data-base obtaining for marketing reasons.

This study portrays the smart technology uses in shopping malls in Turkey as well as providing information about latest smart technology developments. A future promising country like Turkey, which has reached the opening of 135 shopping malls across the nation within 20 years, also gives promise for tracking the latest developments in smart technology applications in shopping malls.

**Key Words:** Smart technology, customer loyalty, store experience.

## ÖZET:

Alışveriş merkezlerinde akıllı teknolojilerin kullanımı çeşitli olmakla beraber bütün alışveriş merkezi yönetimleri açısından güvenlik, enerji yönetimi ve tasarrufu gibi temel ve zorunlu teknolojik ihtiyaçlarını karşılanmasının yanı sıra eğlence ve ticari amaçlar, müşteri takibi ve bunun yanı sıra pazarlama amaçlı veri-tabanı oluşturabilmek için gereklidir.

Bu makale Türkiye'deki alışveriş merkezlerinde akıllı teknoloji kullanım alanlarının profilini sunmakla birlikte akıllı teknoloji gelişmeleri hakkında bilgi sağlamaktadır. Türkiye gibi gelecek vaat eden bir ülke de 20 yıl içerisinde 135 alışveriş merkezi açılmıştır ve bu gerçekte alışveriş merkezlerindeki akıllı teknoloji uygulamaları hakkındaki gelişmeleri takip etmek açısından ümit vaat edicidir.

# 1. INTRODUCTION

The uses of technology has been expanding more and more today and if we take into consideration of the fast expanding potential of the increasing number of shopping malls each with a unique identity as well as the smart technology applications in used in the contemporary shopping malls, we can outdraw the conclusion that the use of smart technologies in the shopping malls will be expanding more and more in the future due to popular demand, advantages and existing wide usage of smart technologies in the shopping malls and by their customers. The main reason that these technologies are not used on a wide-scale basis is financial concerns. In the future we will be coming across with more of these smart technology applications as the cost of smart technology applications gets more and more economical.

After a research made in 356 shopping malls within the US, following the questioning of the 26 company representatives of the shopping malls, researches have concluded that there are 66 different uses of technology that are widely used today. The researchers have grouped these 66 different technological applications under nine categories:

1) Customer tracking and database marketing

2) The uses of technology with entertainment aim or commercial aim

3) The uses of technology for data obtaining and guiding the customers

4) Direct satellite broadcast cable connection technology

5) The use of communication aimed information technology and data-base providing

6) The use of technology for energy management

7) The use of technology for security aim

8) The use of technology for energy conservation as well as

9) The use of technology for enabling shopping via internet (Clodfelter and Overstreet, p.59)

## 2. CUSTOMER TRACKING AND DATABASE MARKETING

Customer tracking and database marketing is widely applied by the banks in order to carry out the Customer Relationship Management services in order to find the most valuable customers. After obtaining the necessary data-bank source over the carried out research depending on the obtained personal information about the customer then the banks can than offer the products and services along with specific advertisement and promotion, sales promotion, direct-marketing and such marketing efforts in order to gain customer loyalty. Customer loyalty has an increasing emphasis in today's competitive world. The firms follow the customer share comprehension rather than market share and they have been using internet to track their own special database (Özdağoğlu, A, Özdağoğlu G. and Öz, 2008, p. 368-370). The shopping malls mainly track their customers and form their own customer online database using the internet. For instance the Flyinn shopping mall in Istanbul (Flyinn, 2011) has a simplified version of a similar CRM questionnaire within its website.

A much more developed smart technology for customer tracking is offered by applying customer tracking kiosks to the shopping mall. Examples of these kiosks are not seen in Turkey, however they are offered in shopping malls in the US and by the help of a onetime filled personal information report and an assigned PIN number on a smart card, customers can enter their PIN number or smart card to a mall computerized kiosk each time they visit the mall. As soon as the customers enter their card they are eligible for special prizes and sales promotions depending on their shopping profile as well as special events of the mall in order to encourage shopping and gaining loyal customers (Clodfelter and Overstreet, 1996).

A very recent smart technology application for customer tracking is the Location Based Services (LBS) Technology. Along with this technology the user of a smart phone could be shown regional ads whichever region the person is at that moment. LBS technology uses several different technologies to locate a customer geographically. For instance in this way drivers or people getting close to the area of the shopping mall are could be send special promotional or discount ads. The shopping malls in Turkey have not started using LBS service however this is a promising new smart technology use which is getting more and more

popular in Europe while getting used on a more wide scale basis (Kölmel and Alexakis, 2002).


## 3. THE USE OF TECHNOLOGY FOR ENTERTAINMENT AND COMMERCIAL PURPOSES

Visual technology's most widespread usage is the cinemas and the cinemas exist in all the forefront shopping malls in Turkey today. Besides cinema, the sound and light systems synchronized with pool water jets which can be seen in Capacity Shopping Mall in İstanbul (Capacity, 2011) set an example for the entertainment and commercial usage of technology. Besides the 5D virtual reality motion cinema saloon have been given to children's service in Capacity Shopping Mall. What is more many technological children's playgrounds are in service in many shopping malls like Carousel and Flyinn Shopping Malls.

Another important smart technology use for visual technology are Large Scale Led Screens mounted in front of the shopping mall. The large wide scale led screen mounted on the front side of the City's shopping mall is an example to this technology. Although the main purpose of the giant led screens used on top or on the front surface of the buildings is to advertise the building itself the shopping malls can cooperate with outdoor advertising companies such as Next Generation Media (NGM, 2011) or Clear Channel (Clear Channel, 2011) in order to reduce the extremely high costs such as the device itself, the mounting of the device as well as the taxes (Tabela Dünyası, 2008) and market their advertising medium to other companies.


## 4. SMART TECHNOLOGY USE FOR DATA OBTAINING AND GUIDING THE CUSTOMERS

A basic and mandatory example to the uses of technology for data obtaining and guiding the customers is the interactive information screen kiosks, which can be used to guide the customer to the store or place he or she desires to go according to the given data by the shopping mall management. Although many malls use the more standard models due to economic reasons such type of digital boards are in the foremost place in terms as the among the most useful smart technology products. However, an example of this technology is

utilized on each floor at the City's Shopping Mall in Istanbul as a reference guide besides the information desk at the ground floor.

Furthermore besides the information regarding the stores, generally all the shopping malls in Turkey list their important and basic customer services like baby room, golf cart, information desk, taxi call, patient and disables customer services and the list of the atms online in their website like it is in Forum İstanbul Shopping Mall's (Forum İstanbul, 2011) website.

Internet researches among potential customers, however, can provide important feedback data regarding the expectations of the customers from a shopping mall. For instance Solomon, English and Cornett (2002) has carried out a research via internet on a nation-wide scale among 200 consumers and asked the consumers the ideal shop-mix of a shopping mall including stores, fast food stores and anchor stores. By these studies these researchers have intended to configure the ideal shopping mall to serve the interests of the shopping mall retail industry.

## 5. DIRECT SATELLITE AND PRIVATE TV CHANNELS CONNECTION

Direct satellite broadcast cable connection technology, and broadcasting of private channels like Digitürk, Fashion TV and D-Smart are offered as a free service to customers in most of the cafes and restaurants in the shopping malls. TV monitors or LCD network used in the fast food court as well as various locations in the shopping mall are also examples of visual technology. By this means while the customers can have their meal or chat with their family or friends, they can also watch and enjoy the news, the latest soccer games, Eurosport, Fashion TV or the music channels. Examples of this technology is widely used in many shopping malls like Kanyon, Carousel, City's and so on. Virtual Reality and hologram use is also another smart technology use of virtual entertainment however due to economic reasons these applications are not widely used. Along with this technology for instance customers who buy golf clubs can actually try out virtual shots by means of entertainment opportunities to be provided by virtual technology in the future.

**6. THE USE OF INFORMATION TECHNOLOGY AND DATA-BASE PROVIDING**

Examples to the use of communication aimed information technology and data-base providing can be listed as the computer kiosk units placed in the shopping malls as well as the net-work connection forming between the store management and the shopping mall management, however examples of these technological uses are not contemporarily applied and seen in the shopping malls in Turkey (Clodfelter and Overstreet, 1996).

Instead in the shopping malls in Turkey mainly wireless connection service as well as the mobile phone charging stations service are given in the Gloria Jean's Café's in Carousel and City's shopping malls (LPG Haber, 2008). Besides this the South Coast Plaza in the US has opened the first electronic device charge point networked charging station in which you can also charge electronic devices like lap tops in April 2010 (Coulombtech.com, 2010).

**7. ENERGY MANAGEMENT, ENERGY CONSERVATION AND SMART SECURITY TECHNOLOGIES**

The shopping malls use of smart GPRS meter management or cogeneration technology (Ener-g, 2011), which covers providing electric and converging it to heat or cold air are among the energy management technology use in shopping malls whereas the use of photocells in fire stairs, escalators and elevators are also a common application used in shopping malls for electrical energy conservation. Smart technology management for security management is an especially overemphasized subject in most of the shopping malls in Turkey. Barcode readers for shopping mall staff access (Orbay, 2011), security cameras and monitors, security walkie-talkies for long distance talk, x-ray devices, under car search mirrors, door detectors and hand detectors which figure the magnetic and nonmagnetic metal objects (Teknik Döküm, 2011), as well as fire sensors, emergency evacuation announcement systems, smoke detectors, gas detectors, magnetic holders for unpermitted access through fire exit doors (kurumsal haberler.com, 2011) are among the various smart-technology devices used in shopping malls like Ataköy Plus and Flyinn.

**8. ONLINE SHOPPING AND STORE EXPERIENCE**

Online shopping service is a promising field with a bright future. Today chain stores like Migros (Migros, 2011) and e-bebek (e-bebek.com, 2011) provide internet shopping service over their websites. However in order not to decrease the number of customers who visit the shopping mall on a day to day basis internet shopping is a method that is not preferred by the shopping mall managements. For instance the store concepts of y is a store phenomenon that has to address five senses and for this reason in terms of providing customer loyalty the stores should enable the customers to freely see, touch, smell, hear, taste and try the products to fully experience the store world. (Roberts, 2006) For instance cheese and olive tasting offers in Migros, Tansaş, Carrefour chain stores, demo CD listening opportunities in most music shops in the US and touching and trying experience of the products in Sony stores and the visual satisfying experience of the Nike towns in major cities like Portland in Oregon offer the customer a fulfilling experience that address all five senses.

These sensual experience means make it more easy for the customers to imagine the products as theirs more and their sensual and trying experience make it more easy for them to buy the products and what is more they personalize their purchasing experience in the store. (Ünal and Ceylan, 2010)

**9. CONCLUSION**

The opening of the first shopping mall Galleria in Istanbul in 1987, the Turkish retail field has signaled a beginning a new era. Together with the projects following one after another within 20 years, the number of shopping malls have reached 135, and the total rentable area have reached 2 million 384 thousand 858 meter square.

While these numbers seem very high due to the fast developing retail field in Turkey, compared to the European countries these numbers are still quite below the average. For instance while the rentable area for 1000 people in Turkey is 32 $m^2$, this figure have reached 734 $m^2$ in Norway (AMPD, 2011).

Along with the further development retail field in Turkey, the potential in Turkey for new shopping malls also show the need and the future use for more up to date smart technologies in shopping malls due to cost saving and profitable commercial and marketing contemporary uses as well as due to meeting the technology oriented customers satisfactory

needs in terms of providing an pleasing shopping mall experience and gaining customer loyalty..

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