Use and Creation of Texture in Commercial Interior Space: Case Study of Istinye Park Shopping Mall – Istanbul / Turkey

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ABSTRACT

Commercial places are such places that should attract people's attention. Moreover, interior design of them is an important issue that attracts people to enter in. Therefore, interior design of a shop may be as important as the goods that are sold in the space. There are many approaches to design interior space of a shop such as color, lighting, and material selection where those issues named by Brooker & Stone (2010) as the tactics of interior design. Texture is one of the primary tactics while designing interiors, which can affect customer perception and attract them to enter in the shop.

Nowadays, designers use many various ways to design interior spaces. However, most of them do not pay attention to the texture as a tactic of the design; it may be because of the low level of awareness and knowledge about texture and the ways it created.

This study evaluates the use of texture in commercial spaces and a shopping mall called Istinye Park in Istanbul / Turkey has been determined as the case study. Texture evaluation in this shopping mall is primarily based on the design point of view as such it quested how texture was used or created besides questing the people's level of awareness about texture in interior design. Additionally, since there are no much written sources on this subject, it could be said that this research would work as a guideline for interior designers and people to understand what actually texture is and how it could be used as a tactic in interior design.

Keywords: Commercial Places, Shopping Mall, Retail Spaces, Interior Design, Interior Design Tactics, Material, Texture.

ÖZ

Alışveriş Mekanlarında tasarım unsuru kullanıcının (müşteri) ilgisini çekerek mekanı kullanmaya davet eden önemli bir araçtır. Bu bağlamda, mekanda teşhir edilen ürünler kadar mekanın tasarımı da önem taşır. Mağaza tasarımında renk, aydınlatma / ışıklandırma ve malzeme önemli rol oynayan etkenlerdir. Bu etkenler Brooker ve Stone tarafından iç mekan tasarımı taktikleri diye nitelendirilir (2010). Çalışmalarında iç mekan tasarımında doku kullanımını da önemli taktiklerden biri olarak vurgularlar. Alışveriş mekanlarında doku kullanımı müşterinin algısını ve dikkatini çekmekte etkili bir araçtır.

Günümüzde, tasarımcılar iç mekanları tasarlarken farklı yöntemler kullanır. Fakat, iç mekan tasarımında etkili taktiklerden birisi olan doku kullanımına çok fazla önem verilmez; doku kullanımı ve yaratılması konusunda yeterli bilgiye sahip olmamaları bunun sebeplerinden birisi olabilir.

Bu çalışma, alışveriş mekanlarını araştırma alanı olarak belirler ve iç mekan tasarımda doku kullanımı konusunu bu bağlamda irdeler. Araştırma alanı olarak İstanbul'da bulunan İstinye Park Alışveriş Merkezi belirlenmiştir. Alışveriş merkezindeki mağaza iç mekanlarında doku tasarımının incelenmesi ve kullanıcının bu konuya ilişkin farkındalığı öncelikli olarak sorgulanan iki temel unsuru oluşturmaktadır. Araştırılan konuya ilişkin yeterli sayıda yazılı kaynağın olmaması nedeni ile bu çalışmanın iç mimarlar için bir kaynak kitap niteliğinde olacağı ve aynı zamanda konuya ilişkin farkındalığı da artıracağı düşünülmektedir.

Anahtar kelimler: Alışveriş mekanları, alışveriş merkezi, mağaza, iç mekan tasarımı, iç mekan tasarımı taktikleri, malzeme, doku

TO MY WIFE,
FOR HER UNCONDITIONAL LOVE

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At the end, I would like to dedicate this thesis to my family who encouraged me to broaden the horizons of my imagination and supported me through my education. I hope that dedicating this thesis to them, even though it is not much, could return a bit of their love and kindness.

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INTRODUCTION

1.1 Subject Matter and Problem Statement

There are different approaches and tactics to design of interior spaces. According to Brooker and Stone "the details of the design proposal, that is, the intimate detailed design of the individual elements can be described as the tactics. This included the materials, surface finishes/ texture, shape, form, and nature of the components and constituents of the interior" (2010, p.112). According to Nebraske (1997), texture, material, lighting, and color creates our environment. It can be said that architectural forms, textures, materials, lightings and colors all inject quality to a space (Ching, 2007).

"Material and texture can make or break a design" (Gagg, 2012, p.164). Therefore, the use of material and texture to design interior are endless, however, the proper use of them will make a place more dramatic and the most subtle of effects. "The quality of the architecture will be determined by the skill of the designer in using and relating these elements, both in the interior space and in the space around building" (Ching, 2007, p.33).

Rao (2012) discusses the material as the most significant element of design and architecture. As he adds: "all of the buildings made of various materials; that means without using material you can build nothing, that's why it possesses significant role

than others in the first view". On the other hand, Gagg (2012) argues about texture, as he believes texture is "the handle, the walls, the noise that your feet make on the floor as you enter a room and the bright reflections from the glass that distracts your eye" (p.8). For instance, the first touchable things that an individual faced with when he/she enter a place are material and texture. He also mentions that, successful design is the result of careful material, texture and color selection.

Texture is a significant tactic. It directly affects the visual (perceptive) quality of the interior space and this makes it an important element to be considered in design. Gagg, (2012) believes that each texture has made by a material and all materials could have texture. "Materials and texture that they either inherently possesses or that can be applied to them will often define the essential qualities of a space" (p.8). In fact well-chosen materials increase the quality of space and make suitable textures as well (Coles, & House2007).

As mentioned before, texture is a tactic or design elements, which brings visual quality to the space. It also affects interior design perception and the perception of people who are within it. Nowadays, most of the people spent their time in indoor environment_ work, sleep, eat, live, and enjoy time in closed spaces such as residential and commercial spaces (Briggs, 2003).

Commercials places have important role for people and in their socialization (Farrell, 2010). Since they possess significance place in people's lives, their design is possess great importance. Kirkpatrick, (1994) points out how commercial spaces were a strong part all through the history as he states: "from the agora of ancient Greece to the super-mall of our modern cities, the market place occupies a special part of our

history and culture" (P.10). 200 years ago, shops were just along "Avenue" in global cities such as New York, Paris, London, Tokyo and Rome (Barr, 1997). Throughout the history, commercial places existed and were the important places for cities; they always attract people and many researchers considered this subject thoroughly. For example, in 1862, Thoreau wrote an essay named "walking" which answer a question, "what would become of us, if we walked only in a garden or a mall".

Shops and Stores are some types of commercial places. According to Webster in Farrell (2010), shops are small retail stores; which people need to go there for their needs and whatever they want during the weeks, month or year. Thus, it could be say that shopping is an inseparable part of human life. Additionally, as Farrell (2010) says: shopping will be fun and even therapeutic whether there be nothing in their shopping bag. On the other hand, he also believes that window-shopping is one of the primary pleasures, in addition as he mentions: design is a visual spectacle. It shows how design of the shops is an important factor during shopping process.

Furthermore, Barr& Field (1997) argue about the importance of retail design, as they believe: stores with high design will attract customer more than a poor design store. "Design is any activity that leads to the production of a series of beautiful and useful object" (Asensio, 2007, p.15). Each commercial place need to have its own design in line with it needs and then it can response customer. On the other hand, as Mesher, (2010, p.7) points out in his study: "the design of shops is an ever-changing cycle, following fashion trends and consumer aspirations".

The importance of shopping design is to establish contact between the producer and consumer (Kirkpatrick, 1994). That is to say design of a shop having special lighting,

color, and material or texture might affect the display of goods and changes the perception of the product different than it really is. In fact, there are three main components of a design scheme: color, texture and form.

"There are lots of approaches in designing commercial places_ how to use color, material, texture, form and light are the most important ones. Nowadays, drama, color, lighting, sound, architecture and display are the things that are used in new store design to merchandise ideas (Barr, 1997). "The ultimate goal of any good design is an optimal combination of the elements of the composition for a logical equilibrium of visual sensations. It is the capacity to transmit a message to the viewer using psychological aspects of human perception and the cultural connotations of certain elements" (Asensio, 2007, p.7).

As Gagg argues, "every interior space should create an experience for the user- that is what we all hope to achieve as designer. In today's drive for short turnaround times and value for money, designer often make use of low- budget but high- drama effects in their designs" (2012). Why do some designers find the search for new and innovative material and texture such as exciting part of the job? It is because materials and texture have the unique ability to help designer connect at an elemental level through touch and sight with the intent and soul of a project. The look or feel of a material can communicate mood and emotion in a very special way. Natural materials or textures suggest a certain quality and honesty about the design" (Dodsworth, 2009).

The commercial places are typical places where there is a continuous change in their design according to the changing conditions of time. There is more possibility to

design interiors by integrating different materials to create textural effects when it is compared with other types of interiors such as residential interiors. The use of texture is one of the important design approaches in interior design but many designers ignore it in design.

First observations clarified the confusion of users and designers understanding related with texture that they mix it with the materials. People usually use material to design their interior spaces but they usually do not pay attention to its texture. Apparently, meaning of texture is not clear for most of the people, they usually do not know the meaning of texture or the difference between texture and material and they usually mix them up. On the other hand, most of the designers are unfamiliar with the ways texture could be created. The shortage of studies and written sources about texture and about its design in interior space thought to be the main cause of the low level of people's awareness about texture as a tactic in interior design.

Accordingly, this research focuses on the creation and use of texture as a tactic of interior design and quests the use, role and design of texture in commercial interior spaces.

1.2 Aim, Research Questions and Limitation

Aim

The aim of this research is to find out how texture can be created and how it is used in commercial interior design. Besides, it also aims to make designers and users get familiar with different articulations of texture in interior spaces. The subsidiary aim is to raise awareness and understanding of both designers and users on different

methods or techniques of creating texture and use of the material that have special texture in interiors.

Research Questions

The purpose of this thesis is to quest and respond mainly the role of texture on interior design with a special emphasis that is put on commercial interiors. This study aims to answer mainly two issues: Use of texture in commercial interior design as the main aim and people awareness about use of texture as a part of interior design issues as the secondary aim of this study.

Questions that will respond the main research objective better are:

1. How and with which methods and techniques texture could be created in interior design and how it could be used in commercial interiors?
2. What kinds of texture design exists in commercial interiors?
3. What is the functional role of texture in commercial interior spaces?

On the other hand, to achieve the secondary aim this research will response to the questions below:

1. What is the level of awareness of people about texture as the main question?
2. Do people know the difference between texture and material?

Limitation

This study is limited to the evaluation of the interior design of commercial spaces and shopping mall is determined as the case study area. Evaluation of the interior design issues is limited to the creation and use of texture, which all sort of 2D, 3D, and tactile texture is considered under this evaluation. On the other hand, visual textures are not included as the main focus of this evaluation since they are ready to

use sources not dealing with cost estimation on budgeting and economic side of it. Additionally, the focus of the study is on retail spaces, thus restaurants, cinemas, entertainment places, sport and service areas in the shopping mall were not examined under this evaluation. Beside these, jewelry shops were also do not considered and constitute the other limitation of this study since the researcher was not allowed to make evaluation.

1.3 Research Methodology

This study is under both qualitative and quantitative research family. The qualitative research is the literature review section where there is an interpretative approach of the literature. Due to the shortage of written sources about the concept of texture, the section which covers the methods and techniques of texture design is achieved through the interpretation of existing interior design cases that leads to the development of its own theory. And the quantitative part is organized under two separate approaches, which are physical and social analyses through a case study research. In the case study, physical analyses were carried out with the aid of developed inventory forms to discover the use and creation of texture in the interior space of retail spaces. Moreover, the social analyses have measured the users' level of awareness through a questionnaire survey.

Chapter 2 is a theoretical part of the study including two main subsections: commercial / retail spaces and texture. In the first part, commercial or retail spaces were considered about their history and various kinds of them. Then the study focused on modern shopping centers and malls, elements that are important in their interior design, besides materials that can be used in their interior design, and where these mentioned materials were being used.

Second section, is more specific and important due to its significant role it possess within the entire study as the backbone. It discusses the concept of texture with an elaborate manner: What does it mean? How can texture be classified? How can it be used and created? What is the role material plays to create it?

Chapter 3 evaluates the case of a shopping mall in Istanbul City-Turkey called Istinye Park. The reason behind choosing this mall as a case study area was due to its structure where there are several different examples of commercials spaces in different types, size, function, quality and design existed. This chapter is based on two main examinations. The first one is physical analysis according to the theoretical chapter based on texture. Here the mall is examined through observation, taking photos and making sketches of the ways designer used or created texture, that helped to fill in the developed inventory forms for each shop, that leads research to the results of the physical analysis.

On the other hand, people / customers' level of awareness about the texture was examined with the questionnaire survey. Here researcher handed in a questionnaire form to the people who visited the mall during a week to quest what is the people's level of awareness about texture in interior design.

Lastly, in Chapter 4, the study concludes with the findings of physical analysis that demonstrates how texture used is as a tactic of interior design in different commercial interiors and findings of social analysis that demonstrates how much people aware are about the use of texture in general and specifically in commercial interiors. Table 1 shows research methodology and the structure of this study.

Table 1: Research Methodology
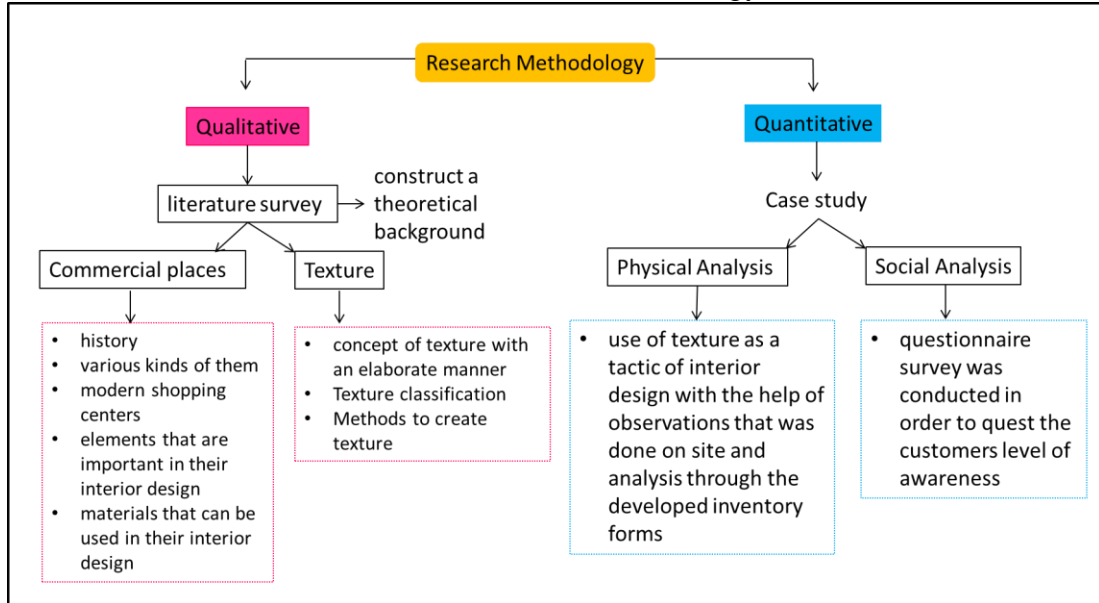
Chapter 2

THEORETICAL BACKGROUND OF THE STUDY: TEXTURE WITHIN COMMERCIAL INTERIOR SPACES

The given information under the section 'theoretical background' is based on the main aim of the research that is how texture is used in interior design and in commercial interior. To achieve this, two main topics were re-viewed through the literature based on previous studies under two sections, which are commercial (retail) spaces and texture. Firstly, commercial space is discussed then in the following sections, texture is reviewed.

2.1 Commercial (Retail) Spaces

This section was structured in a way that at first researcher defines the words: retail and commercial briefly. After that, retail spaces are explained through the history based on three periods: ancient period, middle age period, and contemporary period. Then, various types of retail spaces are mentioned briefly; however, the main focus is on the shopping center or mall where it has been discussed in a separate sub-section. Finally, interior design issue in commercial spaces is explained in a more detailed manner.

2.1.1 History and Background of Commercial (Retail) Spaces

Commercial is the word that came from commerce (Mesher, 2010). According to Oxford English University's Dictionary (2006, p.287), commerce means "the activity of buying and selling, spatially on a large scale"; then Mesher (2010) introduces shopping as an activity of selecting and selling goods or services to customers for

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money or other goods. Current big commercial places are the development of earliest shops or small stores, and shopping is the activity that takes place there (Mesher, 2010). Mesher (2010) introduces shopping as a daily activity, as he believes, the places that people choose to shop will show their culture, and life style.

According to Altoon+ Porter Architects (2004, p.6), development of culture and trade were depended on each other across the history. "From merchants on the spice and silk routes to teenagers at the mall, our very human desire for community and our instinct for commerce have led to the creation of gathering place with distinctive character, structure and use" (Altoon+ Porter Architects, 2004, p.6). According to Zafer (2001, p.6), "shopping has been changed over time according to political systems, some inventions, revolution and wars".

2.1.1.1 Ancient Period

Zucker (1959) talks about the beginning of retail spaces from 8th century in Ancient Greek; he mentions the starting point of commercial spaces in urban environment throughout the beginning of Greek civilization by Agora, so the Agora in Ancient Greek (8th - 10th centuries) was mentioned as the beginning point of the commercial spaces. It was a big open square space in Athens; the Agora was a place for 'meeting, theatrical events, festivals, markets, and elections', such a marketplace amid colonnades that merchants were selling their goods (Altoon+ Porter Architects, 2004, p.6). In Timeserver standards for building types (2001, p.119), the Agora also is mentioned as a shopping center in the heart of the Ancient Greek cities.

After Agora, 'Forum' came from Ancient Roman, as a Latin word where Forum means an open market space, which was same with the concept of Agora. The biggest forum was built by the architects of Trajan Emperor in AD110 "that covered

an area of 25 acres and featured a market with three stories of shops and stores"
(Altoon+ Porter Architects, 2004, p.7). Then Mumford (1998) mentions the Forum as
a public open space that 'served both public commercial purposes'. Thus, in the
ancient periods, Agora and Forum were the only shopping areas in the urban scale.

2.1.1.2 Middle Age

The end of Roman Empire until the end of Baroque period is known as middle age
period (Zafer, 2001). After centuries, the Agoras were converted in to the various
types of shopping spaces and shopping places. Mesher (2010) explains different
types or retail sectors during the Middle Ages period and mentions the markets as the
first group of shopping places.

In the early Middle Age, hawkers, shopkeepers and handworkers were the only three
groups that 'could be observed in the shopping trade'. According to Zafer (2001, p.7-
9), during the Middle age, shopping was as an important sector in people's life; it
was in this time that "cities developed within an urban context with plaza, squares,
open spaces and road networks and shopping was a fundamental component of this
system".

Three new shopping classifications were seen at the end of the Middle age, which
was classified according to the types of goods and their consumption. The first type
was 'fashion business' which also was out of shop and was related to fashion skills.
Fashion business happened when people produced a material and sold it at the same
time. Business of interior decoration was the second type of shopping during this
time; it included selling furniture such as sofa, mirror and home decoration things in
the shopping street, luxury items such as candles, gifts and all expansive products
were in the third category (Markham, 1998). At the end of the middle age, design

became as an important parameters in shopping areas. Markham (1998, p.44) believes that "Contemporary shopping center concept is the extension of these three types of shopping".

2.1.1.3 Contemporary Periods

During 18th and 19th century, "retail moved from outdoor, open-air markets to interior spaces, the temporary nature of retailing changed". Milan Galleria in 18th century was one of the first shopping street, which covered by its ceiling, for comfortable shopping in rain or snow; shopping became more 'leisure time experience' instead of just being an activity of selling or buying [Figure1] (Kliment et al, 2004, p.16).

Figure 1: Milan Galleria-18th -one of the first shopping streets (URL 1)

Then, after a certain period, price tag was gendered around late 19th century, where this was caused the shopping convenience. Kliment et al. concedes it by saying "retail stores began to carry more than one item or line of goods, creating the original one-step shopping experience". He also mentions Schlesinger and Mayer store

designed by Louis Sullivan as two examples of earliest shopping spaces under this role (2004, p.17).

Development the mass of automobile by Henry Ford influenced retail's design at the turn of the 19th century; it was a new opportunity so modern shopping centers were born. In the same direction, Kliment et al. (2004, p.17) states that "the automobile afforded easy and convenient transportation,...very quickly it became apparent that traditional pattern of city development could not accommodate the parking requirement for the rapidly growing number of automobiles". After the appearance of parking in retail spaces, Club plaza opened by Nichols in 1922 as 'the prototype for the suburban shopping center' [Figure 2] (Kliment et al. 2004, p.18).

Figure 2: The Country Club Plaza in Kansas City/ Nichols-1922 (URL 2)

Kliment et al. (2004), talk about the years of 1950s to 1960s as 'the birth of the shopping center industry', as he says, it is true that the beginning of department stores goes to 1930, but the first industry department store was North Gate Shopping

Center built in 1950s opened in Seattle-United State. Then quickly it became as a model for other shopping centers.

After Second World War, consideration to the fashion was caused the rise of boutiques in the late 1950s; in terms of fashion, branding plays important role, where it has been stated as: commercial may considers an exhibition that tells a story of a brand (Mesher, 2010). Mesher (2010) expanse the earliest examples of branding with the appearance of logos on food packages, that is traced back to 18th century. As he mentions, the brands affect the interior design of the commercial spaces. Nowadays, these old commercial places have turned into huge malls and shopping centers (Zafer, 2001).

According to Feinberg (1960), the birth of shopping center goes back to the 1907s. On the other hand, Feinberg & Meoli (1991) believes that the start of shopping centers was in 1920s. 2 years after, the Country Club Plaza was created in suburban Kansas City. Then, in 1931, Dallas was the place for Highland Park Shopping Village; it was the first group of shopping stores that had its own parking area 'with the stores facing away from the access road' (Feinberg, 1960). Finally, in 1956 the first enclosed mall was established in a suburb of Minneapolis (Feinberg & Meoli, 1991).

In the earliest 19th century, most of shopping spaces developed through streets called boulevard. As it is stated by Zafer: "at the beginning of the century shopping space was developed along the streets and boulevards and later on they became the centers of the city" (2001, p.67). However, development was not stop in that level, during mid-19th century, invention of elevator brought a new live to the form of retail

spaces, so they began to be designed vertically in many floors after 1970s (Kliment et al. 2004). As Mesher points out, it was "for the first time, huge arrays of products were available under one roof" (2010, p.63).Then by the advancement of technology, internet, media and globalization, people life style have been changed; lots of business commercial spaces with many factors have been designed that offer people great opportunity to choose among there.

Industrialization is mentioned as the main factor that changed the nature of the shopping places, "the industrial system has introduced to the city a variety of commercial functions which were never available in the simple marketplace of an ancient town" (Gallon, 1975, p.350-352 cited in Zafer, 2001, p.71). Afterwards, the aesthetic value of design was also considered where most of the retail or commercial spaces were designed complexly by more facilities for people comfort (Zafer, 2001, p.71).

 Nowadays, retail places are in a big challenge to attract more people by having various facilities in their spaces. As Kliment et al (2004) mentions, people attraction is the cause of creating or designing many different retail or commercial types in the world. In addition to this, Vercelloni (1999, p.6) states that "the latest generation of shopping centers has become a sort of fun town where weekends can be whiled away in movie theaters, restaurants, gyms and swimming pools. Furthermore, the stores came in a variety of style and size".

Table 2: Evolution of retail-commercial spaces through the history

History and background of commercial (Retail) spaces

Ancient period
→ Agora in Ancient Greek.
→ Forum in Ancient Roman.

Middle Age
→ Small shopping spaces and shopping places

→ Markets, plaza, squares, open spaces.

→ Only three groups could be observed in the shopping trade →
- Hawkers
- Shopkeepers
- Handworkers

→ shopping classifications according to the types of goods and their consumption:
- Fashion business
- Business of interior decoration
- Luxury items

Contemporary periods
→ Movement of shopping spaces from outdoor to indoor spaces.

→ Milan Galleria in 18th century was one of the first shopping street which covered by its ceiling.

→ Generation of price tag was caused to carry more than one item in retails.

→ In the earliest 19th century: development of stores through streets called boulevard

→ Modern shopping centers were born at the turn of 19th century.

→ 1930: the birth of department store

→ 1950s to 1960s: the first industry department store and rise of boutiques in the late 1950s

→ 1956: the first enclosed mall was established

→ 1956 up to now: various types of shopping centers and malls are designed

2.1.2 Various Types of Retail Spaces

According to Markham "the shopping center is defined as a group of retail and other commercial and leisure activities that have been planned, developed, managed and owned as a single property" (1998, p.81; Zafer, 2001, p.74). Thus, it can be categorized in different groups. Retail spaces classifications might be grouped out

according to their history, their character, their size, their sites, their functions, or to their proportion.

Altoon+ Porter Architects (2004) classify the forms of retail spaces in 16 groups according to their evaluation throughout the history as: (1) Agora, (2) Caravanserai, (3) Forum, (4) Bazaar, (5) Souk, (6) Mercado, (7) Floating Market, (8) Haymarket, (9) Flea market, (10) Market Hall, (11) Galleria, (12) Piazza, (13) Passages, (14) G.U.M (the Gosudarstvenny University Magazine), (15) Main Street, and (16) Commercial streets.

Then in 'time-saver standards for building types' (2001), retails are categorized according to their building character in 11 groups as: (1) Pedestrian area, (2) Shopping centers, (3) Neighborhood centers, (4) Community centers, (5) Regional centers, (6) Superregional Centers, (7) Specially centers and theme Centers, (8) Mixed-use Centers, (9) Urban Centers, (10) Outlet Centers, and (11) Off-price centers.

In addition, Mesher, (2010, p.43) also states that "Retail spaces can be defined through different retail sectors", as he believes that every place can fall into the retail spaces and mentions that "each sector has been influenced through social and economic conditions, politics, history and the development of design processes" (Mesher, 2010, p.33). He describes these sectors in four main groups of retailing: "(A) the first one is "Food": the evaluation of the market into supermarket and specialty food stores , (B) second one is "Fashion" which includes all clothing, shoes stores and all of beauty products, (C) third one is about "Home Retailing" such as furniture, all fabrics and also cookware, (D) and the last one is about

"Entertainments" such as 'sport, technology, travel and finance" (Mesher, 2010, p.33).

Then he divides retail spaces in 14 groups according to their sites: (1) High Street, (2) China stores, (3) Arcades, (4) Shopping center or mall, (5) Out-of-town, (6) Retail outlets, (7) Retail parks and showrooms, (8) Mega centers, (9) Hypermarket, (10) Train stations, (11) Petrol and service stations, (12) Airports, (13) Galleries and exhibitions, (14) Virtual shopping.

On the other hand, Zafer (2001, p.76) categorizes retail spaces in 8 groups according to their size, location and activities as such: (1) Free standing store: Super store and Hypermarket, (2) The focused center, (3) The retail park, (4) The shopping mall, (5) The regional center, (6) Specially and festival center, (7) Ancillary retailing and (8) Theme center. However, the focus of this study is especially on shopping centers or malls. In the following, this study discusses the concept of shopping center or mall in a more detailed manner.

Table 3: Retail spaces classification

Classifications of Various Types of retail spaces

According to their building character

(1)Pedestrian area, (2) Shopping centers, (3) Neighborhood centers, (4) Community centers, (5) Regional centers, (6) Superregional centers, (7) Specially centers and theme centers, (8) Mixed-use Centers, (9) Urban Centers, (10) Outlet centers, and (11) Off-price centers.

According to their size, location and activities

(1) Free standing store: Super store and Hypermarket, (2) The focused center, (3) The retail park, (4) The shopping mall, (5) The regional center, (6) Specially and festival center, (7) Ancillary retailing, and (8) Theme center

According to their sites

(1) High Street, (2) China stores, (3) Arcades, (4) Shopping center or mall, (5) Out-of-town, (6) Retail outlets, (7) Retail parks and showrooms, (8) Mega centers, (9) Hypermarket, (10) Train stations, (11) Petrol and service stations, (12) Airports, (13) Galleries and exhibitions, (14) Virtual shopping.

According to their evaluation trough the history

(1) Agora, (2) Caravanserai, (3) Forum, (4) Bazaar, (5) Souk, (6) Mercado, (7) Floating market, (8) Haymarket, (9) Flea Market, (10) Market Hall, (11) Galleria, (12) Piazza, (13) Passages, (14) G.U.M (the Gosudarstvenny University Magazin), (15) Main street, and (16) Commercial Streets.

According to sectors and economic conditions

Food, Fashion, Home Retailing, Entertainment

2.1.3 Shopping Center or Mall

Shopping centers or malls are modern types of earliest retail spaces. Moreover, there are many additional parts in them such as children play area, restaurants, resting area and beauty salon besides shopping activity. Therefore, people can enjoy their time more in such places.

Kliment et al (2004, p.234) defines shopping center as "a group of architecturally unified commercial establishments planned, developed, owned and managed as an operating unit and providing on-site parking. A center's size and orientation are generally determined by the market characteristics of the trade area in service." In addition, he also mentions the malls and open-air strip centers as its main configurations; then he continues by explaining mall's definition, as he says, "malls are typically enclosed, with a climate-controlled walkway between two facing strips of stores. The term represents the most common design mode for regional and superregional centers and has become an informal term for these types of centers" (Kliment et al., 2004, p.229).

In other words, a shopping center can be defined as complex of many retail stores, and the purpose of it is mentioned by Chiara & Crosbie (2001, p.119) as a place "to give maximum shopping convenience to the customer and maximum exposure to the merchandise".

According to Mesher (2010, p.73), the pioneering of shopping centers or malls was in America. During 1950s, architects started to design huge commercial area outskirt of the cities, where there was a need of plenty parking spaces and other services to have 'suitable accesses'. On the other hand, Zafer (2001, p.87) as states "usually shopping malls are located in the town center or downtown. The reason of their location in the town is to allow a conventional layout and adequate arrangement of goods delivery and pedestrian access".

Most of the earliest shopping centers were built by concrete structure, which was not very friendly. After a certain period, with the advancement of technology, variety of

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new products and materials gave chance to designer to choose different items. Nowadays, various modern materials such as steel and glass build most of the commercial spaces, thus architects take opportunity to design spaces that are more elegant. Modern shopping center's design, also attracted interior designers and urban designers too, where this lead to a collaboration between three groups including interior designers, architects and landscape designers to work together (Mesher, 2010, p.73).

According to design perspective, shopping centers are usually design in one, two or three floors. There are many patterns for shopping center's area; as stated by Chiara & Crosbie (2001, p.142) some of these are such as : Strip Shaped, L-Shaped, U-Shaped, Cluster Shaped, T-Shaped, Triangle Shaped, Dumbbell Shaped, Double-Dumbbell Shape, and Vertical Shaped; where it has been also mentioned that 'most of today's centers fit into one of these patterns'.

Beside these, Vertical Shaped is one of the latest or newest patterns of shopping center design. In this type, due to the increase in height of levels, designers have to located elevator or escalators in the building to bring shoppers upper levels. There usually is a central atrium in the middle of the building and stores are located around it. "Such centers are usually in downtown areas or close to other high-density development. Large centers built throughout the years lead to the opening of malls. Those that are being built today are almost invariably closed-mall centers" Kliment et al. (2004, p.143).

All of these design patterns included parking, service space, and anchor area, however their main differentiations arose between the mentioned three main issues

placement, the number of floors, the location besides the number of anchors and the form how they are located on the site. Figure [3] summarizes their shape and facilities schematically.
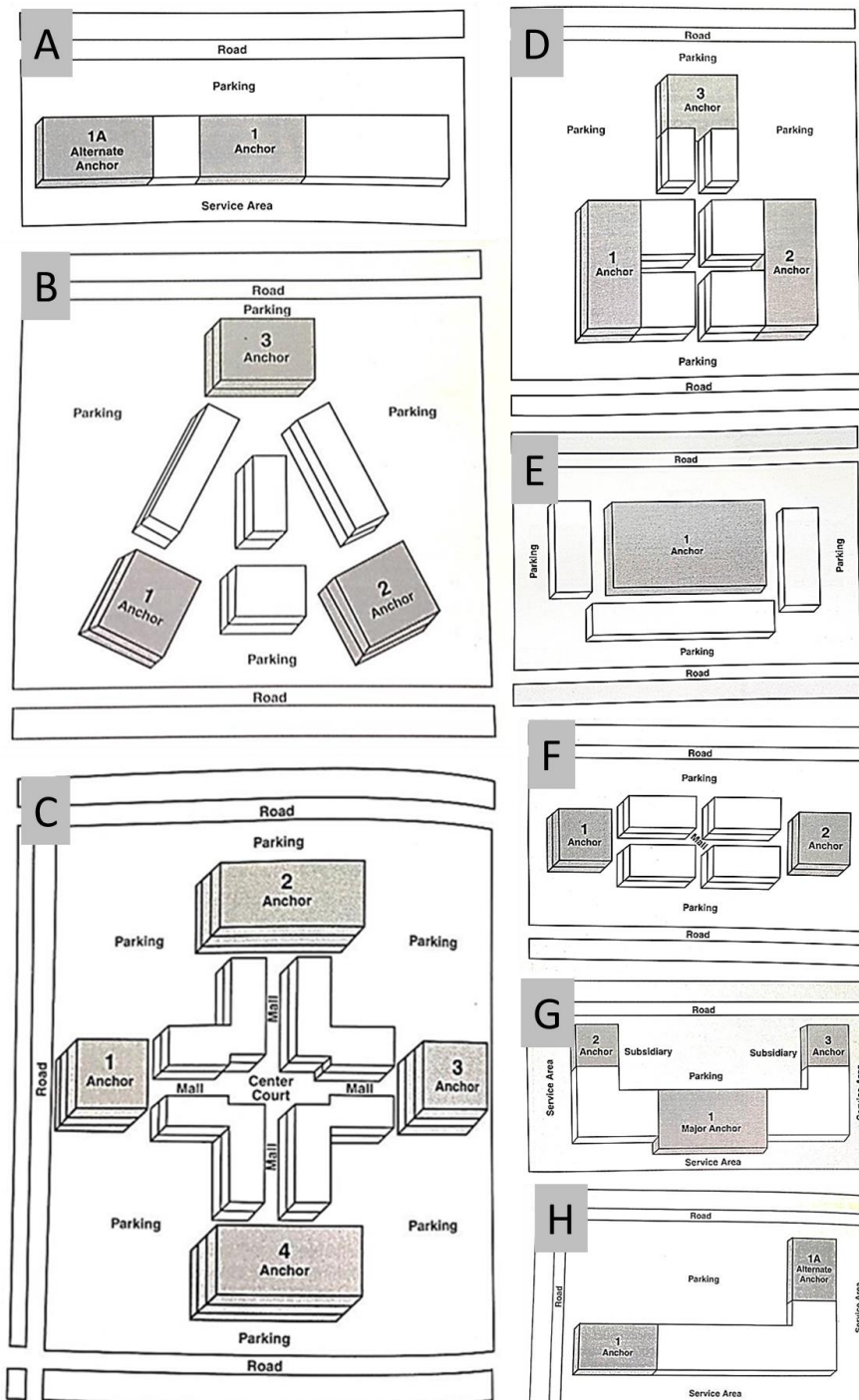
Figure 3: The shape and facilities of various types of shopping centers - (building type basics for retail and mixed-use facilities, written by Kliment et al. (2004, p.142) - (A: Strip Shaped, B: Triangle Shaped, C: Double-Dumbbell Shape, D: T-Shaped, E: Cluster Shaped, F: Dumbbell Shaped, G: U-Shaped, H: L-Shaped)

Table 4: brief introduction of a shopping center or mall

Shopping center or mall	Definition →	• Complex of many retail stores.
		• A group of retail and other commercial and leisure activities in a same place.
	Purpose →	• To give maximum shopping convenience to the customer
		• Maximum exposure to the merchandise
	Location →	• Outskirt of the cities (during 1950s)
		• In the town center or downtown
	Design →	• Earliest shopping centers were built by concrete structure
		• Nowadays they are built with various materials such as glass and steel
		• Beside their architectural elegance, they are also considered from their interior design and urban design
		• Shopping centers are usually designed in one, two or three floors. With parking and service area.
		• A mall includes elevator and atrium
		• Design of a mall may be based on strip shapes, l-shaped, u-shaped, cluster shaped, t-shaped, three angle shaped, dumbbell shaped, double-dumbbell shaped, and vertical shaped
		• The location of a mall in the site, the number of anchors, and the number of the floors it has make shopping centers different from each other.

2.1.4 Interior Design Issues in Commercial Spaces

According to limited number of sources that are directly related to retail's interior design, the following parts under this section will be discussed through three researchers work: Mesher's work called '*Basic Interior Design-Retail Design*'; through Gagg's work, called '*Basic Interior Design-Material and Texture*', and Dodsworth's work called '*The Fundamental of Interior Design*'. These three studies,

specifically Mesher's approach, directly related to the interior design point of retail spaces and their detailing.

Besides the importance of architectural elegance of a shopping center for urban environments, considering its indoor environment is also mentioned as a significant issue for designers and customers (Gagg, 2012). According to its interior, a shopping center or mall consist of many stores and other service spaces in it. After entrance, which is described as the first thing that people face with while entering, a whole view of indoor environment affects people's perception principally. Mesher (2010) states that walls, floors and ceiling are the main components of indoor spaces, despite these, everything is additional or might be just for decoration. He also believes that taking these additional parts into consideration and design them is very important.

On the other hand, he also talks about the importance of lighting and color in retail spaces. As he states, "retail spaces are known for using high levels of Lux" (Mesher, 2010, p.104). In addition to this, he believes that retail spaces spend a huge amount of money to the electricity, for the interior ventilation, for the music, for lighting, services, and for many other things 12 or sometimes 24 hours a day. They use natural lighting as much as they can by different types of atria and openings; however still they pay lots of money to get help of artificial lighting to make the space comfortable for visitors (Mesher, 2010).

Furthermore, he mentioned color as much important as light. As he says, is it true that light helps to perceive color. However, pattern and color are other important factors in terms of retail interior design. Color may attract customer to the shop window, it also may affect customer's perception to be more comfortable in a place

more than in the other place in the same retail space. On the other hand, he continues talking about the role of material into retail interior design, but he believes that it is the point, which can be considered after light and color. Because, all materials has their special color, that could be understandable under proper lighting (Mesher, 2010).

In terms of design point of view, Mesher (2010) discuses about materials after light and color, as he mentions, materials are very important object in design; "Interior designers work predominantly with materials, gauging how they look, feel and enhance the interior environment" (Mesher, 2010, p.95).

As Mesher (2010, p. 95) states, "Hundreds of materials are available for use in the retail environment", but he believes that there are different aspects of using them. For example, some materials are suitable just to be used for 'constructional stage of the interiors' because of their structural qualities. On the other hand, "Some materials lend themselves to create the interior look through the fixtures and finishes" (Mesher, 2010, p. 95). Thus considering them, besides understanding how to use them and their details is as significant as design issues. Then, he introduces some materials that are mostly used in indoor retail environment such as Timber, Steel, Glass, Laminate, Vinyl and Rubber, Textile, Concrete / Terrazzo / Quartz, Stone / Slate and Marble, Ceramic, Paints and Wallpapers.

In the following, various usages of the mentioned materials within the interior space are introduced briefly based on the mentioned three researchers' approaches:

- *Timber:* Timber is mentioned as a convenient material for both structure and design. Dodsworth, (2009, p.70) categorize it in to two groups, hardwood and soft wood. Softwood mostly use for structure or building construction which is usually hidden from eyes, but sometimes it may be used in interior look too; hardwood is the main wood usually which was used in design, flooring or furniture. In retail indoor environment, hardwood could be used as MDF and chipboard (Dodsworth, 2009, p.70) [Figure 4].

Figure 4: Laminate flooring in commercial interior (URL 3)

- *Steel:* steel is used in terms of retail space; 'Stainless steel, aluminum and powder-coated mild steel' are mentioned as the main steel materials (Mesher, 2010, p.96). There are many ways to use steel in retails such as structure, shop front or as window frame. It can work with fixture or furniture design or 'as a part of the signage construction' (Mesher, 2010, p.96) [Figure 5].

Figure 5: The use of steel in commercial interior design (URL4)

- *Glass:* Glass may be introduced as a spatial material which designers use it to fill the gaps in buildings; in history point of view, the purpose of using glass goes back to the integration of light into space. But in terms of retail spaces, it exists for displaying shop's vitrines and sometimes play important role to design interiors too. For example, the glass could be used as dividing walls, counter, or as holder elements (Gagg, 2012, p. 71) [Figure 6].

Figure 6: Glass designed as partition wall in commercial interiors (URL 5)

- *Laminate:* "Laminates are constructed by layering and fusing Kraft or printed papers and resins, with a decorative layer on top, coated in melamine" (Mesher, 2010, p.97). By considering interior retail design, Mesher mentions its function as 'surfaces for counter, wall, door, and floor finishes mimicking timber'. Sometimes, designers use them for decoration such as creating a new wall, because of its quality, which is easy to clean and durable. Designers use it often in public spaces just like retails (Mesher, 2010, p.97) [Figure7].

Figure 7: Laminate flooring in commercial interior (URL 6)

- *Vinyl and rubber*: Both of vinyl and rubber can come as sheet or tile, in various color and are used as finishing materials on surfaces. They both can be water resistant after be sealed. Both of them are similar in many points of view, where the only difference is their price; rubber is more expensive than vinyl (Mesher, 2010, p.97 and Gagg, 2012, p.90) [Figure 8].

Figure 8: Vinyl flooring in interior design (URL 7)

- *Textile*: Textiles have been used in different forms for thousands of years. It usually is used as furniture and window treatments in indoor environment. Dodsworth (2009, p.110), believes that "they can do great thing for our senses; they catch and turn light, and they create dramatic shifts of light and shade, introduce rich texture as they hang in folds". He called textile as another name of Fabrics and classifies it in to three main groups as natural fabrics, man-made-fabrics, and synthetic fabrics [Figure 9].

Figure 9: Use of textile in interior design (URL 8)

- *Concrete, terrazzo, quartz*: As a building material concrete normally is a constructional material (Dodsworth, 2009). However, by Mesher (2010) mentions it as hard-wearing materials which are mostly used as floor finishing that can be polished, can get color when it is mixed with pigment and can also create texture when it is modeled. "Concrete, once refined into terrazzo, can be mixed with aggregates such as marble or granite to create a conglomerate, which means that different stones are mixed together. Some conglomerates have quartz added for sparkle. Concrete can be ground down and recycled but this process creates harmful emissions" Mesher (2010, p.99) [Figure 10].

Figure 10: Terrazzo flooring design (URL 9)

- *Stone, slate and marble*: Stone can be used in both at construction and decoration stages in many types, as it is a natural material. In addition, in different applications each piece of it has its spatial pattern. In commercial and retail spaces it could be used as finishing material on the walls or floors or could be used for counter (Dodsworth, 2009, p.73) [Figure 11] .

Figure 11: Stone, slate and marble in interior design (URL 10)

- *Ceramic*: it is called as a hardwearing material, which is waterproof and usually is displayed as square tiles for finishing. Sometimes designers use it due to its similar look to stone, however ceramic is usually used as finishing part of floor, walls and sometimes as mosaic pattern (Mesher, 2010, p.100) [Figure 12].

Figure 12: Ceramic and interior design (URL 11)

- *Paints and Wallpapers*: walls and ceiling could be clad with these materials; wallpapers are more fashionable than paining but both could be used for retail spaces design (Mesher, 2010, p.100) [Figure 13].

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Figure 13: Painting and wallpapering in commercial interior design (URL 12)

Table 5: Brief explanation of interior design issue in commercial interior spaces

Interior design issue in commercial spaces	
main components of indoor spaces	• Walls • Floors • Ceiling + • Additional elements
important issues to design in commercial interiors	• Light: → The perception of each element and object depends on the light. → In retail spaces, lots of money is spent to the light interior → Proper lighting affects customer comfort and his perception in the space

• Color: → Affects customer attraction, perception and comfort ability

• **material**

Timber
Steel
Glass
Laminate
Vinyl and rubber
Textile
Concrete, terrazzo, quartz
Stone, slate and marble
Ceramic
Paints and Wallpapers

main common points of various uses of materials in retail interiors

• Strength of Materials
• Aesthetic view
• Variety in their type, shape, and color
• Ease at work

Materials are one of the significant things in interiors design of commercial spaces. Besides, they can be used in different ways. Materials may be varying in their color, and the ways designers use them will create different forms and various texture in interior space.

2.2 Texture

Texture is the main concept of this study. Accordingly, the following information is structured first with the definition of texture. It introduces texture in architecture and with a design point of view besides existence of texture, texture according to surface quality, and texture based on perception is also discussed under this section. Moreover, different methods and techniques to create texture, role of materials to create texture, texture creation according to combination of various materials such as raw materials and recycled materials, creating texture via individual objects, and the way smart material creates it are the other significant issues that are discussed under this section.

2.2.1 Definition of Texture

Texture as a word has various meanings in different disciplines. For example, the taste of different foods in the mouth such as creamy, crunchy or meaty defined as texture (Longman dictionary of Contemporary English, 2009). On the other hand, texture is defined by Longman dictionary of Contemporary English as "the way surface or materials feels when you touch it, spatially how smooth or rough it is" (2009, p. 1823). Furthermore, Concise Oxford English Dictionary defines texture as tactile surface quality and believes that texture is "the character of a textile fabric as determined by its threads", besides, it is also defined as "Art representation of the tactile quality of surface" (2006, p. 1491).

The Metapolise Dictionary of Advance Architecture (2003, p.622) introduces texture as the quality of 'last layer of integral material'. However, the important thing is that all these dictionaries define the word texture as the waves or noises on the surfaces,

summarily they all mention a common description as the feeling when touching or seeing surfaces is their texture.

Table 6: Texture introductory through its definition

Texture introduction —— definition	→	Texture as a word
		• has various meaning in different disciplines: - for example: taste of different foods in the mouth
	→	Texture in architecture and design
		• the quality of 'last layer of integral material
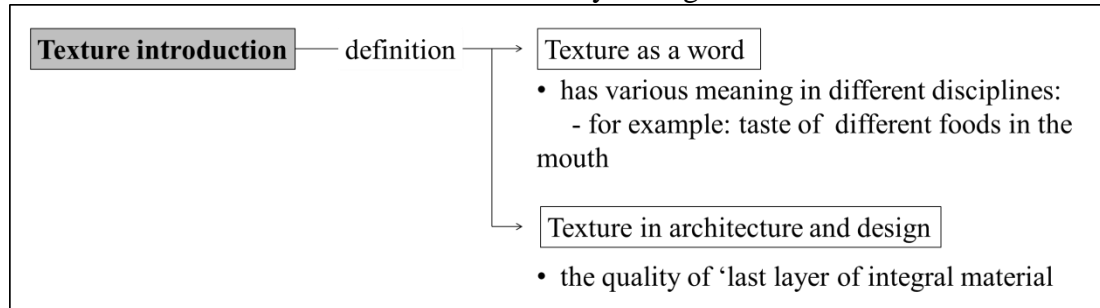
Bair, (2009) maintains the texture as an effective factor in the perception of a form and shape. Texture also determines the degree to which, the surface of the form reflects or absorb incident light (Ching, 1996). The world is full of natural texture; it exists on the surfaces of all visible objects (Dischler, & Ghazanfarpour, 2001). Oh, & Choe (2007) believe that distant surface which belong to various objects could be the physical definition of texture. In addition, Natalie (2012) states that "texture suggests the quality of any surface, may it be soft, hard, smooth, coarse, solid or reflective" . It displays the sense of the surface by touching the objects; people can understand whether its surface is rough or it just look as it is.

"Texture can be found in all manner of guises; it can be the roughness of a piece of chenille fabric or the natural undulations of unfinished timber. Or it could be the luster or brushed steel or the combination of reflectivity and transparency chaptered by a sheet of glass, texture by itself is not enough, though it is the variety of texture that is so important in stimulating interest in a scheme" (Dodsworth,2009, p.116). Texture can do a lot, it is everywhere and on everything; each object has its texture no matter smooth or rough. It can be "soft or solid, smooth or coarse, loose or dense,

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light or heavy. Texture is an intrinsic property of each and every thing" (Oei &
Dekegel, 2002, p. 25).

A. *Existence of texture:* texture could be existed naturally and artificially. The nature is
full of texture. It could be said that there is a very strong relationship between nature
and the texture; it exists all around the world such as on trees, leafs, grasses, ground,
sky, seashells, sea animates, animals, birds and all natural things around the world
have their special texture [Figure 14].

Figure 14: Examples of natural texrure

On the other hand, there is also artificial texture that is made by man-hand with using
various tools to shape materials in different ways. For example: the concrete may
create texture on surfaces, glasses sometimes made by textured quality, the way

using stone and brick in different ways may also create texture artificially. In terms of artificial texture, the way individuals use different materials is very important (Gagg, 2012). Fabric, plastic, iron, wood, paper, and many other materials can create texture in different ways. Figure 15 shows some artificial texture made by people via tools or by hand.

Figure 15: Examples of artificial texrure

B. *According to its surface qualities:* Surface characteristics of any shape or forms are called texture. All shapes have surface and all surfaces have their own certain character; it may be 'smooth or rough, plane or decorated, matt or glossy, soft or hard' (Wong, 1972, p.79). Then Colli (n.d) describes texture of the surfaces under two major groups as the smoothness and the roughness. According to the Longman dictionary, rough is said to something with uneven surface [Figure 16]; and in opposite, a surface with even quality is called smooth [Figure 17].

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Figure 16: Examples of smooth surfaces
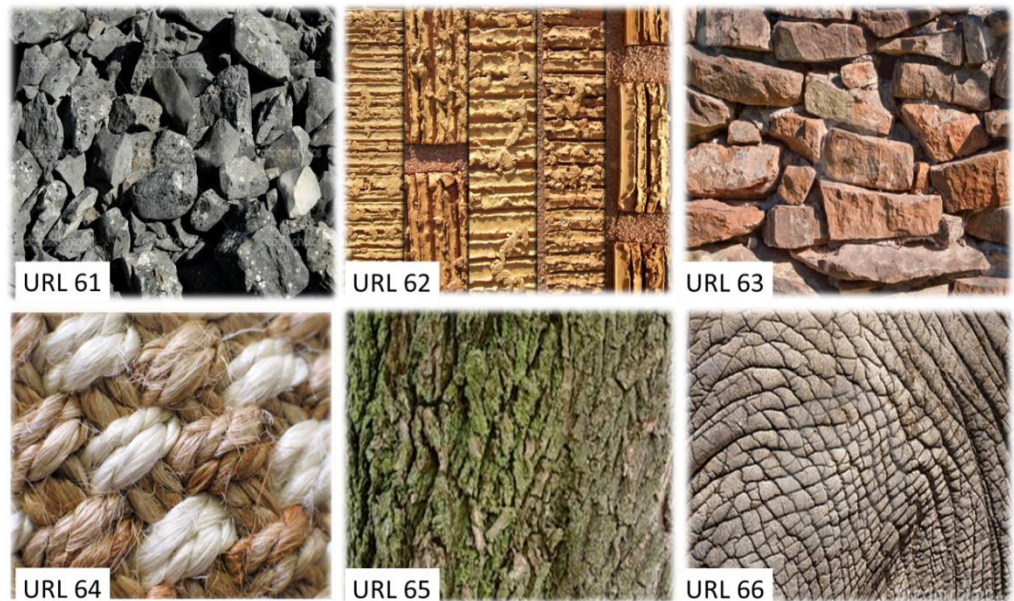
Figure 17: Examples of rough surfaces

C. *According to its perception:* Zhoa (2006) explains texture as the important side of surface quality; he/she divided texture into two categories, as Visual and Tactile. "Tactile texture refers to the immediate tangible feel of a surface. Visual texture refers to the visual impression that textures produce to human observer, which are

relative to local spatial variation of simple stimuli like colour, orientation and intensity in an image" (p.6). Similarly, Nebraske, (1997) believes that there are two types of texture, the first one perceived directly through touch and the second one indirectly through vision. As he says, "we can feel tactile textures but visual textures just are impressions of texture. Tactile texture is felt, while visual texture is seen imparting impressions of texture and visual texture is often referred to as pattern".

In addition, Brooker & Stone (2010) also states that people have different experiences of lots of patterns or surface qualities during their life. They know many of them in their brain so if they see it as a picture in somewhere they feel it. "Textures are important visual cues about surface property, scenic depth, surface orientation, and etc. Amazingly, human vision system utilizes the information effectively in interpreting the scene and performs very efficient texture discrimination and segmentation. Researches show that texture perception in human vision is one of the early steps towards identifying objects and understanding scene" (Zhou, 2006, 6).

-*Visual texture*: Wong (1972) also categorizes texture under two similar groups as visual and tactile. According to him, visual texture strictly refers to two-dimensional surface qualities, and it can be seen just by eyes. Wong (1972) mentions that there are three kinds of visual texture which include decorative texture, spontaneous texture and mechanical texture. Decorative texture used for surface decoration and subordinates the shape. This type of texture acts as an addition and can be removed without affecting the original shape too much. On the other hand, he introduces spontaneous texture as a kind of surface quality that texture and shape depend on

each other. It cannot be separated like decorative texture, "because the marks of texture on a surface are the shapes at the same time" (p.79). Wong explains the mechanical texture through an example, as he mentions, "A typical example of this kind of texture is the photographic grain or screen pattern we often find in printing. Mechanical texture can also be found in designs created by typography and in computer graphics" (1972, p.79) [Figure 18].
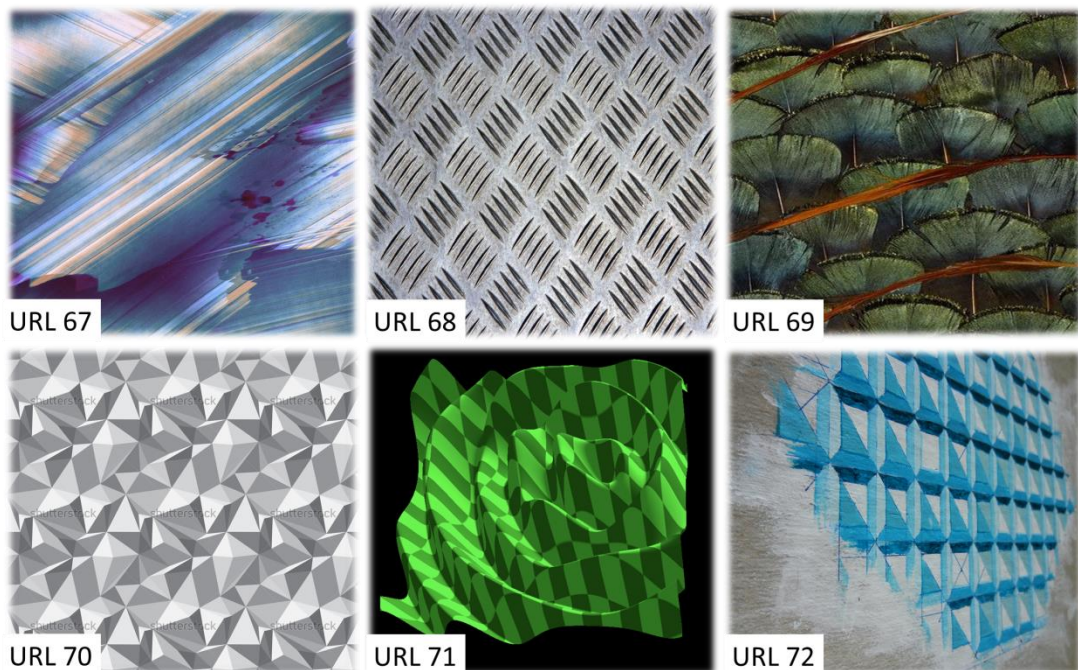
Figure 18: Examples of visual texture

There are many ways to create visual texture such as: (1)drawing or painting, (2) printing, transferring or rubbing, (3) spraying, spilling and pouring, (4) staining and dyeing, (5) smoking and burning, (6) scratching, scraping, (7) photographic processes (Wong, 1972, p.79-81).

- Tactile texture: It is defined as a texture that can be felt both by eye and hand. According to Wong (1972, p.81), "tactile texture rises above the surface of a two-dimensional design and approaches a three- dimensional relief". Whenever surface is

touched, tactile texture is existed there, Figure 19 shows some examples of tactile or tangible texture.

Figure 19: Examples of tactile texture

Colli (n.d) states that touchable and sight able surfaces are nearly close to each other. For example, when people see a piece of polished metal, they know that it is smooth, by just seeing it they remind their experiences they already had by the shape or quality of smooth things. In addition, surfaces might have visual weight by their texture. Smooth and reflective surfaces looks lighter and closer, on the other hand, rough and matt textured surfaces tent to appear heavier. According to Colli (n.d) "polished marble cladding will appear lighter than timber paneling, despite the reveres being true." Zhoa (2006) divides textured surfaces quality on regular and irregular categories that is used as methods of pattern designing.

Table 7: Texture Classifications

Texture introduction → Texture is everywhere on every objects. Whatever is touchable, it has its own surface quality. All the things have their own texture but they are just different from the character of it and put them under different categorization. So, in concept, all objects have texture under various categorization.

Texture Classification

Based on the existence of texture

Natural texture: it is called to the surface quality of every natural objects in natural world such as tree, stones, animal skin, fruits, and whatever exist naturally.

Artificial texture: it is called to the surface quality of any artificial objects which is created by man-hand with using various tools and materials. Carpet, glass, brick and textile are some example of these things.

According to its surfaces qualities

Roughness: uneven surface quality of an object with no matter if it is natural or artificial.

Smoothness: even surface quality of any natural and artificial texture.

According to its perception

Visual texture: if a quality of a surface is not tangible, and just can be understood by eyes, its texture is called visual texture

Tactile texture: if a surface quality of an object be touchable it is a tactile texture.

2.2.2 Role of Materials to Create Texture

Most of materials can create texture. According to Katnik & Weinstock (2012), in terms of texture the way materials are organized is the most important point; he continues that designer should consider the methods of how to form materials or how to put them together to create a proper textured design. As Gagg (2012) gives example, the wood is from nature and is famous in interior design and furniture. A rich variety of color and texture is offered by wood, there are infinite ways to shape

wood, "its characteristic, including an ability to be worked in many ways, have given us a rich flexibility in building" (Soucek, 1995). Stones are another example of natural material, which usually is being used in architecture; Dodsworth (2009) mentions the stones as a material that comes with various surface qualities and textures.

Everything that can be hold or seen, take shape according to materials and world is rich of material, they are always around us. As Beylerian & Dent (2005) suggests, by looking around, a world full of materials will be observed, glasses, woods, polymers, fabrics, ceramics and thousands of other different object with their own spatial materials. "There are a great number of materials and products currently being developed that are close to market in production or already available" (Ritter, 2007, p.26).

According to (Gagg, 2012) most of the materials have their own texture, or they can create texture during design process. For instance, stones, brick, and wood have their special texture on their surfaces after their production. On the other hand, sometimes the way designers use them could make texture in their surfaces. The concrete itself is a liquid material, designer may use it on the surface in a smooth quality or may use it such an orange peel wall design. However designer can make a lot of simple concrete volumes in shame or different size and put them side by side with various directions to create a textural plane with it. Designers also can use the previously mentioned methods to all other materials in order to create texture. For instance, by cutting wood in different size and butting those together with different direction could be a very simple method of creating texture with wood.

Figure 20 shows how different combination and molding of materials may create textured surfaces. Yet, it is not the only way, there are many other ways to use and create texture in a designed space.

URL 79   URL 80   URL 81   URL 82

URL 83   URL 84   URL 85   URL 86

Figure 20: Maretials articulation create textured surfaces

Table 8: The relationship between material and texture creativity

Role of materials to create texture

Materials are the most important object to create texture

→ Sometimes they have their own surface quality and their own texture such as wood and stone

→ Sometimes the design of a material create texture

Materials + Special organization = texture creativity

how to put them together and how to shape them is important in texture creation

2.2.3 Different Methods or Techniques to Create Texture

"To be creative is part of the human psyche" (Dodsworth, 2009, p 8). As Ritter (2007) mentions, it is over 25 years that life in buildings is changed. Nowadays, designers are in a challenge to search about new methods to design, such as innovation, or originality. They are looking for new and innovative materials, "because materials have the unique ability to help us connect at an elemental level through touch and sight with the intent and soul of a project" (Dodsworth, 2009, p.107). As Dodsworth (2009) mentions, new ideas bring new methods in design.

As it is already mentioned, texture has been introduced as one of the important design characteristic, so designer should think about its design and also the ways in how to create it. There are many ways to create or design texture; it can be created by using and ordering single materials, forms, and shapes. Using recycled materials or using objects in a special way may also create texture (Coles & House. 2007).

Coles & House (2007), categorize texture in interiors into two parts: 2-dimensional and 3-dimensional textures. Figure 21 demonstrates some examples of two-dimensional texture of surface design. Moreover, Figure 22 is displaying some three dimensional texture in interior design examples. According to the Longman Dictionary, usually, two dimensions are called to the things that just have length and width like shapes. In addition, three dimensions are called to the objects with length, width, and height. However, in terms of interior design and textural design, both two and three dimensional texture has length, width, and height but different in terms of height since they both should have height to be tangible, if they do not, they will be just visual texture not two dimensional (Coles & House, 2007). In other words, in architecture, it could be said that if texture is fixed on the surfaces, it can be called

two-dimensional and if it is free in the space, it can be called three-dimensional texture.
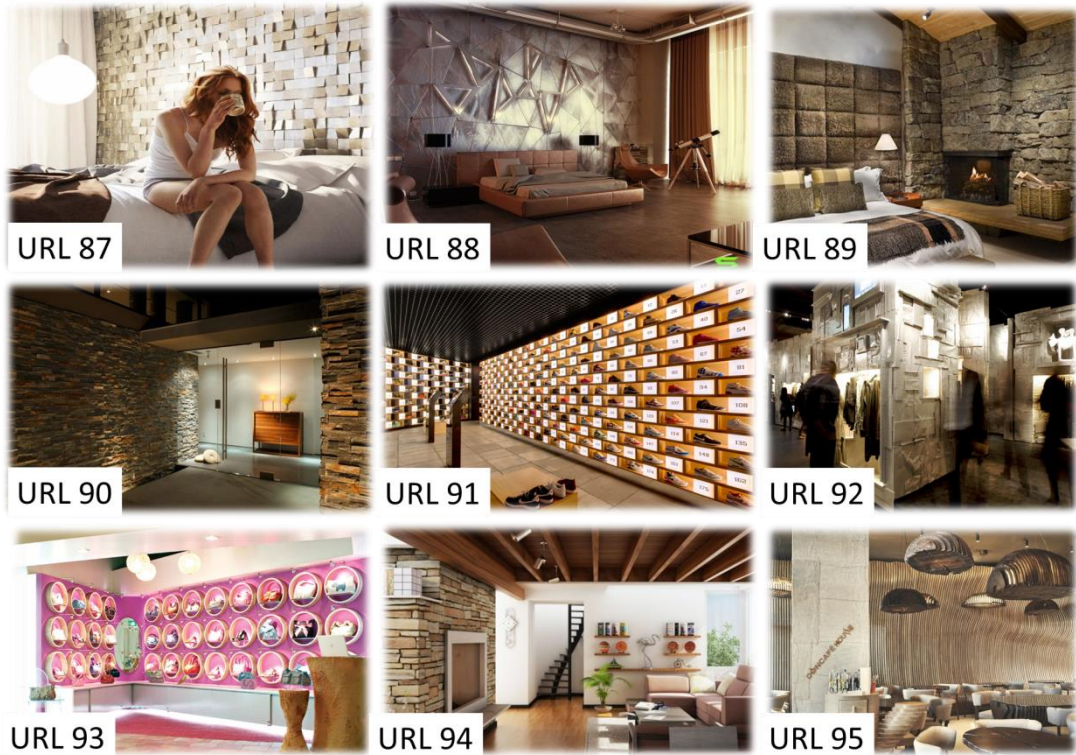
Figure 21: Two dimensional texture design in the space
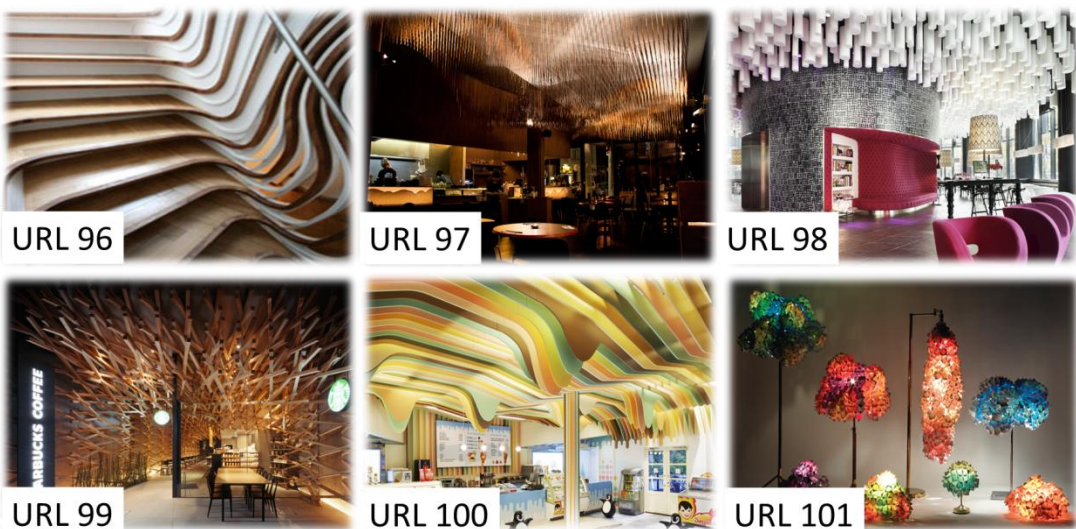
Figure 22: Three dimensional texture design in the space

As Wong (1972, p.79) states, "appropriate texture adds richness to a design". Thus, creating it needs some knowledge about design elements and roles. He distinguishes design elements under four groups: Conceptual elements, visual elements, relational elements and practical elements. As he believes, all elements are related to each other, and it is important for designers to know all of them and their relationships, since their organization affects people's future discussion (1972, p.7).

A. *Conceptual elements*: these element are not actually exist, for example people know that a form comes from combining some planes, planes exist by lines and a line starts and finishes by point, but it looks just as a volume of form (Wong , 1972, p.7) [Figure 23].

URL 102   URL 103
Figure 23: Conceptual elements in interior design

B. *Visual elements*: Visual and conceptual elements work together. They actually create visual elements that people can see. Repetition of shape, color and texture are categorized under this part. The elements under this group are two-dimensional shapes even they are geometrical or non-geometrical shapes, colored or black and white, with a smooth surface quality because they are visual and should be understood by eyes.

According to artistic design, visual elements are just included visually. However, in terms of architecture and interior design tangible objects can fall under this classification too (Wong, 1972, p.7) [Figure 24].

URL 104   URL 105
Figure 24: Visual elements in interior design

C. *Relational elements*: Relational elements mostly deal with the 'interrelationship of the shapes in design' and include direction, position, space, and gravity. When Wong mentions direction, he means that, how a shape is related to the other shapes nearby or to the observer. The position of a shape means its relationship to the frame or structure. It may be vertical, horizontal and diagonal. (Wong, 1972, p.7-8) [Figure 25].

URL 106   URL 107
Figure 25: Relational elements in interior design by Zaha Hadid's work at Palazzo della Ragion

D. *Practical elements*: Representation, meaning and function are under this part. Representation means how a shape is presented by nature or man-made. Moreover, when a design has a message, it is its meaning. In addition "function is present when a design is to serve a purpose" (Wong, 1972, p.8).

Despite the fact the point, line, plane, and volume are the components of conceptual elements, they can also be recognized as form individually. It is true that points create line, lines make plane and planes create form, but each of them may create form individually then they can create new forms; as mentioned before, combining forms or using them beside each other are the ways to create new textures (Wong, 1972, p.9-10) [Figure 26].

Figure 26: Practical elements, combining forms and using them side by side

Repetition is a way to create texture, visualy or tangibly, naturally or artificially, smooth or rough. This repetition could occur regularly or irregularly to create rhythm. It could also be created according to the repetition of linear or planar elements. Repeting point and volume also can create texture. However the importat thing is the way repeating elements creates texture. No matter if repetition is happening according to direction, position, size, shape and color of element, the concept of repetition is the most important activity in the case of texture creativity.

2.2.3.1 Creating Texture Through Articulation of Various Materials

As it was mentioned before, despite materials almost have their own texture on their surface, even smooth like glass or steel and rough like wood, combining materials and using them side by side or combining them together could also create texture in the space and on the surfaces. Nowadays, designers found out various methods to design interior with the integration of texture. Some of these new or recent textural design is discussed under this section through exemplification of existing cases. Examples are selected based on different usage of various materials which create texture. According to the variety of materials, the following examples are choosen randomly among diversity of materials from natural and artificial materials. Timber, paper tubes, and bamboo skewer are the materials that are exemplified under this part.

For instance, 'Tides Restaurant' designed by Lewis.Tsurumaki.Lewis group in New York is a proper example of bamboo skewer ceiling design which is an interesting example of texture creativity. As Lewis (2008, p.130) explains, the purpose of this ceiling design was 'to create a topographical effect', he mentions the sea grass as its concept design and adds, "This effect was achieved by aggregating bamboo skewers in carefully calculated pattern to form a dance intricate ceiling seascape".

In this restaurant, bamboos are mentioned as many individual linear materials that are combined together and repeated side by side rhythmically. The shapes of bamboos are same as each other but they are organizing to be varied in height to create special texture on the ceiling [Figure 27].

Figure 27: Tides Restaurant -Lewis.Tsurumaki.Lewis-New York (Lewis, 2008)
(URL110)

On the other example, texture is created by the use of paper chandeliers where Cristina Parreño Architecture and MIT in Spain call it Paper Chandeliers installation designed. "Paper Chandeliers is a big undulating roof made out of paper tubes that articulates the spatial environment mediating between the art installation and the architectural project" Cristina Parreño Architecture (2013). This team made cylinders as individual shape by normal paper that has smooth surface quality, and then by combining hundreds of these tubes they could create a textured ceiling design. The form of this texture is created according to the tubes alternating repetition that creates rhythm; the tubes are same with their color and shape but they are varying in their size and height [Figure 28].

Figure 28: Paper Chandeliers installation by Cristina Parreño Architecture and MIT - Madrid, Spain (URL111)

Starbucks Restaurant in Amsterdam also exhibits textural ceiling example. In this restaurant, designers used 1,876 pieces of individually sawn timber blocks then they put timbers next to each other by repeating them through proportion and repetition to create a textured ceiling; besides they create texture all around the restaurant, on the other surfaces as well [Figure 29].

Figure 29: Starbucks Restaurant in Amsterdam (URL112)

The following example of creating texture arose in a wine shop. In this shop texture is created according to the fully repetition of the simple timbers with the same shape and size. Their orientation is also in the same position and same direction. Besides the way these timbers are organized to create textural pattern, they also play shelf role to hold wines bottles. This is a creative point of view, but on the other hand, in this shop the slates also created texture too. As it is displayed, slates which have their own texture also are used to design this shop [Figure 30].

Figure 30: Creating texture in a wine shop, desined by Dencity LLC in Atlanta (URL113)

In terms of using material to create texture, it may be created just by using the materials that have their own texture such as slates, which was mentioned in last example. On the other hand, designer may create a different value from an element and then by organizing those values texture is created. Forming materials or using many of simple materials is another method to create texture. The important thing under all of these mentioned techniques is repetition. Without repetition, texture may not be existed.

2.2.3.2 Creating Texture by Using Recycled and Raw Materials

According to Ritter (2007, p.26), recycled material is called to the "materials are manufactured mainly from crushed and cleaned waste. Unless the raw material is sorted in advance to separate out the valuable fractions, the resulting products are usually of lower quality than the originally used materials".

Beside protecting environment and saving energy, using recycled material also helps designer to think about the new design techniques. It is not a new concept; people have been recycling them for thousand years. However, recycling is another way, which can create texture. The examples under this section introduce interior designs that use recycled material to create texture. The materials that are used in such examples are recycled timbers, brown paper bags, glass empty bottles, paper tubes, cardboard boxes, and packing boxes.

The first example is Slowpoke Espresso Café- Designed by Anne-Sophie Poirier in Australia. Walls in this café are designed by using recycled timbers. In this café, designer was used rectangular recycled timbers in different size and height. The mentioned timbers are attached on the wall with a haphazard order to create texture. Besides its aesthetic perspective, some part of the walls can be used as shelves to hold cups or sugar dish that is functional [Figure 31].

Figure 31: Slowpoke Espresso Café- Designed by Anne-Sophie Poirier-Australia
(URL114)

New Hotel designed by the Campana Brothers in Athens is another example of using recycled material to create textural surface. 'New Hotel is renovated from the former Olympic Palace Hotel'; walls, columns, and some furniture are used in this hotel is created by the articulation of junk woods. These materials were attached on the wall with a haphazard order to create texture in variety of size and shape and are organized based on different position and direction [Figure 32].

Figure 32: New Hotel – Designed by the Campana Brothers – Athens, Greece (URL 115)

There are many other ways to reuse material in order to create texture. For example, OWEN Design Store in New York was used 25,000 brown paper bags to create texture on its wall and ceiling. The texture in this shop is created by rumpling the papers in the same size and shape with full repetition in a formally ordered way that creates flowing effect [Figure 33].

Figure 33: OWEN Design Store – Designed by Jeremy Barbour – Located in the Meatpacking District New York (URL116)

The other example to be given is a texture created via 7,560 recyclable amber glass bottles. This store is called *Aesops Glass Bottle Store* which is famous by its ceiling design. The bottles were used here is the product of *Aesops* brand. They are same in their size and shape however designer was organized them up and down that was created a rhythm. Full repetition of these elements side by side with a movement on location was created a wave ceiling design [Figure 34].
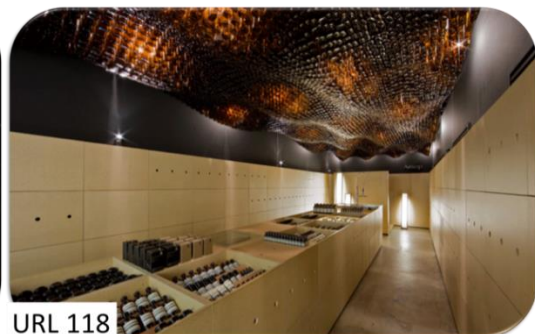
Figure 34: Aesops Glass Bottle Store, Designed by Rodney Eggleston-Adelaide, Australia

In E-BARRITO store in Reggio Emilia, in Northern Italy or Paper tube office in South Korea are the two examples for creating texture via using recycled material, where the main material used in these two designs are paper tubes. These tubes are ordered side by side with same thickness, but in different lengths used repeatedly to create texture [Figure 35-36].

Figure 35: e-BARRITO store in Reggio Emilia, in northern Italy – Designed by Francesca Signori (URL119)
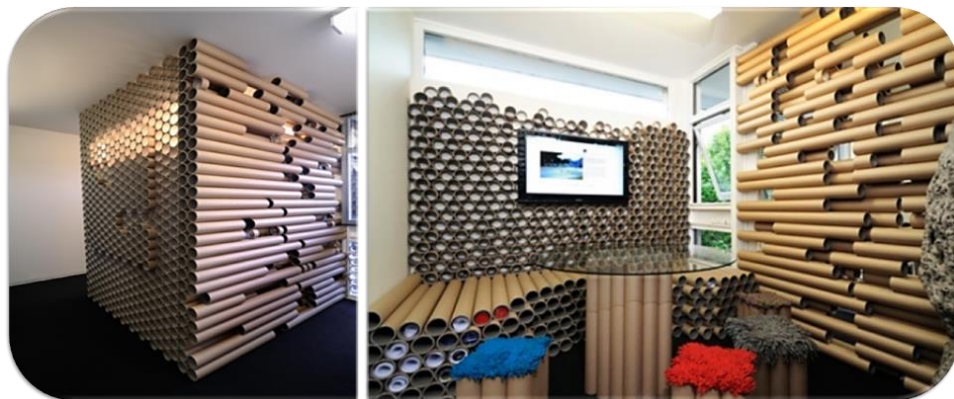
Figure 36: Paper tube office – Designed by Zouk- Architects – South Korea (URL120)

Furthermore, in Aesop at Merci Designer "installation uses the brand's own packaging in an undulating installation that rises up on one wall and spreads across the ceiling" (Dezeen magazine, 2011, "Located within Parisian" para 2). In this shop design, boxes are used by grouping them in a grid to crate texture. On the other hand, organizing boxes in the middle of the space and putting them over each other also made three-dimensional texture [Figure 37].

Figure 37: Aesop at Merci by March Studio – Designed by Rodney Eggleston – located in Melbourne Australian (URL121)

In a shop called 'Cardboard-Designed Shop' in UK, designer mentions that this is a shop which is designed with 100% recycled materials. Design of shop consist its spatial design by cardboard boxes, and also statues are created with the same material. In the entire view, its design looks like a mass of texture. "The cardboard dogs were designed after seeing the logo for the shop retaining the eco recycling story. The dogs were inspired by the collie in the Smithfield logo (Lea Stewart, 12/10/09) [Figure 38].

Figure 38: Cardboard-Designed Shop-Designed and constructed by Peter Masters of Burnt Toast Designs- Manchester, UK (URL 122)

According to design point of view, recycling used as a tool to create textural design into space which is not limited just to the above mentioned examples. There are many other recycled things or materials and objects in the world that may create textural design at different scales of design [Figure 39].

Figure 39: Some example of texture creativity by reused and recycled materials

Accordingly, the use of various materials, recycled materials and raw materials as it was mentioned formerly, repetition and rhythmic organization of the same or different size, shape, location and position of the elements are effective points to create texture in design. Texture may also be created via three or two-dimensional materials but the result is a three dimensional texture creation in the space.

2.2.3.3 Texture Creation via Repeating Individual Objects or Goods

Sometimes, organizing objects in a special order may also create texture in the space. For instance, Best Cellars, which is a shop, selling wine, is designed by creating holes on the wall and putting wine bottles into them. In this shop, the display of goods were organized to create texture and the main concept of it was to display each bottle as star (Vercelloni , 1999, p.12) [Figure 40].

Figure 40: Best Cellars shop in New York, Designed by Rockwell Group (URL127)

The other example, which is Aesop at I.T Hysan One and designed by architects Cheungvogl, displays an interesting texture creation by objects. In this shop, designer puts many glass boxes on top of steel rods, and by playing with their height and their position texture was created [Figure 41].
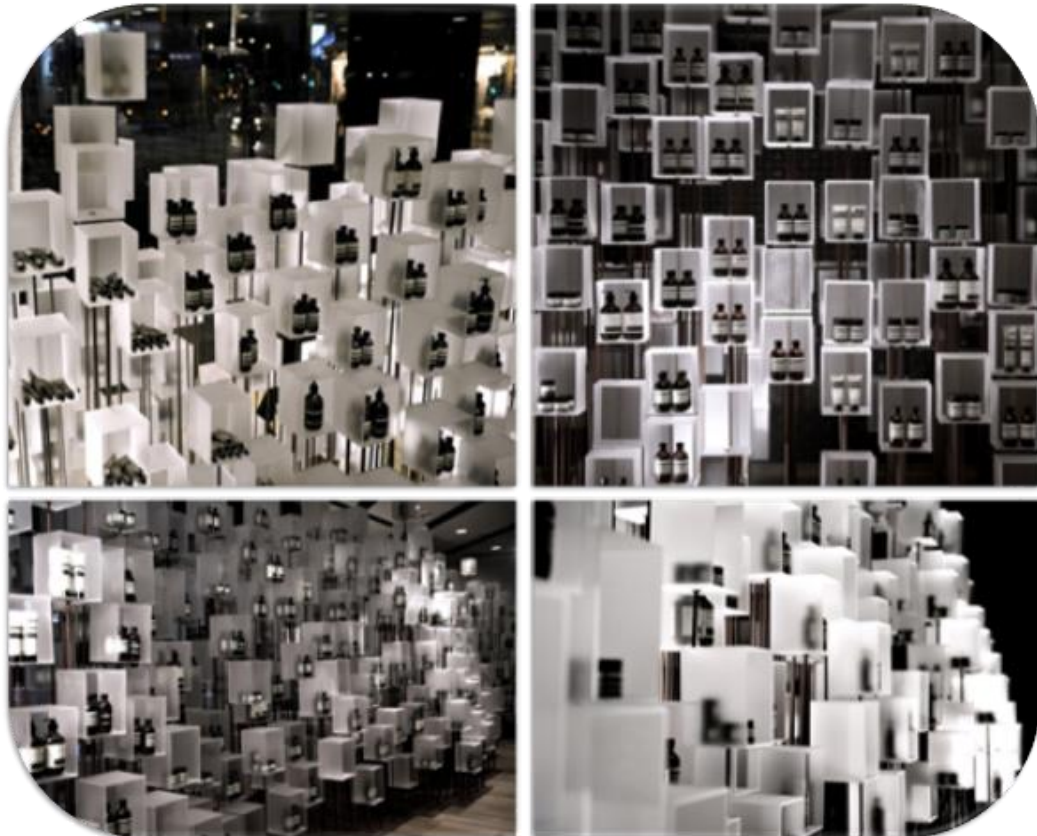
Figure 41: Aesop at I.T Hysan One Designed by Cheungvogl architects, Located in Hong Kong-China (URL128)

Following examples are two shoe shops. In the picture in right side, each shoe is located and pined to the wall side by side and each one over the other one. Thus, shoes posses the role of element and by their fully repetition in terms of loccation texture is created on the wall. However, the picture on the left side displays some shelves as an element which are holding the shoes; repetition of elements creates texture [Figure 42].

Figure 42: Show shops

Cagnolati optometry by HEIKAUS, Duisburg in Germany many colored cubes with different size and color, which are organized repeatedly with different position and location as designed elements creates texture [Figure 43].

Figure 43: Cagnolati optometry, designed by HEIKAUS, Duisburg in Germany
(URL131)

Designer of The Hip Shoe Shope made many elements just like a dice form with the same shape, size and color and organized them together with the same position; fully repetition of these forms create texture [Figure 44].

Figure 44: Hip Shoe Shope, designed by Teun Fleskens in Tilburg, Netherland

Texture in some cases is a surface quality, but in some other cases could be achieved by the organization of objects, furnitures or goods in a special order as it was examplified by the examples given above. There are limitless possiblities with the help of various objects or goods to create texture.

2.2.3.4 Innovative Texture Through Smart Materials

According to Ritter (2007, p.10), "smart material is a relatively new term for materials and products that have changeable properties and are able to reversibly change their shape or color in response to physical and /or chemical influence , e.g. light temperature or the application of an electric filed". Thus, they can be defined as an intelligent material through its environment and what is happened around it.

Smart materials are classified in three categorizations: non-smart materials, semi-smart materials, and smart materials (Ritter, 2007). According to Ritter's words: "architecture can be designed to change is changed in special ways" (2007). This changeability may be based on material's color/ appearance, their shape, their sound, and their scent.

For instance, Addington & Schodek (2005) introduce US-American dECOi architectural group and mention their work which is called 'the Aegis Hypo surface'.

In this work, the architect was designed a surface through 'a number of pneumatic actuators' tiles which are moveable. According to their movement, the design of whole surface are changed based on its noise, its shape and its light. Beside these, while they are moving on the surface, they also create texture which is shown in following figure [45].

Figure 45: 'The Aegis Hypo surface' designed by US-American dECOi architectural group- texture innovating through smart material (URL134)

Table 9: Various methods that can crate texture in interior design

Different methods or techniques to create texture

Now a day, designer looking for different methods to innovative new materials to design interior

→ Texture Dimensions & Texture Placement

Two-dimensional texture   Three-dimensional texture

have Length, width, and height

Fixed on the surface   Free in the space

→ Elements   &   Principles

Conceptual elements	Repetition of points
Relational elements	Repetition of line
Visual elements	Repetition of shape
Practical elements	Repetition of Volume

→ Methods to create texture

- Creating texture through combining various materials

  materials almost have their own texture in their surface, even smooth like glass or steel and rough like wood

  combining, and using them side by side or combining them together will also create texture

- Creating texture by using recycled and raw materials

  Hatching and combining them on the surfaces determinedly or not, in different or same direction, position, shape, and size
  It is a new tactics which makes designer free to thing

- Texture creating via individual objects
  Putting different objects side by side or over each other, in different or same size or shape, in various direction or position, to have a special function

- Innovative texture through smart materials
  Modern technique to have a movable surface quality

Table 10: General framework of texture within the commercial interiors

Commercial

Interior design issue in commercial spaces → main components of indoor spaces
- Walls
- Floors
- Ceiling
- & Additional elements

Important objects to design commercial interiors
- Light
- Color
- **Material**
  - **Timber**
  - **Steel**
  - **Glass**
  - **Laminate**
  - **Vinyl and rubber**
  - **Textile**
  - **Concrete, terrazzo, quartz**
  - **Stone, slate and marble**
  - **Ceramic**
  - **Paints and Wallpapers**

main common points of various uses of materials in retail interiors
- Strength of Materials
- Aesthetic view
- Variety in their type, shape, and color
- Ease at work

Texture

Texture Classification
- Existence of texture: Naturally, Artificially
- Surface quality: Smooth, Rough
- Texture perception: Visually, Tactile

Texture dimension : 2D & 3D
Texture placement: Fixed on the surface/Free in the space

Elements
- Conceptual elements
- Visual elements
- Relational elements
- Practical elements

Principles
- Repetition of point
- Repetition of lines
- Repetition of planes
- Repetition of volumes

Methods and techniques to create texture
- Creating texture through articulation various materials
- Creating texture by using recycled and raw materials
- Texture creating via individual objects
- Innovation texture through smart materials

Chapter 3

EVALUATION OF THE USE OF TEXTURE AS A TACTIC OF DESIGN IN 'ISTINYE PARK SHOPPING MALL'S INTERIOR SPACES- ISTANBUL/ TURKEY

The aim of this section is the evaluation of the ways, methods texture is used in retail spaces/stores according to its interior design, and *Istinye Park Shopping Mall* was determined as the case study area. Accordingly, all retail spaces were observed one by one in all floors in order to understand the way designer use texture as a part of interior design. Meanwhile, a questionnaire survey was also carried out in Istinye Park with the customers or users during a week in order to understand the people's awareness about use of texture as a tactic of interior design.

This section firstly gives brief information about İstinye Park Shopping Mall; secondly, the methods of evaluation put forward and thirdly followed by the evaluation results of physical and social analysis that leads the research to its conclusion.

3.1 Istinye Park Shopping Mall

Istinye Park is a shopping mall that is located in the city of Istanbul in Turkey. It was designed by *DDG- Development Design Group Inc.* and opened in September 2007 (Istinye Park, n.d). This is a place, combining entertainment area, sports, shopping spaces, gym, restaurants, and 12 cinemas. In the lower plane, there is also a bazaar designed in line with traditional Turkish style included 20 small specialty stores and supermarkets (Istinye Park, n.d). Figure 46 displays an overall view of Istinye Park.

Figure 46: Istinye Park Shopping Mall in \Istanbul- Turkey (URL 135-136)

3.1.1 Istinye Park's Spatial Organization and Research Sampling

Istinye Park is a mall in linear form, which was designed as four-floor building over parking area that was started from first Floor to -2nd Floor. This mall spatially organized in 290 designed areas under seven main groups such as department store, clothing (ready to wear), home and electronic, culture and art and entertainment, beauty/health and accessories, food and drink, hobby and gift, and service areas.

i. *1st Floor:* This floor includes 64 designed space containing 2 department stores, 2 home and electronic, 42 clothing shop, 7 beauty/ health and accessories, 1 specialty retail which sells car, and ten restaurants. As it was mentioned before, the focus of this evaluation will be on the textural design point of view in retail spaces whereas restaurants, recreation spaces and retails with smooth surface (non-texture) were excluded and accordingly 33 retail spaces were examined in the 1st floor out of 64 spaces. [Figure 47].
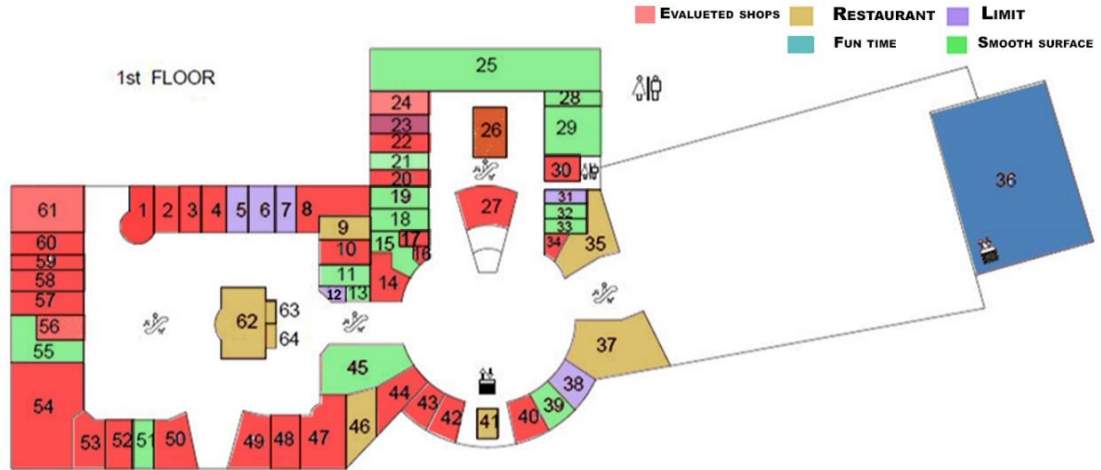
Figure 47: 1st floor-Plane of the Istinye Park (The plan is developed based upon the leaflets from the Istinye Park)

ii. *Ground floor:* The ground floor encompass 89 designed space which contains 3 department store, 2 home and electronic, 56 clothing, 21 beauty/ health and accessories and 4 restaurant. As it is demonstrated in the Figure 48, according to the consideration of texture in design, 39 retails out of total 89 space were evaluated according to the ways the designer create or used texture.
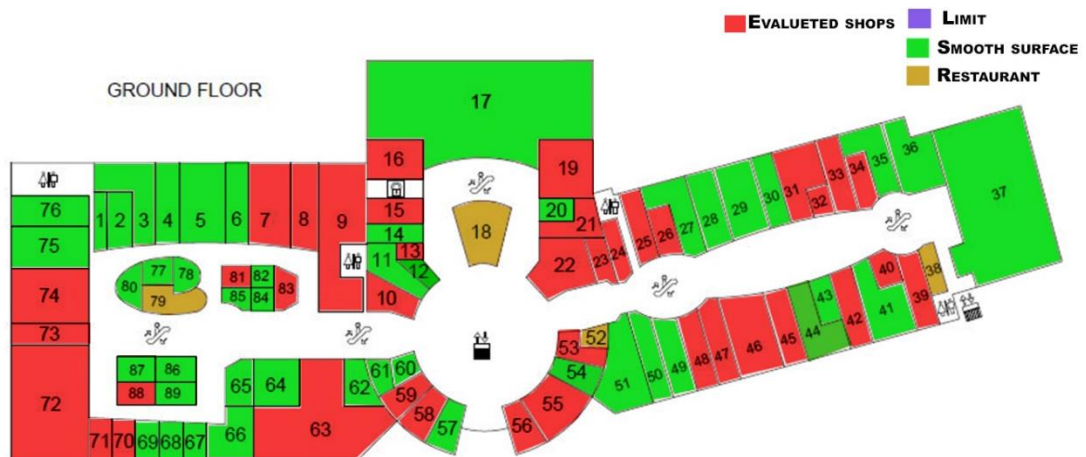

Figure 48: Ground Floor-Plane of the Istinye Park (The plan is developed based upon the leaflets from the Istinye Park)

iii. *-1st Floor:* Figure 49 displays -1st floor of Istinye Park. This floor includes 3 department stores, 3 home and electronics, 39 clothing shops, 5 hobbies/ gifts and

71

specially retails, 5 beauty/ health and accessories, 1 culture/ art and entertainment, and 16 restaurants. 28 retails in total were evaluated which considered texture as a part of their design.
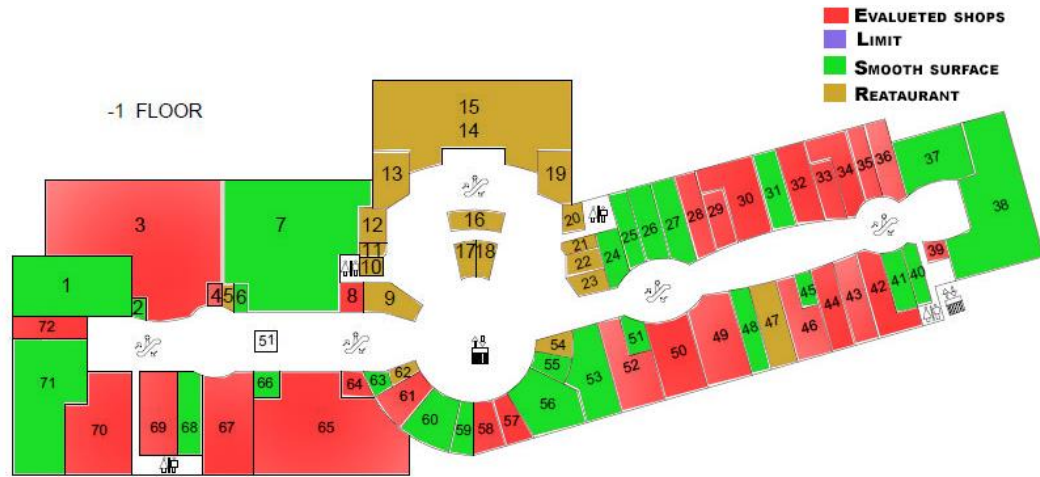

Figure 49: -1st Floor-Plane of the Istinye Park (The plan is developed based upon the leaflets from the Istinye Park)

iv.   -2nd Floor: In this floor there are 65 designed space including 21 home and electronic, 11 services, 9 specialty retail, 1 beauty/ health and accessory, 1 culture, fun and entertainment area and a market place with the concept of Traditional Turkish Bazaar which was composed of 22 little supermarkets and restaurants. In this floor, most of the spaces are designed with smooth surface quality and there was a market place that was not considered as a case study area. Therefore, only 6 designed spaces out of 65 spaces were evaluated according to the textural point of view [Figure 50].
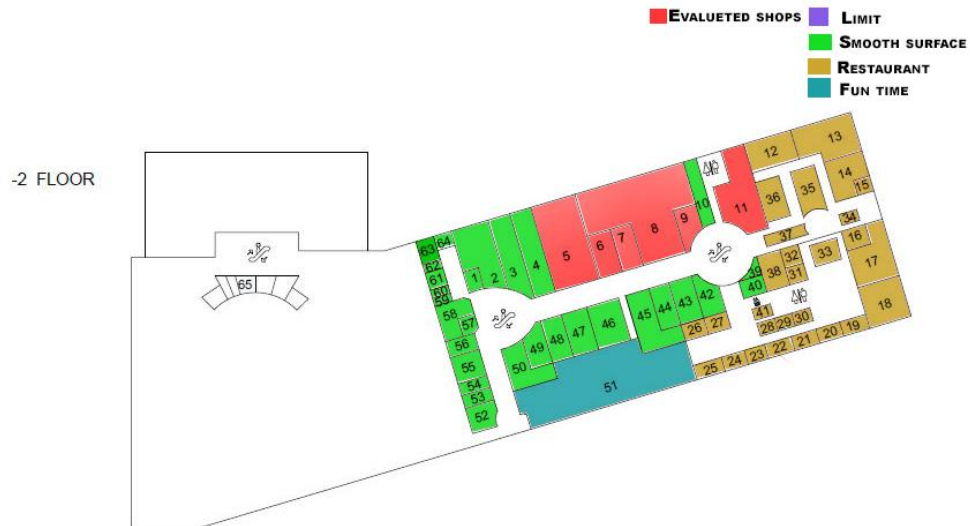
-2 FLOOR

Figure 50: -2ˢᵗ Floor-Plane of the Istinye Park (The plan is developed based upon the leaflets from the Istinye Park)

As already mentioned, there are 290 designed spaces in the Istinye Park. However, as a result of the first observations, texture as a tactic of interior design was determined at 106 retail stores out of 290. Therefore, in total, 106 shops are evaluated, and considered according the ways they were used texture in their design.

Table 11: Istinye Park Spatial Organization and Research Sampling
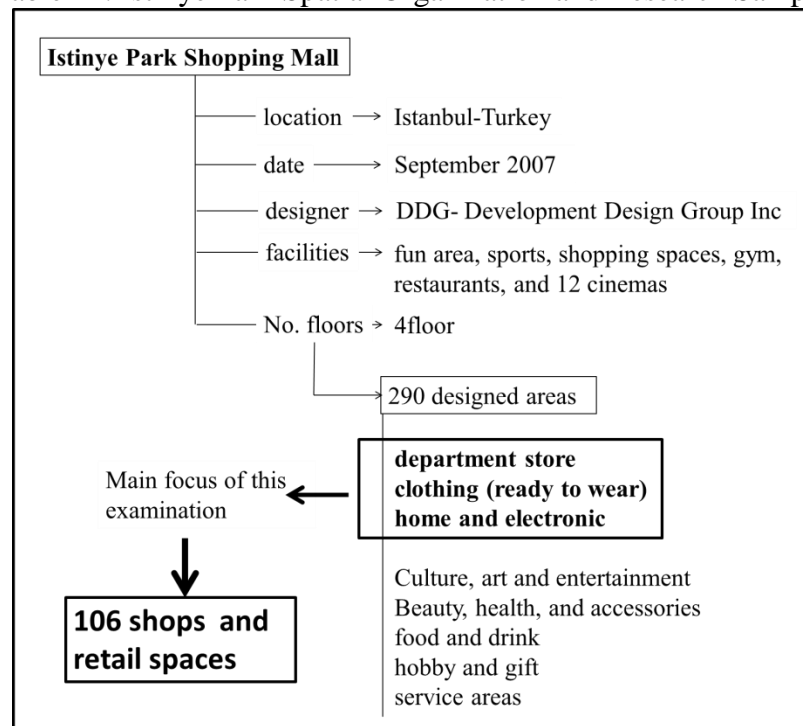
3.1.2 Retail Spaces' Evaluation Based On Use of Texture as a Tactic of Interior Design at Istinye Park Shopping Mall

As a result of the first observations it has been revealed that the determined 106 shops were used texture in various ways. Accordingly, the evaluation of the use of texture has been carried out in line with the framework determined as a result of the theoretical background (see Table 9). Therefore, at first the focus was on the placement/location of texture within the retail space_ where it is used more. Secondly in accordance with the material was used to create texture.

However, the main focus of this evaluation is on the design point of view which emphasizes how texture is used or created[1] in the retail spaces. Accordingly at first, identity of texture, is it 2 dimensional or 3 dimensional, is it natural texture or artificial texture, what is its surface quality _ smooth or rough, texture perception _ is it visual or tactile were investigated. Second, texture's organization in the space according to Wong's approach (1972) _ conceptual elements, visual elements, relational elements, and practical elements besides design principle that considers element's repetition mainly were investigated. Moreover, as third, methods and techniques to create texture besides consideration of the ways elements are organized to create texture were evaluated.
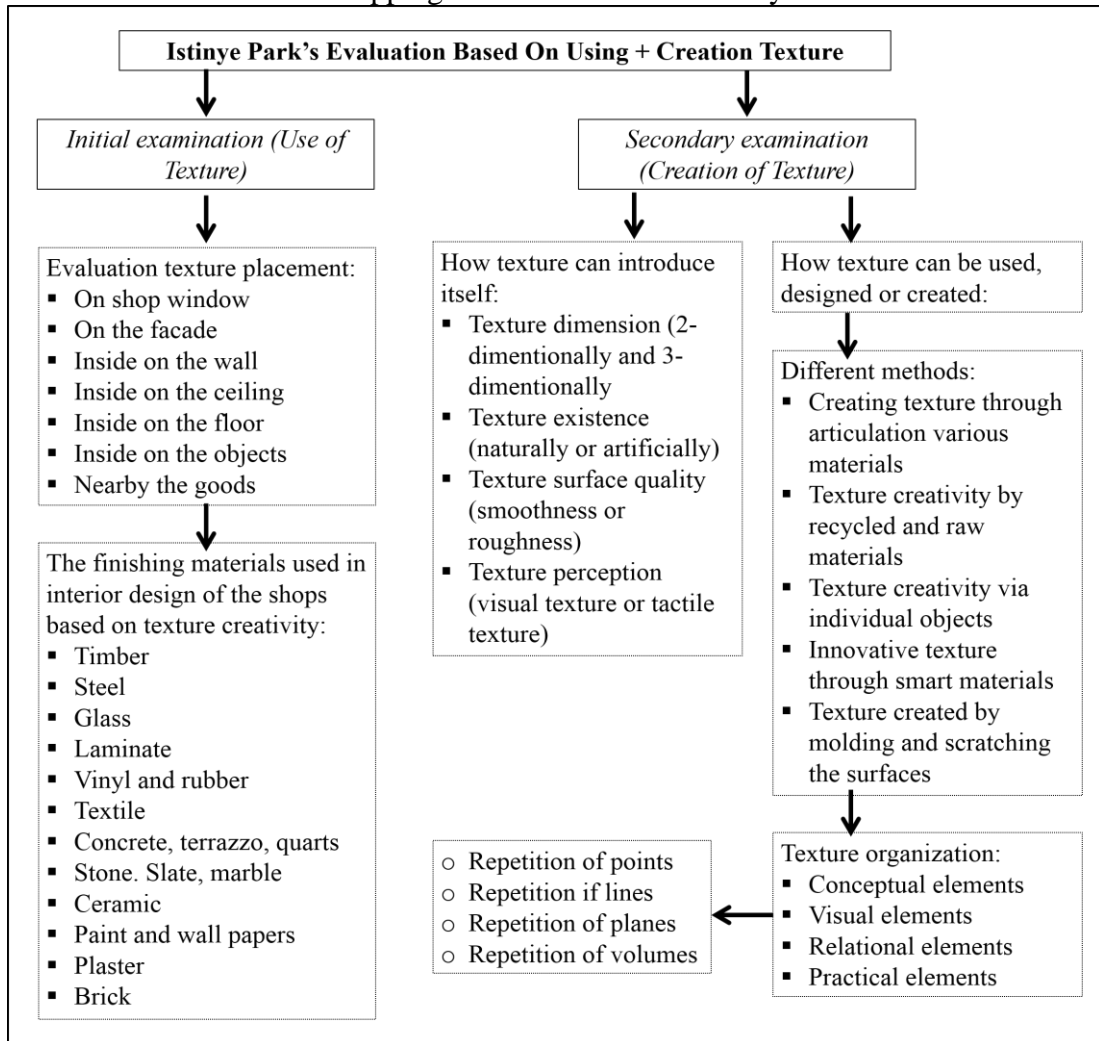
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[1] Use of texture directly related with the location, existence of texture, however creation is related to the ways it was designed.

Table 12: The inventory sheet as a framework of texture evaluation in interior design of the Istinye Park

No.XX	Evaluation of texture use in commercial interior spaces at Istinye Park shopping center- Istanbul City- Turkey				
General information	• Name • Type • Floor • No.	**Shop Photo**	**MAP**		**Placement of the texture** ❑ On shop window ❑ On the facade ❑ Inside- on the ceiling ❑ Inside- on the walls ❑ Inside- on the floor ❑ Inside- on the objects ❑ Nearby the goods
Type of texture	Texture dimensions ❑ 2 Dimension ❑ 3 Dimension	Existence of texture ❑ Natural texture ❑ Artificial texture	Surface quality ❑ Smoothness ❑ Roughness	Perception of texture ❑ Visual texture ❑ Tactile texture	
				❑ Conceptual elements ❑ Visual elements ❑ Relational elements ❑ Practical elements	**Material used to create texture** ❑ Timber ❑ Steel ❑ Glass ❑ Laminate ❑ Vinyl and rubber ❑ Textile ❑ Concrete/ terrazzo/ quarts ❑ Stone/ slate/ marble ❑ Ceramic ❑ Paint and wallpaper ❑ Other
				❑ Repetition of points ❑ Repetition of line ❑ Repetition of plane ❑ Repetition of volume	
				Role of Materials, Methods and techniques to create texture ❑ Creating texture through articulation various materials ❑ Creating texture by using recycled and raw materials ❑ Texture creating via individual objects ❑ Innovative texture through smart materials ❑ Other	

Table 13: Framework of the texture evaluation in retail interiors at Istinye Park shopping center in Istanbul- Turkey

Istinye Park's Evaluation Based On Using + Creation Texture

Initial examination (Use of Texture)

Evaluation texture placement:
- On shop window
- On the facade
- Inside on the wall
- Inside on the ceiling
- Inside on the floor
- Inside on the objects
- Nearby the goods

The finishing materials used in interior design of the shops based on texture creativity:
- Timber
- Steel
- Glass
- Laminate
- Vinyl and rubber
- Textile
- Concrete, terrazzo, quarts
- Stone. Slate, marble
- Ceramic
- Paint and wall papers
- Plaster
- Brick

Secondary examination (Creation of Texture)

How texture can introduce itself:
- Texture dimension (2-dimentionally and 3-dimentionally
- Texture existence (naturally or artificially)
- Texture surface quality (smoothness or roughness)
- Texture perception (visual texture or tactile texture)

How texture can be used, designed or created:

Different methods:
- Creating texture through articulation various materials
- Texture creativity by recycled and raw materials
- Texture creativity via individual objects
- Innovative texture through smart materials
- Texture created by molding and scratching the surfaces

o Repetition of points
o Repetition if lines
o Repetition of planes
o Repetition of volumes

Texture organization:
- Conceptual elements
- Visual elements
- Relational elements
- Practical elements

A. Evaluation of use of texture according to the location / placement and use of materials to create texture

As it was mentioned previously, location of texture as a part of design idea and materials were used to create texture was mentioned as the two primary investigations of the use of texture in the mentioned mall. Accordingly; analysis revealed that, placements of texture are categorized in 7 main groups: on shop window, on the façade, nearby the goods, inside on the wall, inside on the floor, inside on the ceiling, and inside on the objects.

Analysis put forward that texture mostly is used in-side of the shops on the walls primarily, on shop windows and on facades following. Adversely, using texture nearby the goods, inside on floor, on the objects or on ceiling are preferred rarely [Figure 51].
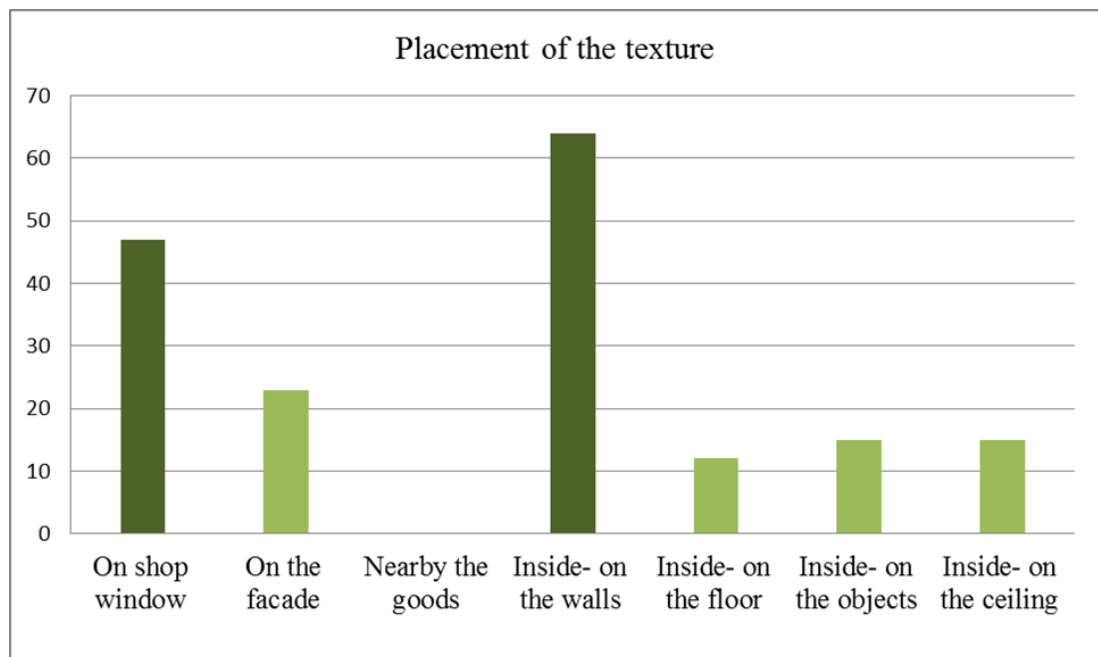

Figure 51: Location of Texture in retail spaces at Istinye Park Shopping Mall

As it was previously emphasized, Gagg (2012) mentioned that materials are the tools for the texture existence. Accordingly, role of materials that create texture was also analyzed in this study. Figure below summarizes the results of the analysis regarding the use of materials to create texture in retail spaces at the Istinye Park [Figure 52].
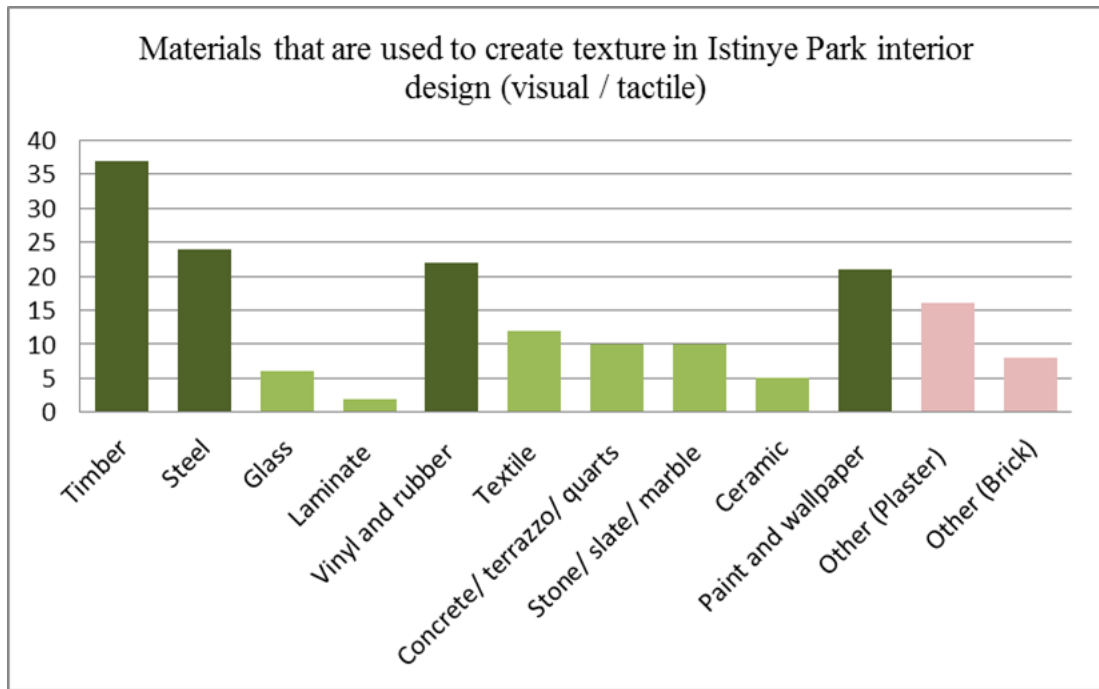
Figure 52: Materials, which created texture in Istinye Park interior design

The result of this evaluation introduces *Timber* as the most common material of texture creation in Istinye Park interior design. On the other hand laminate, glass, and ceramic are less common to create texture in design. Additionally, steel, vinyl/ rubber, and paint/ wallpaper are used in average level to create texture in the mentioned mall.

Besides the materials, which was mentioned by Gagg (2012), the result of texture evaluation in Istinye Park introduced plaster and different types of bricks as the other two different materials that create texture in interior design [Figure 52].

Table 13: Texture placement and materials, which create texture in the Istinye Park

Material \ Texture placement	on shop window	on the façade	inside on the wall	inside in the floor	inside on the ceiling	inside on the objects	nearby the goods
Timber	●	●	●	●	●	●	
Steel		●	●		●		
Glass	●	●	●			●	
Laminate				●			
Vinyl and rubber	●	●	●			●	
Textile	●		●	●		●	
Concrete, terrazzo, quarts	●	●	●		●		
Stone, slate, marble	●	●	●				
Ceramic		●		●		●	
Paint and wallpaper	●	●	●			●	
Plaster	●		●				
Brick			●				
Goods themselves	●		●				

B. *Evaluation of creation of texture according to its existence / surface quality / perception*

The focus of this section will be the existence, surface quality and perception of texture. Accordingly, the study evaluates the existence of texture as natural or artificial besides two-dimensional or three dimensional; its surface quality as smooth or rough; and its perceptions as visual or tactile.

The aim of this evaluation is to clarify the ways texture can show itself in the space and how people can see and understand the texture existed in the interior spaces as a tactic of interior design.

a. *Existence of Texture:* texture existence in the mentioned shopping mall is classified into two main groups as "Natural texture" and "Artificial texture". In the case of Istinye Park, it has been found out that most of the materials, which used to create texture, are artificial[2].
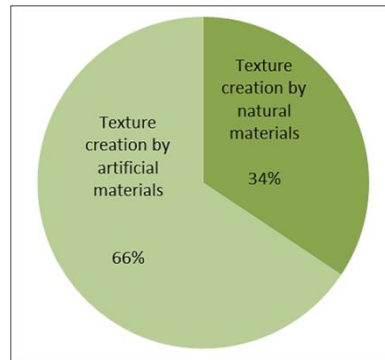

Figure 53: Existence of texture. Use of natural and artificial materials to create texture in Istinye Park shopping mall

Steel, glass, laminate, vinyl-rubber, textile, concrete-terrazzo-quarts, ceramic, paint-wallpaper, brick, and plaster are the materials which are known as artificial materials. Such materials are made or produced by man-hand and do not exist in the nature. Following examples, exemplifies some of the ways those designers used artificial materials to create texture in interior design of retail spaces [Figure 54].

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[2] Timber and stone are the materials over 14 materials (steel, laminate, vinyl and rubber, textile, concrete, ceramic, paint or wallpapers, plaster, brick, product) which are existed naturally.
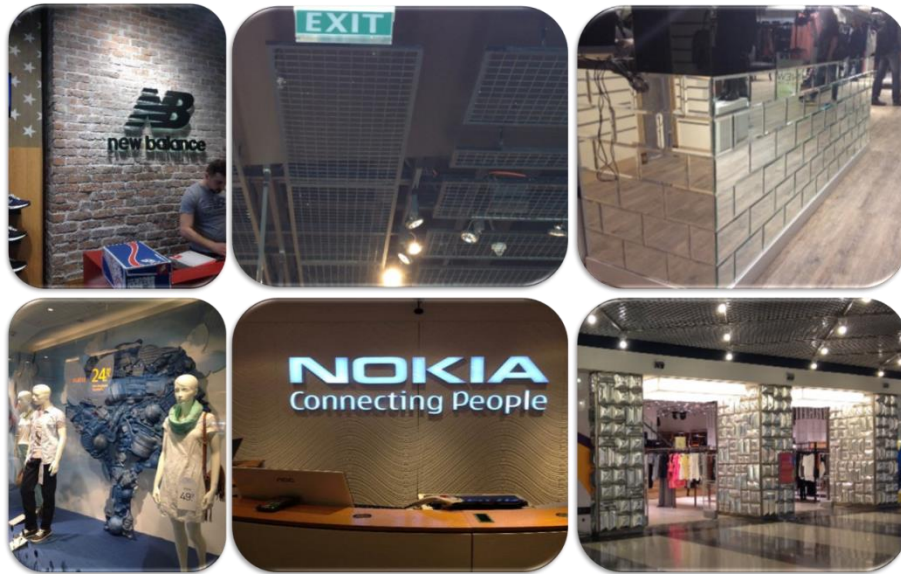
Figure 54: Examples of texture creation by artificial materials in Istinye Park shopping mall

On the other hand, timber, stone, slate, and marble are the natural materials that were achieved because of the analysis which were used in the retail spaces at Istinye Park to create texture [Figure 55]. The so-called materials are such materials with two possibilities: they have their own texture on their surface, or they can create texture by the way they are specially organized.

Figure 55: Examples of texture creation by natural materials in Istinye Park shopping mall

On the other hand, existence of texture can be classified according to their shape or form as 2 dimensional [2D] or 3 dimensional [3D]. Accordingly, as a result of the analysis, it has been achieved that the most of the textures in interior design of the

shops in Istinye Park are 2-Dimensional and there are very few texture designs in the shops that was created with 3-dimensional forms.
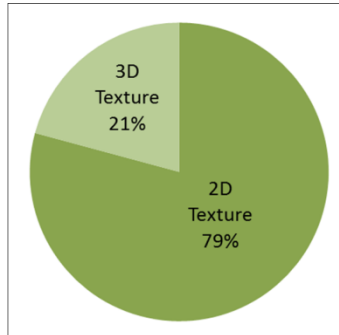

Figure 56: Ratio of 2/3-dimensional texture used in Istinye Park

Accordingly, 2-dimensional texture is the texture that exist on surfaces as relief affect and 3-dimensional texture is the texture, which is created as a result of the articulation of volumetric elements_ forms.

In the following, there is an example of two-dimensional texture, which is a special articulation of the material to create a relief as a texture [Figure 57].

Figure 57: 2-dimensional texture example in Istinye Park shopping mall

On the other hand, figure below exemplifies one of the 3-dimensional texture examples of which texture is created on the shop-window with the organization of 3D forms [Figure 58].

Figure 58: 3-dimensional texture example in Istinye Park shopping mall

b. *Surface quality:* texture's surface quality in Istinye Park is examined in two main classifications: roughness and smoothness. According to this examination, in the Istinye Park, smooth surface quality of texture is more often designed in the interior spaces rather than rough surface quality [Figure 59].
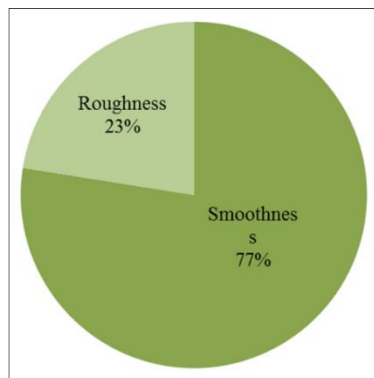

Figure 59: Amount of rough and smooth surface quality in retail interiors at Istinye Park shopping mall

The quality of the texture's surface is categorized according to the feeling of seeing and watching. For example, the quality of surface could be understood if someone

touches or sees the texture, what does he feel, smooth or rough? Next example, were chosen from two shops in Istinye Park according to the texture created with smooth and rough surface quality [Figure 60-61].

Figure 60: Texture created by smooth surface quality in Istinye Park shopping mall

Figure 61: Roughness in surface quality of texture in Istinye Park shopping mall achieved by natural stone

c. *Perception*: texture perception is a feeling of seeing and touching. Throughout the analysis of cases, the surface qualities that can be felt by touch were classified as tactile texture where the majority of existing textures are categorized under this type.

And adversely, if texture can be felt by eyes is classified as visual texture which is not often existed in the analyzed case areas at Istinye Park [Figure 62].
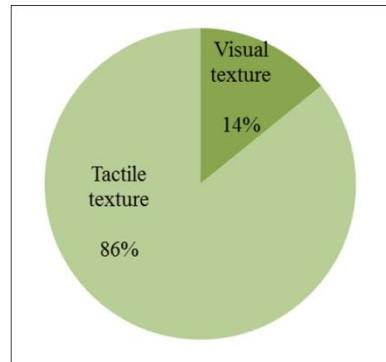

Figure 62: Amount of visual and tactile texture used in Istinye Park shopping mall

Painted surfaces, wallpapers, and textures that are covered by glass that are smooth were categorized under visual texture. Examples below demonstrate some of the retail spaces designed with visual texture [Figure 63].

Figure 63: Visual texture examples in Istinye Park shopping mall

On the other hand, many different types of tactile texture examples are found out in various retail spaces that were designed in 2-d, 3-d or both, where people can feel their quality by touch. It even can be a wallpaper or relief painting. Examples below

show some of the tangible textures in interior design of Istinye Park's shops [Figure 64].

Figure 64: Tactile texture examples in Istinye Park shopping mall achieved by using timber, rubber, and stone

C. Evaluating design / creation of texture

This part of the evaluation focuses on the examination and investigation of texture according to the ways it can be created and used. First of all, in terms of design point of view, texture creation and use of it are examined according to the organization of the elements of interior space based up on Wong's (1972) approach categorizing them such as conceptual elements, visual elements, perceptional elements, and practical elements. Additionally, as it has been primarily achieved as a result of the theoretical background, texture is mainly achieved through the repetition of design elements; therefore, the texture creation in retail spaces with the ways elements are repeated is also investigated under this section according to: repetition of point, repetition of line, repetition of shape, and repetition of volume.

Besides, this investigation will focus on the various methods and techniques which texture could be created with. These mentioned methods are based on 4 main categorizations which were developed as a result of the literature review (see table 9); these are creating texture through combining various materials, creating texture

by using recycled and raw materials, texture creating via individual objects, innovative texture through smart materials.

C.1. Texture *creation based on the organization of elements of interior spaces and principles of design:*

Besides texture identity, this study also focuses on the '***design of texture***' as a tactic of interior design with a special emphasis. Accordingly, main elements of interior space were categorized under the mentioned 4 groups according to Wong's approach as conceptual, visual, relational, and practical elements. Vsarious texture designs from each of these mentioned elements will be discussed one by one in order to decode the design principles of each different texture created.

In the following section, design of texture will be discussed elaborately in each different case with a structure that is demonstrated in the figure below and each of them will be supported by visual examples from Istinye Park shopping mall.
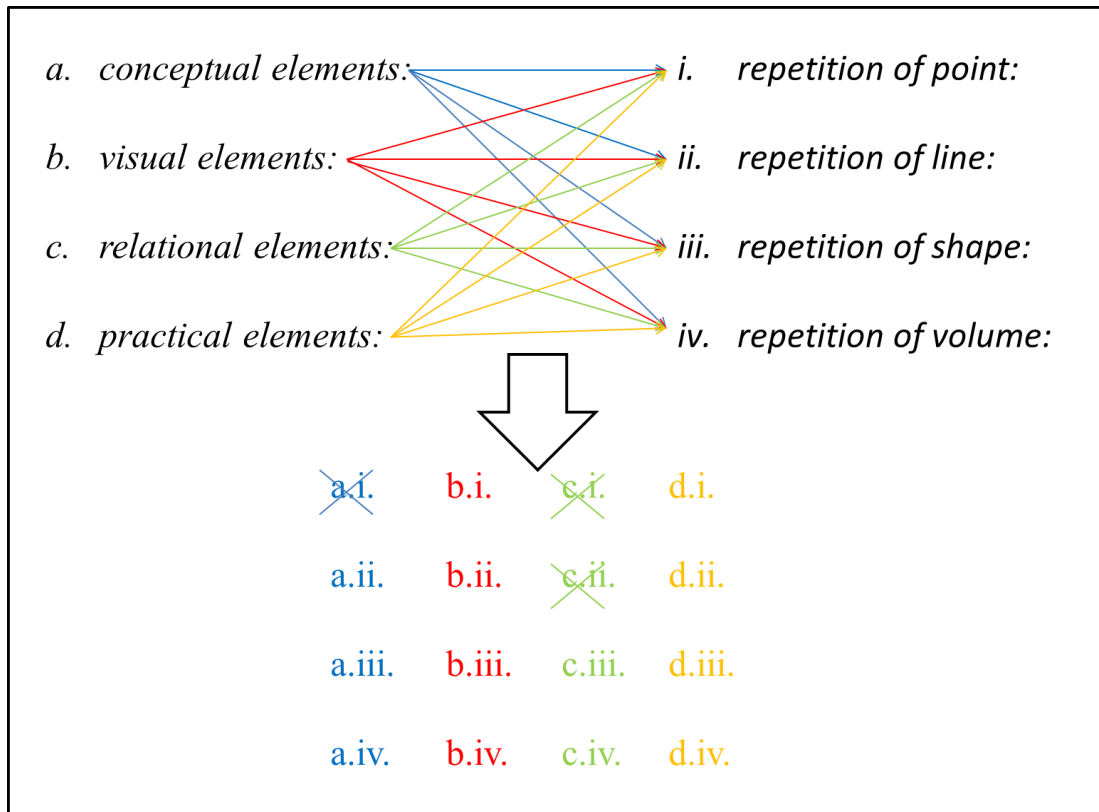
Figure 65: Structure of evaluation to discover design of texture as a tactic of interior design at Istinye Park

Conceptual elements: The elements, which do not actually exist, are called conceptual elements. In Istinye Park Shopping Mall, texture organization based on conceptual elements evaluated under repetition (regular / irregular) of four main groups of element: point, line, plane, and volume repetition. According to this evaluation, there is no case exemplifying the point repetition based on conceptual element in the case study area.

a.ii. conceptual elements based on line repetition: following example shows 3-D texture creation based on conceptual element. In this shop window, texture is created by linear steel elements. These elements actually created conceptual cubes on the shop window in same size but different direction or position [Figure 66].

Figure 66: Texture created on conceptual elements via line repetition in different direction -Istinye Park interior design

a.iii. Conceptual elements based on plane repetition: Next example is one of the texture creation according to plane repetition in conceptual organization. As it is mentioned in the schematic picture, there are many types of squares with different size in the picture, but viewers just can see many small squares in the same size which was created the surface [Figure 67].
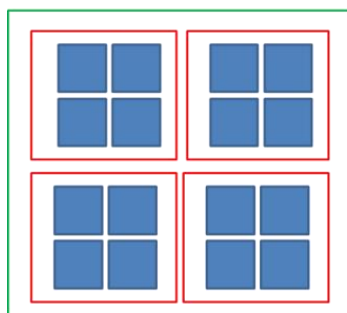

Figure 67: Texture created on conceptual elements via plane repetition in the same size -Istinye Park interior design

a.iv. Conceptual elements based on volume repetition: Following example is a conceptual element with triangular prism repetition. In this texture creation, designer designed each prism in a specific manner. In the first look, it seems that many small stones are crushed and placed next to each other. Nevertheless, with a focused look, it is achieved that many regular shapes repeated and designed to create texture [Figure 68].

Figure 68: Texture created on conceptual elements via volume repetition in Istinye Park interior design

- Visual elements: 2-D elements are called visual elements and usually are created by different shapes, colors, and texture. According to architectural perspective, visual elements also can be tangible too. According to this definition, following examples demonstrates visual elements in Istinye Park shopping mall based on 4 main group of elements repetition. Visual elements here are called to the elements which show themselves as they are designed; in this case people can feel them by eyes before touching them.

b.i. Visual elements based on point repetition: next example shows point repetition based on visual element organization. In this case, designer cut thousands of straws

into tiny pieces, attached them together on all through the original surface in 3 layer in order to texture creation. After that, he covered them by glass material all over the façade [figure 69].
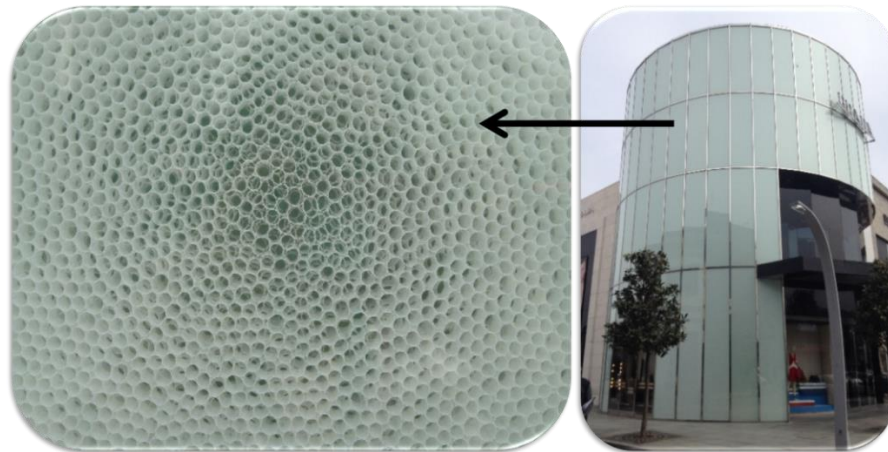

Figure 69: visual elements based on point repetition- Istinye Park facade design

b.ii. visual elements based on line repetition: next example is about line repetition to form visual elements. In this case, there are many vertical and horizontal linear intersect with each other and create square texture with same size on the shop window [Figure 70].
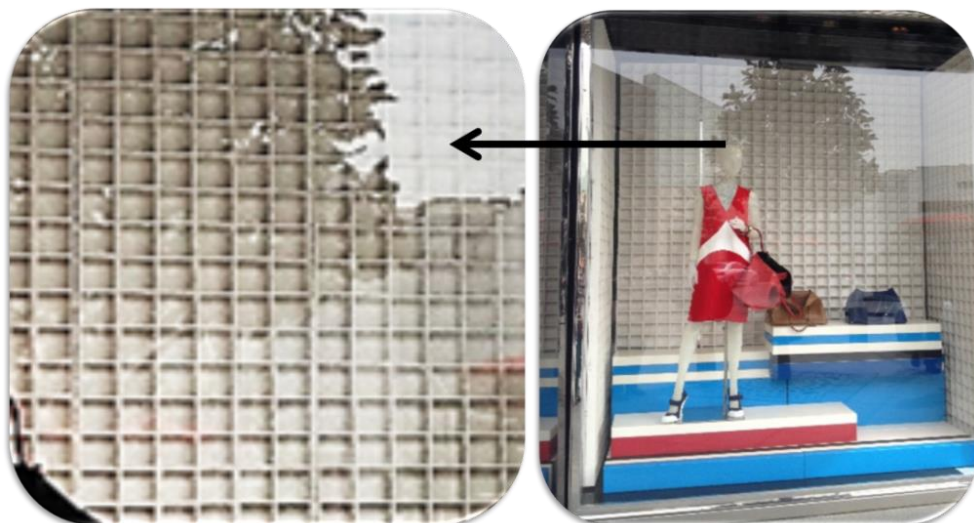

Figure 70: Texture created by visual elements organized via line repetition -Istinye Park shop window

b.iii. visual elements based on plane repetition: repetition of plane is other method to create texture b the use of visual elements. Following example shows two different shop's interior design in Istinye Park shopping mall. On the left example, planer timber elements articulated next to each other in order to create texture on the ceiling. On the other hand, the example on right side shows organization of planer elements that were for the creation of texture[Figure 71].

Figure 71: Texture created by visual elements organized via plane repetition -Istinye Park interior design

b.iv. Visual elements based on volume repetition: Next example shows repetition of volumetric elements. In this example, designer used original stones to design interior wall. In this case, designer did not care special size or shape of elements. He just used stones as their original size and form side by side and over each other in a way to make a whole textural wall inside the shop [figure 72].

Figure 72: Texture created by visual elements organized via volume repetition -
Istinye Park interior design

- Relational element: relational element is called to the elements which their existence, shape, position, or direction is depended to the other element. According to this definition, point, line, shape, and volume repetition also investigated in Istinye Park interior design. The result of the analysis shows that there was no attention to the point and line repetition based on relational element.

c.iii. relational elements based on plane repetition: in the following example, planar timber elements were placed next to each other in the shop window's floor. On the other hand, there are ropes which are filled the gap between the timbers. These relational timbers and ropes are repeated all through the shop window on the floor that creates texture.

Figure 73: Texture created by relational elements organized via plane repetition - Istinye Park interior design

c.iv. relational elements based on volume repetition: next example is another relational element based on volumetric repetition. In this case, as it was mentioned before, the position and direction of elements placement are related to each other. The wooden boxes were placed vertically and horizontally next to and above each other decussately to create texture on the shop-window.

Figure 74: Texture created by relational elements organized via plane repetition - Istinye Park interior design

- Practical element: practical element is called to the element, which presents a special meaning or function. Accordingly, texture creation based on practical elements at Istinye Park shopping mall also evaluated based on the 4 main elements repetition. Point repetition is the one, which was not revealed within the interior design of Istinye Park shopping mall on practical elements that create texture.

d.ii. practical elements based on line repetition: next example shows a carpet on the floors in one of Istinye Park shops interiors. The design of this carpet is a concept of animal's skin, were there are white and brown linear elements which were repeated all through the carpets to create texture [figure 75].

Figure 75: Texture created by practical elements organized via line repetition -Istinye Park interior design

d.iii. practical elements based on plane repetition: next example is a shop which sells wedding dresses. All objects in the shop is arranged and designed with black color other than dresses. As wedding dress is known as white color, designer wants to emphasize it with blacken background. Designer designed a dark background of blooms made by steel materials on the shop-window behind the two models to emphasis goods. Additionally, designer also added white blooms with the same

material as the shadow of the wedding dress on the mentioned dark designed materials. Here following example planer elements (blooms) were repeated irregularly to create texture [Figure 76].

Figure 76: Texture created by practical elements organized via plane repetition - Istinye Park interior design

d.iv. practical elements based on volume repetition: volume repetition is the other type of element repetition under practical element classification. Following example is from a bag shop in Istinye Park. On its shop window, designer molded rubber material in a very special technique it like an open present paper box and placed the goods in each of them. These elements are repeated all through the shop window in different forms, which are practical element to exhibit goods and created texture with regular repetition [Figure 77].

Figure 77: Texture created by practical elements organized via volume repetition -
Istinye Park interior design

As a result of the evaluation of 106 retail spaces in Istinye Park, the study clarified

that at the majority of these shops texture was created based on the organization of

visual elements. On the other hand, it has been clarified that at few evaluated shops,

texture was designed   by the organization of conceptual elements and texture

creation based on the organizaiton of relational elements and practical elements are

considered rarely at the evaluated shops [Figure 78].
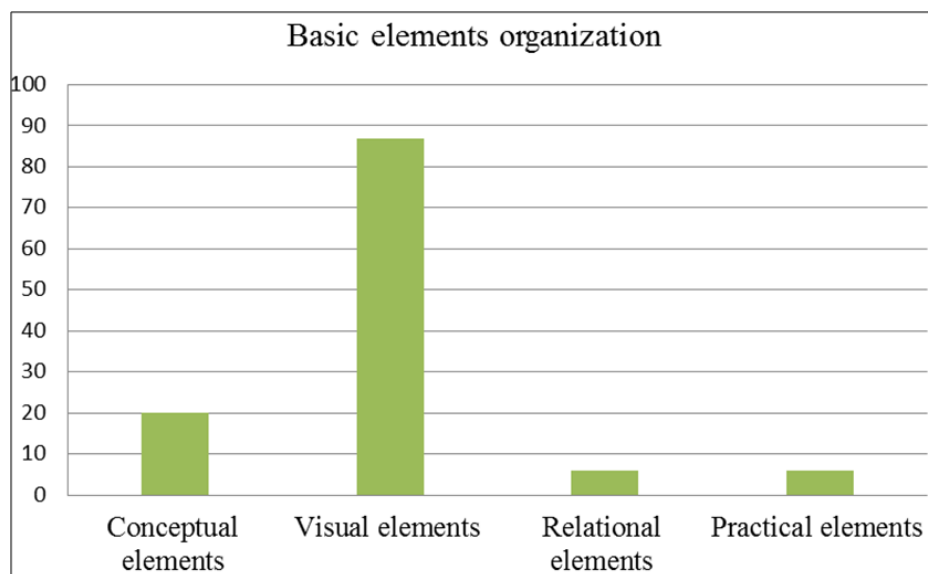
Figure 78: Texture design based on organization of elements of interior space in
Istinye Park

As it was discussed beforehand, design of texture was mainly based on the repetition of design elements in 4 main ways including: repetition of points, repetition of lines, repetition of planes, and repetition of volumes. Istinye Park shopping mall was mainly considered the repetition of elements in the place.

According to this investigation, repetition of the shapes or planes was found as the most common way to create texture in the mall's interior design. After that, repetition of lines, volumes, and points are respectively considered to create texture in interior design of the Istinye Pak shopping mall [Figure 79].
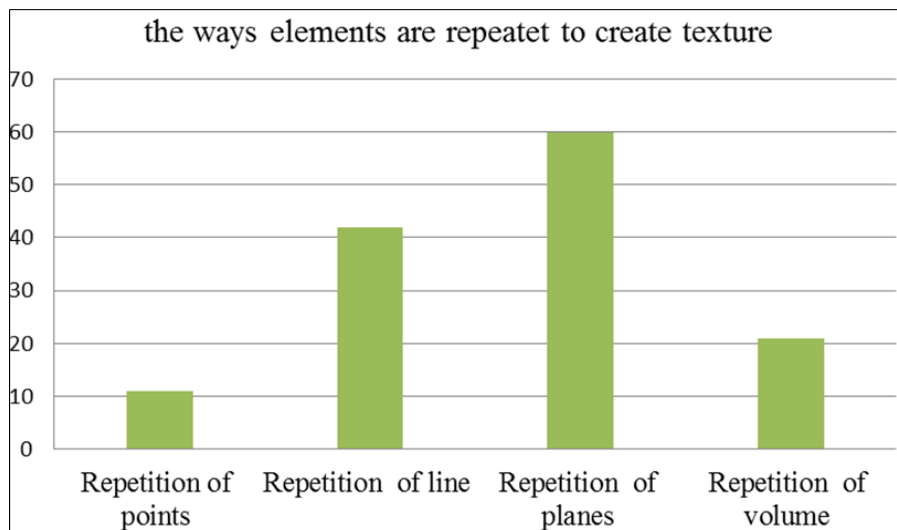

Figure 79: How elements are repeated to create texture in Istinye Park interior design

C.2. Investigating methods and techniques to create texture in interior design of retail spaces at Istinye Park:

As it was mentioned before, texture in retail spaces will be detected according to the ways, methods and techniques that were used to create it. As a result of the investigation, it has been achieved that texture creation according to the articulation of various materials is the most popular way to use or create texture.

Accordingly; creation of texture based on articulation of various materials is achieved as the most frequently used technique to create texture in the majority of the evaluated shops. Then, it has been achieved that there is one more technique in addition to the stated 4 categories which is molding and scratching materials that was found as the other common way to create texture. Thirdly, creating texture by individual objects, re-cycled and raw materials are found respectively low compared to the previously mentioned techniques in the design of retail spaces of the mentioned mall. Additionally, innovative texture through smart materials is the one with lack of interest in design of retail spaces at Istinye Park's. Smart material is a new technique of creating innovative texture on the surfaces. However, in the case of Istinye Park Shopping mall; designers fall short to use smart material for creating texture in interior design of the retail spaces [Figure 80].
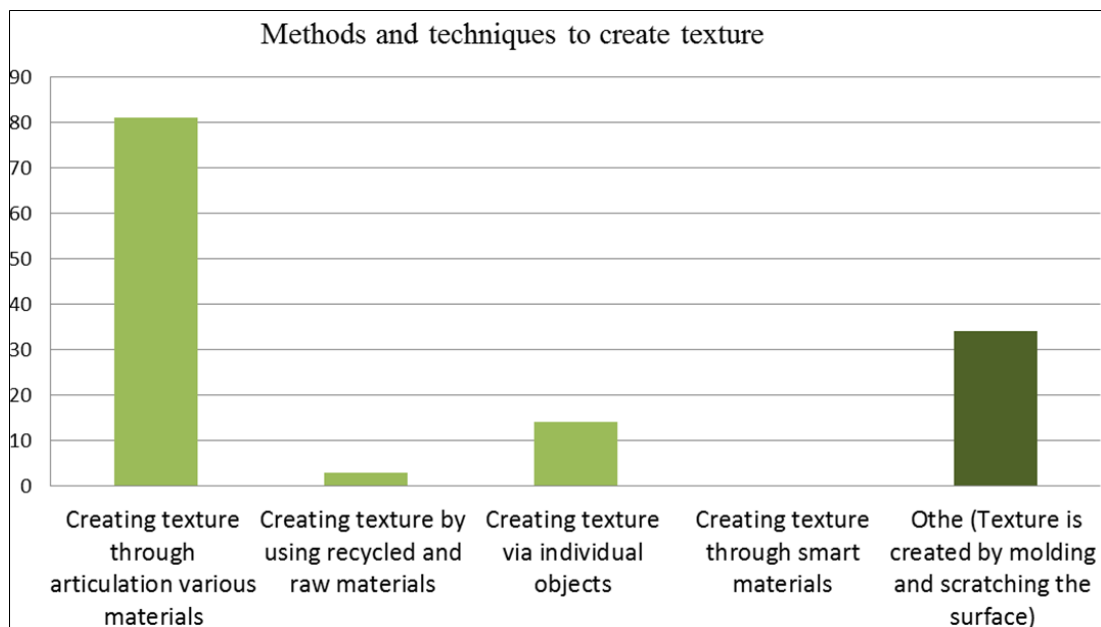

Figure 80: Methods and techniques, which are used to create texture in Istinye Park interior design

C.2.1. *Creating textures through articulation of various materials:*

There are many ways in the articulation of various materials which was created texture in Istinye Park's interior design. Summarily, design of some shops is exemplified in the following in order to discuss how texture could be created based on the articulation materials.

Example below exemplifies use of huge amount of metal chain side by side and next to each other to create texture on the shop window [Figure 81].

Figure 81: Texture creation by metal chains on shop window in Istinye Park

The other investigated way which can create texture and categorized under this section is to use textile's flexibility. Textile is a proper material for designing various types of curtains. Besides, instead of using curtain just behind the windows, in one of the shops in İstinye Park it has been used in such ways that using a normal curtain on one of the interior walls entirely acts as a background behind the goods and create a proper texture [Figure 82].

Figure 82: Using curtain on the wall to create texture - Istinye Park interior design

In the next example, designer used planar glass elements and interlocked them to each other on different directions. According to this special design, 3-dimensional texture was created on the window shop. Additionally, this 3-D texture also has functional role as it acts as goods' holder on the window shop too [Figure 83].

Figure 83: Creating 3-D texture on window shop by the articulation of planar glass elements at Istinye Park interior design

Briefly, as a result of the physical analysis in Istinye Park, it has been achieved that, there is a common way to create texture with the articulation of various materials where designer chose a simple material, and then he attached them side by side, above or next to each other as a common technique. In this organization, each simple object or material may be different or similar in size and direction. However, the achieved results show very regular texture creation in their design [Figure 84].

Figure 84: Articulation of various materials to create texture in retail spaces / shops in interior design of Istinye Park Shopping Mall

C.2.2. *Creating texture by using recycled and raw materials:*

As a result of the evaluation it has been revealed that, there are textures created by the use of recycled and raw materials. Following example show one of the shops where, designer was used old second hand ceramics on the counter surface to create

texture. Since these ceramics are recycled, design of each one of them was different in terms of surface quality and color. This differentiation also made another texture in the whole view [Figure 85].

Figure 85: Use of recycled ceramics to create texture in Istinye Park

At another shop, a special 3-dimensional texture was created where designer reused many wooden boxes which were usually used to carry fruits. Many boxes were organized on the shop window side by side or with different position and direction to create texture. This way of box organization created texture in a proper way. [Figure 86].

Figure 86: Reusing wooden boxes to create 3-D texture in shop window- Istinye Park interior design

At another case designer created an emphasis on the goods by the help of wooden surface in front of original wall where this additional part designed by the articulation of recycled timbers and then the goods were attached on it [Figure 87].

Figure 87: Using recycled timbers to create texture- Istinye Park interior design

The case study clarified that there is another common way to use recycled and raw materials to create texture in retail spaces. For instance, in some shops, designers created texture on the objects, or even create various objects by recycled and raw materials that such materials also created texture. [Figure 88].

Many small toy cars are pasted on panted canvas	Many oysters with same size are attached on a pot	Timbers are attached on pots
Tampers are attached to create seat	Carpet is created with wool	Timbers created book shelf

Figure 88: Using recycled and raw materials to create texture on the objects- Istinye Park interior design

C.2.3. *Texture creation via individual objects:*

As a result of the theoretical background on the concept of texture it has been stated that texture could also be created as a result of special organization of goods within a space. Physical analysis results, demonstrate that some shops where there is a special order of goods have created texture. It has been achieved that most of shoe and optic shops in Istinye Park could be categorized under this classification [Figure 89].

Figure 89: Texture created according to a special organization of goods- Istinye Park
interior design

C.2.4. *Texture is created by molding and scratching the surfaces:*

Molding and scratching various materials are other ways of texture creation which
was investigated as a result of the case study. In İstinye Park shopping mall,
designers were used 2 different ways to scratch materials. The first and more usual
way was using liquid material as finishing material on the original surface. After that,
while the material is still wet, designer scratches it to create texture on it [Figure 90].

Figure 90: Using liquid materials on original surface and scratch them to create
texture in interior design of Istinye Park

On the other hand, there is another way to scratch materials to create texture. In the
case of Istinye Park, designer also scratched solid materials to create texture.
Following example displays a shop with textural wooden surface. In this shop,
designer was used same square size of timbers, scratched each of them and attached
the designed timbers side by side on the surface to create a proper textural design
[Figure 91].

Figure 91: Using solid materials and scratching them to create texture in interior design of Istinye Park

Furthermore, as it was mentioned, molding is the other way to create texture. In Istinye Park, cases have been determined where designer molded liquid materials and then placed them next and above each other on the surfaces. Next two examples display two different methods of texture creation based on molding materials in Istinye park interior design [Figure 92].

Figure 92: Molding liquid materials to create texture in interior design of Istinye Park

3.1.3 Questioning the User Awareness about Use of Texture at Retail Spaces at Istinye Park Shopping Mall-İstanbul

Users' awareness about use/concept of texture in retail spaces design was assessed with a questionnaire survey. The aim of this questionnaire was to understand people's knowledge about texture and in order to quest if they know what the difference between texture and material is.

Accordingly, questionnaire survey was carried out at Istinye Park shopping mall in Istanbul during 10 days. 162 people selected through random sampling responded the questionnaire survey under three main sub question groups: the first part was constituted the general information about respondent; second part was included people's awareness generally on interior design issues and specifically on the concept of texture and the relationship between interior design of the space and customer besides shopping.

3.1.3.1 General information about respondent

As it is mentioned before, the questionnaire was given to 162 people who were in Istinye Park during 10 days. The people who answered the questions were categorized according to the four main groups or age ranging: under 20, 21-30, 31-50, and over 50.

The ages between 21 -30 is with the high percentages and the ages over 50 is with the less percentages of respondent who helped with this investigation. Additionally, most of the people who answered the questions were female and the men were just 68 people of 162 people [Figure 93].
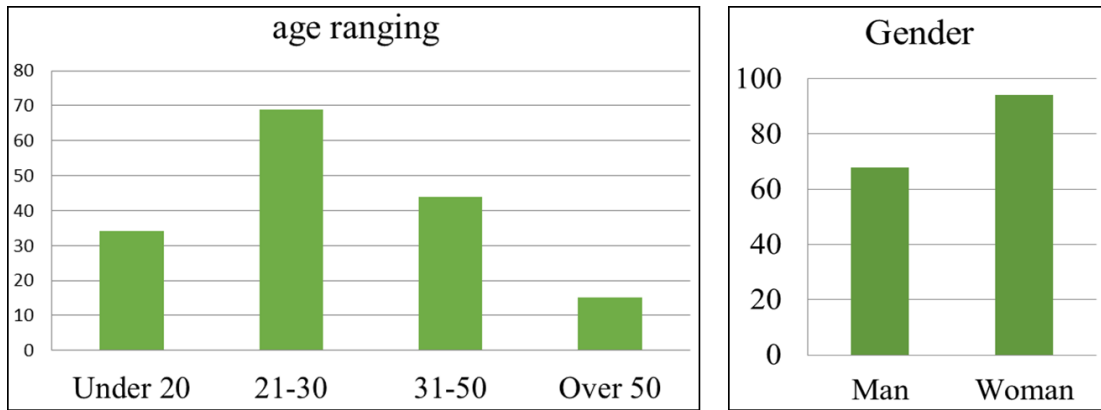
Figure 93: General information - age ranging and gender of the respondent to the questionnaire survey- Istinye Park shopping mall

The questionnaire was distributed between the people who were educated based on 4 main groups: under bachelor, bachelor, master, and PhD programs. According to this investigation, most of the respondents were respectively educated bachelor, under bachelor, and master. There were just 7 people with PhD [Figure 94].
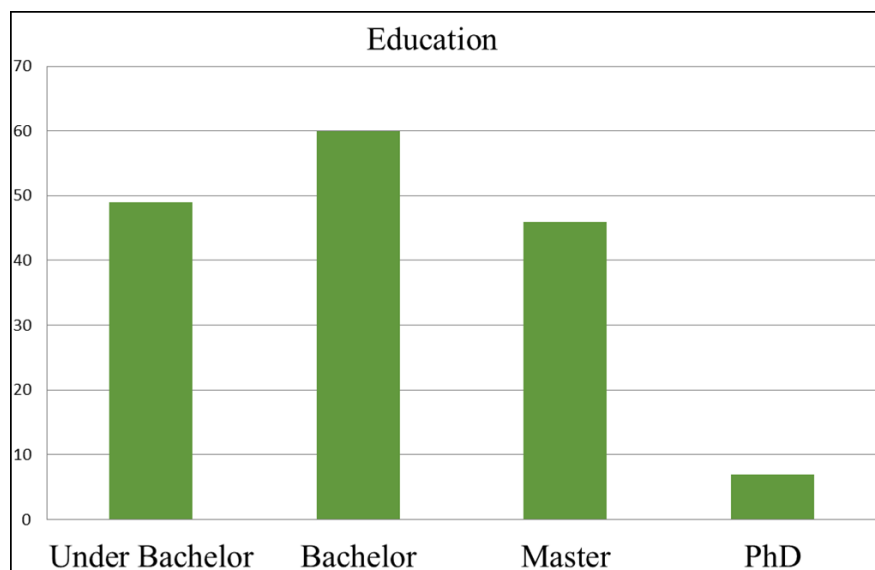

Figure 94: General information – educational level of respondent- Istinye Park shopping mall

Further report indicates the intensity of people's presence in the Istinye Park shopping mall during 10 days. This investigation shows the level of people presence in Istinye Park. In order to the priority, most of the respondents come to Istinye park

at least once a month; after that, the priorities are every day, a few days a week, once a week, less than once a month and at every two weeks [Figure 95].
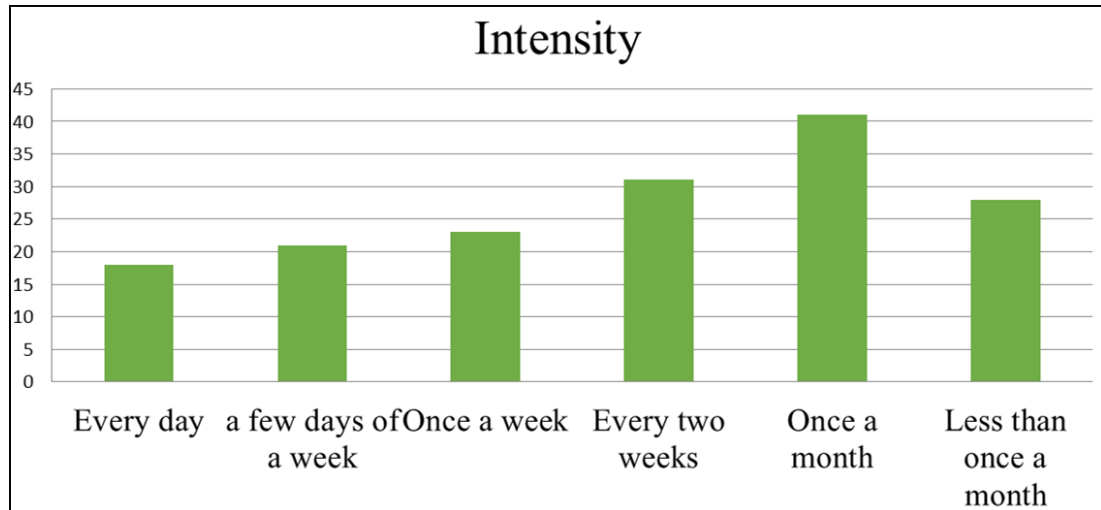
Figure 95: Intensity of people's presence in the Istinye Park shopping mall during a month

3.1.3.2 Awareness of Customers / Visitors on Interior Design Issues

According to the second part of the questionnaire survey, the first things that people were asked was their level of interest about interior design issues. The answers show that a high percentage of respondent were interested in interior design issues.
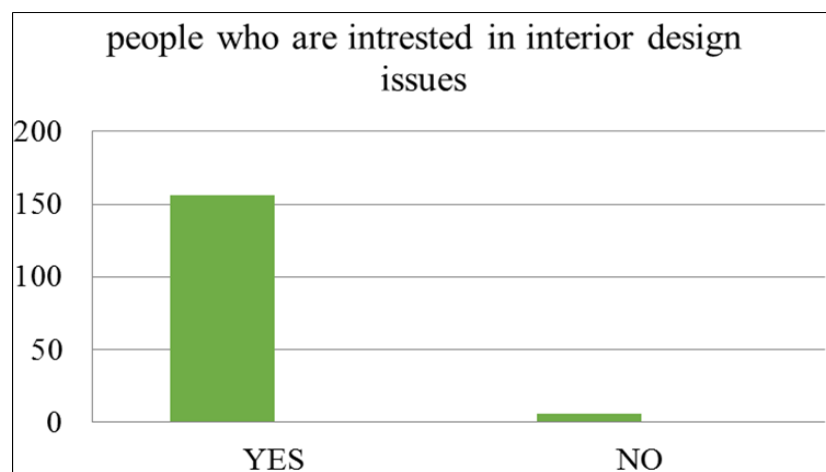
Figure 96: People consideration on interior design issue - Istinye Park shopping mall

The result of the previous question shows that most of the people are interested in interior design issues. Therefore, they were also asked to choose the most important issue for them in the field of interior design (rate from 4-1-most-least). The four items that they were asked to choose was color, lighting, texture, and objects/furniture.

Accordingly, it has been achieved that people are mostly interested in design objects and furniture. Afterwards, color was mentioned as the effective issue of interior design. Lighting is the following that people believe it may affect interior design quality. However, as a result of the survey it has been achieved that most of the people do not interested in texture as much as the previously stated tactics of interior design. The result shows that in most of the people's opinion, texture is the last thing that may affect the quality of interior design of a space [Figure 97].
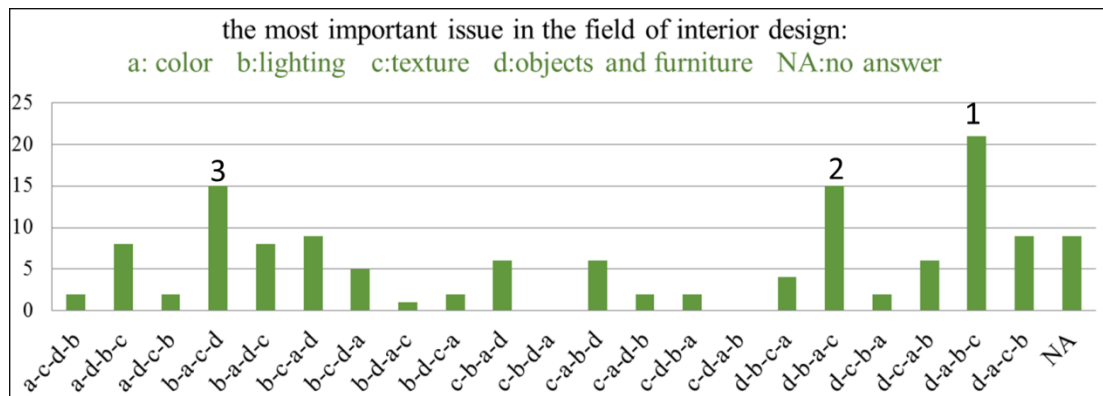
Figure 97: The most important issue in the field of interior design issue- Istinye Park shopping mall

On the other hand when they were quest whether they know what the texture is, most of the respondents responded as they know what texture is. There are just a few people from 162 people which acknowledged that they have no idea about what

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texture is. On the other hand, most of the people who believe that they know texture; do not pay attention to its use in design of their close environment [Figure 98].
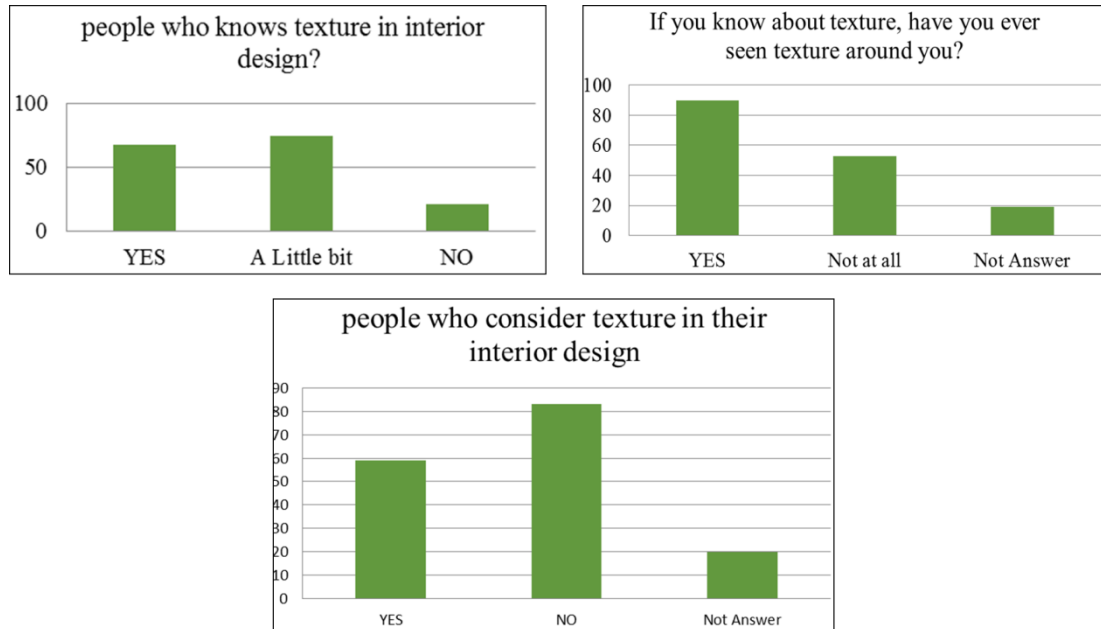

Figure 98: Users' knowledge about concept of texture as a tactic of interior design-Istinye Park shopping mall

Additionally, respondents were asked to rate 4 pictures in the given questionnaire sheets, which was showing four different interior design/space including texture or not. The pictures a/b was two interior space designed with no consideration of texture, on the other hand, picture c was showing a two dimensional texture creation in the space and the last picture was an interior space including three dimensional texture as a part of its design. Out of 162 respondent, one person choose the first picture as a place which used texture in its interior design(a), no one selected the second and the last pictures(b / d), 65 people mentioned the third picture(c), and 52 people did not answer the question.

Furthermore, as they were allowed to choose more than one picture, there were just 44 people who have chosen the pictures c / d, which was the expected respond. And unfortunately, 52 people did not answer the question [Figure 99].
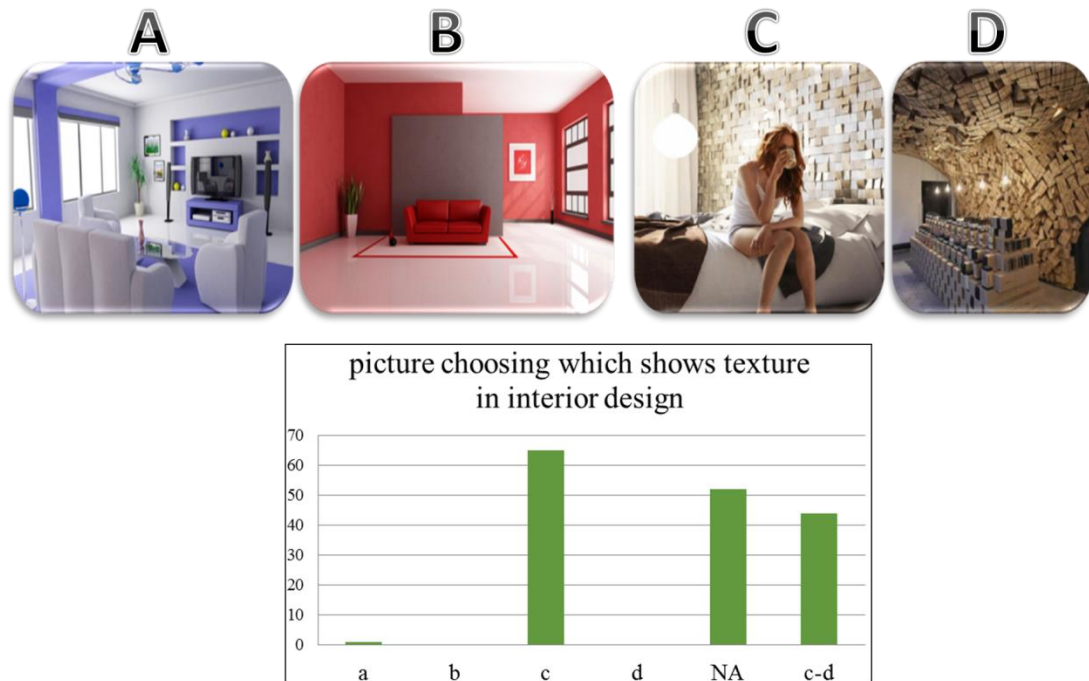

Figure 99: Rating use of texture as a tactic of interior design

3.1.3.3 Investigation of the Relationship between Customer – Shopping –

Interior Design of a Store / Shop with a Special Emphasis Put on Texture

In the third part of the questionnaire survey, the first things that people were asked was their opinion about the most attractive thing which takes their attention during the shopping activity. Despite of 13 people who did not answer the question, most of the people believed that goods are the most important thing that takes attention during shopping activity. On the other hand, some other people were mentioned that it is the behavior of the staff and shop's design as the important factors affecting shopping activity [Figure 100].

Figure 100: The most important factor affecting shopping activity - Istinye Park shopping mall

Furthermore, most of the respondents (86%) believe that texture creation in interior design of a shop could play significant role on the shopping activity. Besides, they were also responding that design of a shop could take people's attention and attract them. Moreover, they mentioned that when texture was created on the shop-window, it plays an effective role to take attention of the customers. [Figure 101].
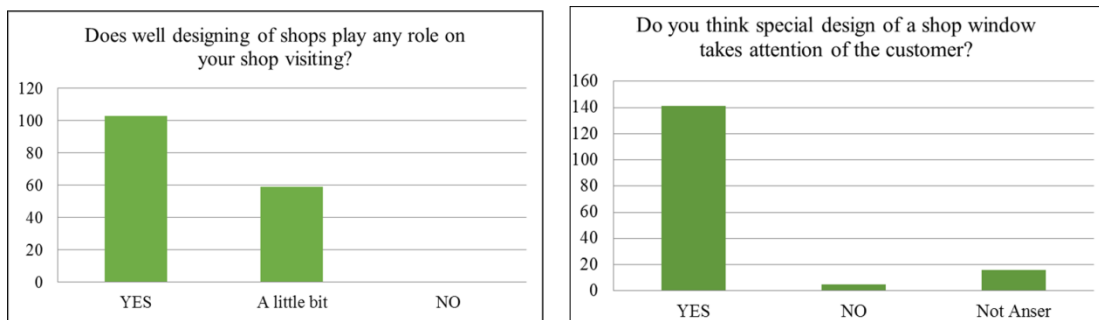
Figure 101: Effect of use of texture on the shopping activity - Istinye Park Shopping Mall

As it was mentioned previously that the design of a shop with a special manner could take people's attention most of the responding people mentioned that it is the objects

/ furniture first, color, lighting, and texture from higher effective to lesser as the factors that are attracting users [Figure 102].
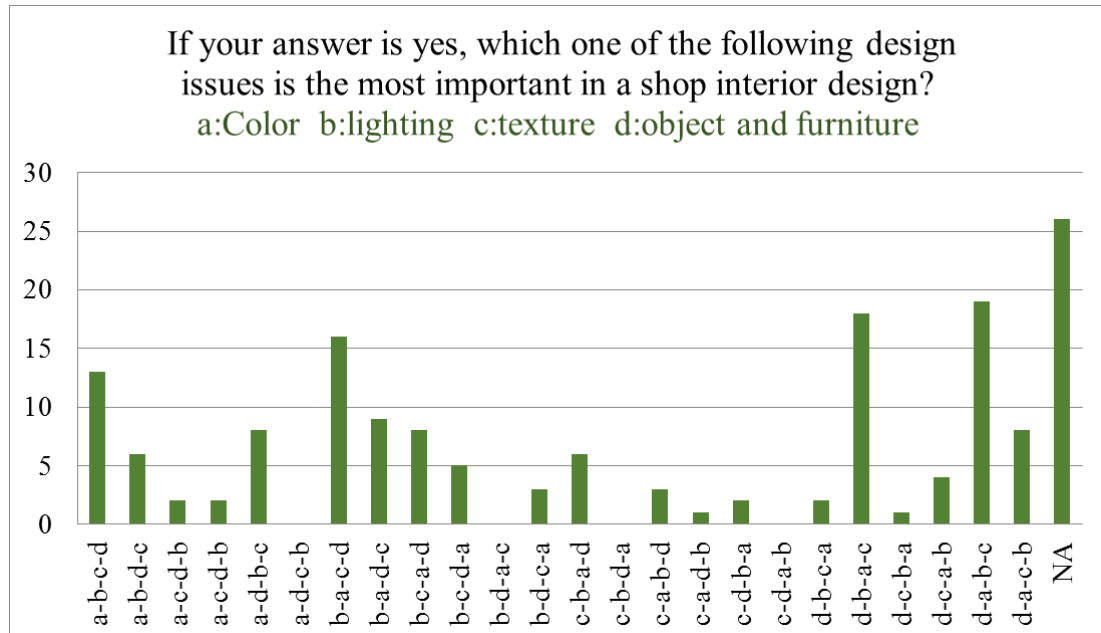

Figure 102: Element importance in interior design of a shop - Istinye Park shopping mall

On the other hand, respondents also believed that texture increases the quality of the designed space and it also affects the atmosphere of a shop positively. As they respond, customers were interested to see texture in the design of the shops. According to the given answers, people accept texture as one of the tactics of design [Figure 103].
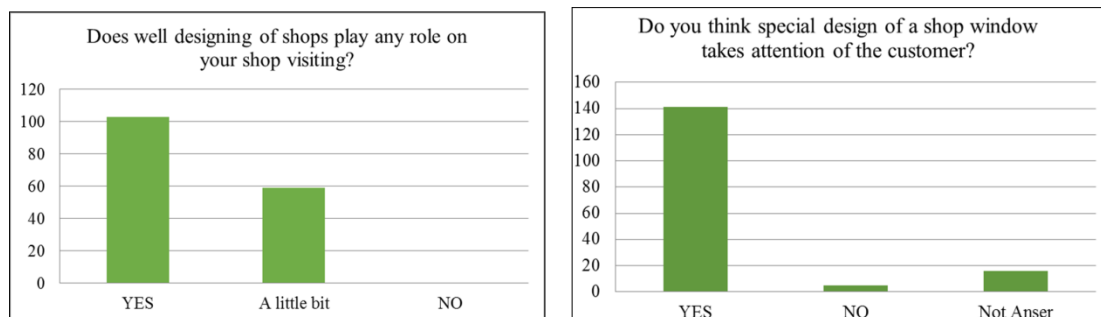
Figure 103: Effect of texture in shop design - Istinye Park shopping mall

Additionally, they were asked about the texture creation in shop design. Accordingly, it seems that responding people believes texture is an important design element in shop design. The percentages of the answers shows that texture may play an important role in shopping activity and can take customers' attention [Figure. 104].
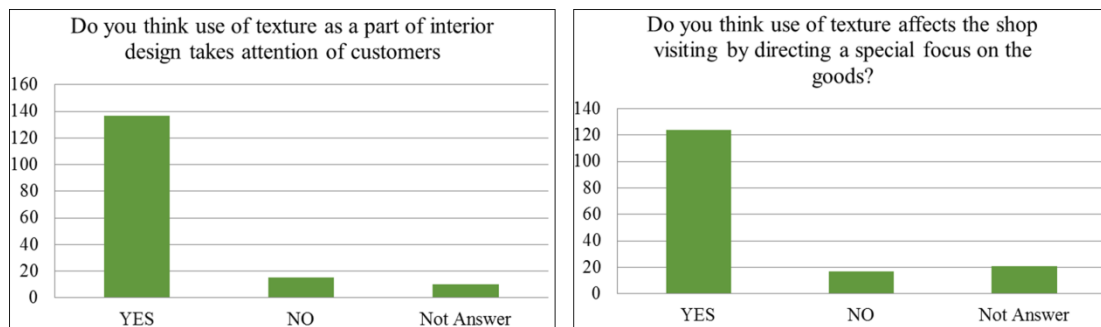

Figure 104: Effect of texture in shopping activity - Istinye Park shopping mall

As next evaluation demonstrates, most of the respondents believe that interior walls are the most proper surfaces within the space for the placement of texture in order to attract customer attention. On the other hand, many other people mentioned the facades and shop windows as proper locations that should be designed with texture to attract more customers. Besides these, some of the respondents pointed out that an attractive place to be designed with texture is nearby the goods, inside on the objects and inside on the walls [Figure 105].
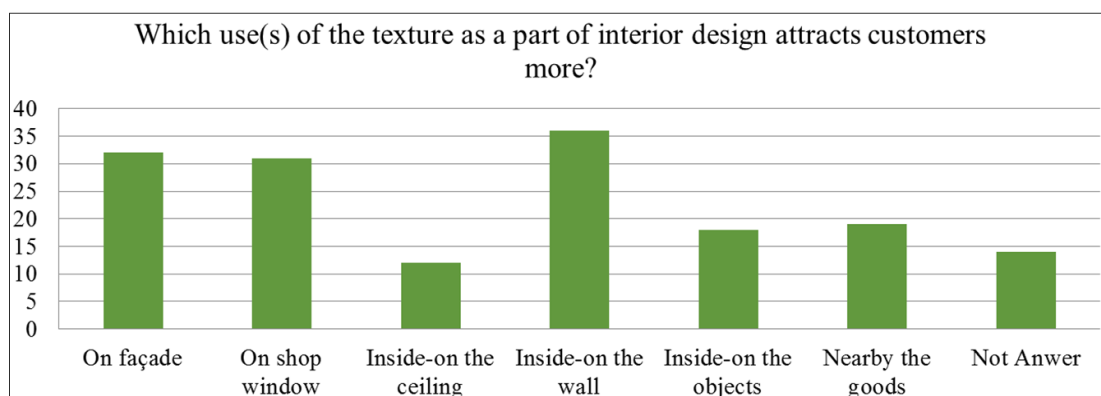

Figure 105: Proper texture placement to attract customer attention - Istinye Park shopping mall

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Additionally, most of the people believe that if there is a special organizing of goods that creates texture in the interior space of a shop, this can also attract people and will be an effective manner to increase the quality of the space. They actually believe that such special organization of goods may affect shopping activity and will have specific effect to raise the selling intensity. Thus, it could be summarized that special organization of goods is a technique to create texture and this action affects the quality of the space and increase shopping activity [Figure 106].
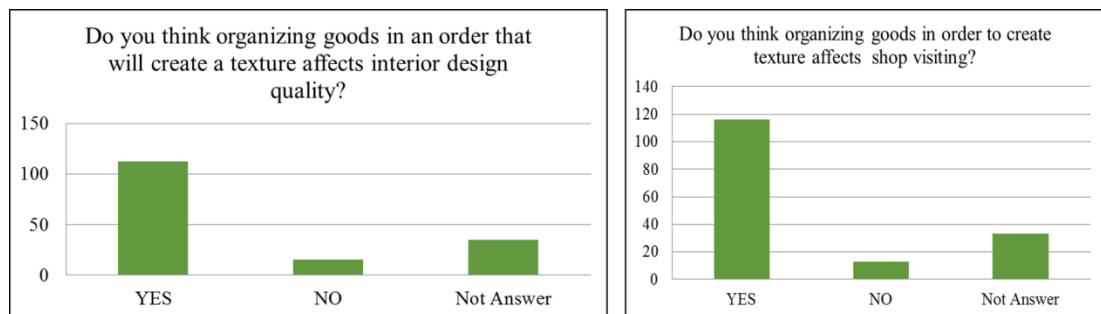

Figure 106: Special good organization is the way to create texture - Istinye Park interior design

When it was asked respondents, how do they feel in a space which has special interior design with the integration of texture? Apart from the people who did not answer the question or the people who were not satisfied to be in a shop with texture creation, many respondents answered that they had good feeling to be in a shop with texture creation around [Figure 107].

Figure 107: People's satisfaction to be in a shop with texture creation around - Istinye Park shopping mall

Finally, they were also asked to state their thoughts about effects of using texture in interior design of shops and most of the people respond that the aim of texture creativity in interior shop design is related to the aesthetics of space and to attract customers' attention to the shop. Feeling comfortable or enhancing acoustics were the other responds which were stated relatively low compared to the effects of attraction and aesthetics. [Figure 108].
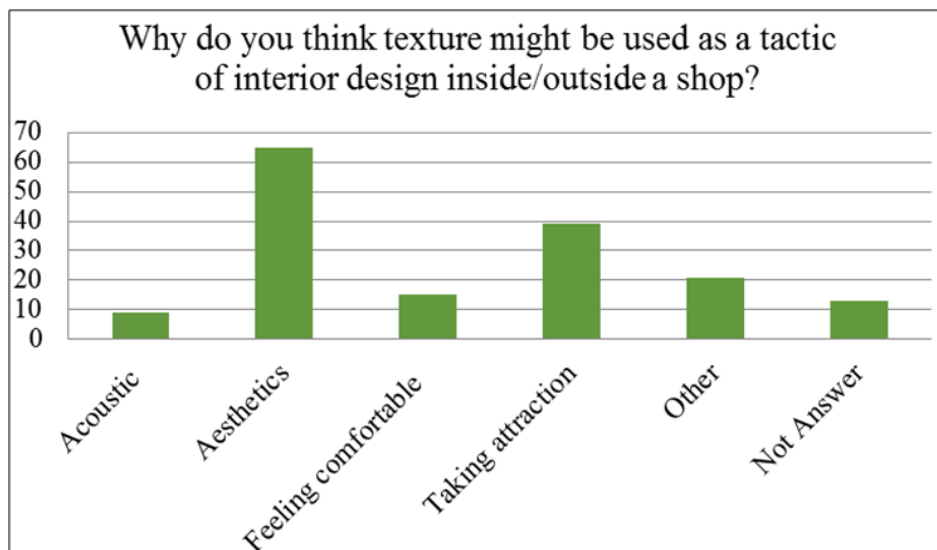

Figure 108: The aim of texture creation in design of the shop - Istinye Park Shopping Mall

Chapter 4

CONCLUSION

Texture in interior design of retail or commercial spaces is tactic that can both attracts people attention, direct them to enter in and increase the quality of the designed space. This study carried out a research on the mentioned subject with a problem statement, which it argued that users do not know detailed information about texture whereas designers on the other hand have shortage of knowledge in the creation of it. Furthermore, the matter of confusion between texture and material emphasized as the other concern.

Accordingly, as a result of the carried out research, this study revealed the three main issues in general:

1. Sources / references on texture creation are very limited and the existing studies point out the relationship between texture and the material or surface quality rather than design of texture.

2. People generally aware of and interested in the texture in interior spaces however their knowledge is limited to visual and 2D texture where 3D texture is not known or admitted by them.

3. According to functional role of texture in the design of commercial interiors, this study has been revealed that texture usually is used practically to display and emphasize special goods, object, or place. Display of new products and counter

area achieved as the frequently detected and proper examples, which were usually demonstrated with texture.

Particularly, it has been achieved that in practice many designers use various types of natural or artificial materials to create texture. However, in the written sources the methods of creating texture is not explicit. Accordingly, this study conclude explicitly the creation /design of texture in detail as a result of the analysis of the cases via literature survey and by the investigation of texture through a case study research that may also work as a guideline in the further studies as such:

i.   Texture could be created on four different group of elements in interior space such as conceptual elements, visual elements, relational elements and practical elements.

Figure 109: Texture creation under four main element groups in interior design

ii. Texture could be created mainly with the regular repetition and irregular repetition (rhythmic) of different elements of design, which are points, linear elements, planar elements and volumetric elements.

Figure 110: Texture creation based on regular and irregular repetition

iii. Natural or artificial materials in 2D shapes or 3D forms may achieve texture creation according to the mentioned methods.

Figure 111: Texture creation by using natural and artificial materials

iv. Created texture may have smooth or rough surface quality.

Rough Surface Quality | Smooth Surface Quality

Figure 112: Smooth and rough surface quality according to texture creation in the space

v. Perception of texture could be grouped as visual or tactile that visual texture is just a texture, which is designed to be exist like photos, some of wall papers, or all printed textural material and tactile texture starts with relief and felt when it is touched.

Visual Texture | Tactile Texture

Figure 113: Use of visual and tactile texture in Istinye Park

vi. Texture could be created with various materials that Gagg (2012) mentioned in his study such as timber, steel, glass, laminate, vinyl and rubber, textile, concrete / terrazzo / quarts, stone / steel / marble, ceramic, paint and wallpaper. In addition to

his study, this research determine that there could be some other materials which can create texture in design such as brick and plaster as it was detected in some of the shops in the Istinye Park.
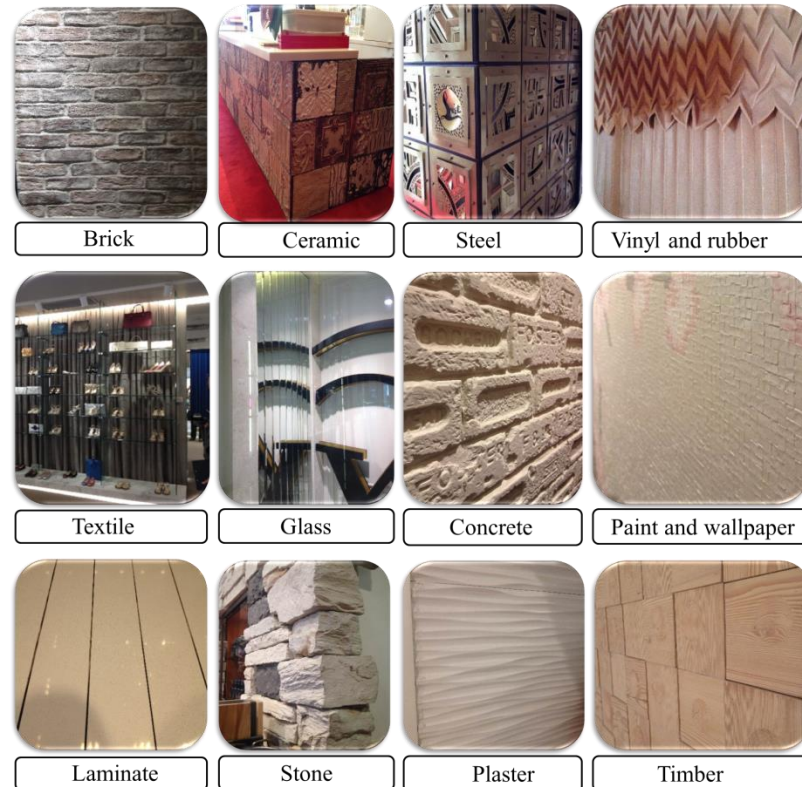

Figure 114: Various Materials, which created texture according to design point of view

vii. Results of literature review besides the case study research has been clarified that there are 4 different methods or techniques to create texture in interior design that are

a. Creating texture through articulation of various materials

b. Creating texture by using recycled and raw materials

c. Texture created via repetition of individual objects

d. Innovative texture through smart material

During the case study it has been revealed that 3 of the above mentioned methods were used to create texture in interior design of a shop except creating texture through the smart material.

e. In addition to the above stated methods molding and scratching the liquid materials such as concrete, plaster, rubber, and glass found as the other technique, which create texture in interior design.

The above-mentioned issues may work as a guideline for designers or candidates of designer who would like to consider texture in the interior design issues.

As the last words, it could be said that, use or creation of texture in interior design of any place increase the quality of the designed place/ space. It may attract people attention in commercial places to orient them to the special goods or texture also may direct people to show a specific space or way. On the other hand, use of texture in interior design also has aesthetic aspects, which affects people perception while they are in the space.

On the other hand, this study particularly achieved use of texture in commercial spaces with a detailed investigation where use of texture on their shop window, or on the walls in indoor spaces investigated primarily which people/ customers usually communicate them by eyes. It means that, the relationship between customers and texture in commercial places is usually based on visual perception with no matter if they are used as a visual texture or tactile texture. It has been achieved as a result of the analysis that mainly it is tactile texture which is 3 dimensional and the most frequently used material to create texture is timber.

Upon the above stated results there are other concerns about the concept of texture that could also be taken into consideration in further researches. For instance;

- Perception or meaning of the texture could be another point of view to be searched. Each texture has its special identity, which gives specific feeling to the viewer. Here in this study perception of texture mainly deal with the visual quality of the texture created as visual or tactile. However, how people perceive texture was not quested; each different person might evaluate the meaning of texture differently that could be a further investigation about concept of texture.

- As texture is a tactic of design, it also could be mentioned as an artistic element and pieces of art could be used to create it which affect both people and spaces perception. Therefore, the role of art during the texture creation may be considered or researched as a further study. Besides the possible relationship between texture and art could bring further investigations where the cooperation of interior architect and artist would also be handled in a new study.

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APPENDIX

Eastern Mediterranean University-Faculty of Architecture-Department of Interior

Architecture-Master of Science in Interior Architecture-Famagusta-N.Cyprus

April 2014

This Questionnaire is a part of Master's study of Mohammad Kamalzadeh supervised by Assoc.Prof.Dr. Nil Paşaoğluları Şahin at Eastern Mediterranean University, Department of Interior Architecture, Masters Program. It aims to quest the use of texture as a tactic of Interior Design where the focus of the measurement is the commercial spaces and the case study area was determined as İstinye Park Shopping Mall-İstanbul. . It mainly aims to measure people's awareness and reaction about the use of texture inside/outside the shops. We would be grateful to you if you spend a short time to participate the questionnaire survey.

Yours Sincerely

Mohammad Kamaladeh   Assoc.Prof.Dr. Nil Paşaoğluları Şahin

A. GENERAL INFORMATION ABOUT RESPONDENT:

Age:

Under 20   21-30   31-50   over50

Education:

Under bachelor   Bachelor   Master   PhD

Profession:

Gender M/F:

Intensity/frequency of use:

Everyday   a few days of a week   once a week   every two week   once a

month   less

B. AWARENESS ON INTERIOR DESIGN ISSUES

1. Are you interested in Interior Design Issues?

   a. Yes   b.No

   b. What do you think the most important issue is in the field of interior design? Rate over

       4-1:(4-the most, 1: the least)

   a.Color   b.Lighting   c.Texture   d.Objects/Furniture

3. Do you know, what is texture in interior design?

   a. Yes   b. a little bit   c. Not

   at all

4. If you know about texture, have you ever seen texture around you?

   a. Yes   b. Not at all

If your answer is yes, can you remember a place just because of its texture design?

………………………………………………………

Have you ever used texture in your life? For example your home, office, room…

a.Yes   b. Not at all

Which one of these places use texture in interior design? (You may chose more than one)
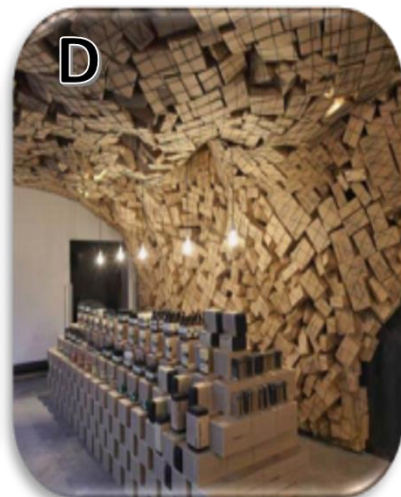
C. RELATIONSHIP BETWEEN CUSTOMER-SHOPPING-INTERIOR DESIGN OF A STORE/SHOP

5. What takes your attention most, when you are shopping?

a. Staff Behavior   b. Goods   c. Shop's design

6. Does well designing of shops play any role on your shopping?

a. Yes   b. A little bit   c. Not at all

7. Do you think special design of a shop window takes attention of the customer?

    a.   Yes   b. No

8. If your answer is **yes**, which one of the following design issues is the most important in a

    shop interior design? (rate from 4-1-most-least)

    a.Color   b.Lighting   c.Texture   d.Objects/furniture

9. Do you like the use of texture inside/outside the shops?

a. Yes   b. No

10. Do you think texture increases the quality of interior design/atmosphere of a shop positively?

a.Yes   b.No

11.Do you think use of texture as a part of interior design takes attention of customers?

a.Yes   b.No

12.Do you think use of texture affects the shopping activity by directing a special focus on the

goods?

a.Yes   b.No

13. Which use(s) of the texture as a part of interior design attracts customers more?

a.On façade   b.On shop window   c.Inside-on the ceiling   d.Inside-on the wall

      e.Inside- on the objects   f.Nearby the goods

14.Do you think organizing goods in an order that will create a texture affects interior design

action?

a.Yes   b.No

15.Do you think organizing goods in order to create texture affects shopping?

a.Yes   b.No

16.Do you remember any shop in this shopping mall that is taking attention with the use of

texture as a tactic of interior design /inside/outside/façade?

-

17.How do you feel in a shop that is designed with the integration of texture as the main idea of

interior design?

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18. Why do you think texture might be used as a tactic of interior design inside/outside a shop?

a.Acoustic   b.Aesthetics   c.Feeling comfortable   d.Taking

attraction

e.Other:……………………………………..

Thank you for participating the questionnaire survey.