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Research Article

Visual Impact Analysis Via SPSS Method On Café Facades

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Abstract

The study aims to determine the criteria for the arrangement of the facades according to the spatial stimulation elements that are liked through the visual impact analysis of the cafe facades located in the transforming historical and touristic places. The study area was chosen as Kemankeş Karamustafa Paşa neighborhood in Karaköy district of Istanbul as it meets these criteria. The components that determine the visual effect of the facades are the scales of the ground floors, facade materials and colors, forms, full-empty and light-shadow ratios. The criteria for liking were determined through a questionnaire study consisting of a series of open-ended questions based on these components and adjective pairs based on semantic differentiation. The adjective pairs were selected from the ones that are suitable for the visual perception parameters of the facades to determine the emotional and physical dimensions of the façade effect. Façade visuals were analyzed with adjective pairs with antonyms and open-ended questions, and the relationships between the effect evoked by the adjective pairs and the answers to the open-ended questions where the level of appreciation decisions were made were examined. Adjective pairs were evaluated on a five-point scale for each facade. Statistical evaluation of the survey results was made with the SPSS program. The research population consisted of senior undergraduate students studying architecture and interior architecture, and undergraduate, graduate and doctoral graduates of architecture and interior architecture. According to the findings obtained as a result of the survey, the participants prefer to sit in cafes on streets that are respectful to the historical texture, simple, light colors and enriched with plants. As a result of the study, which reached a general judgment from subjective judgment, the most admired façade typology and its components were determined. It is important to evaluate the results in order to create a common language in the cafe facades located in the historical texture within the scope of urban renewal studies that our country has started to meet.

Keywords: Visual Perception, Visual Impact, Semantic Differential, Karaköy, Cafe Facades

Kafe Cephelerinde SPSS Yöntemi ile Görsel Etki Analizi

Öz

Çalışma, dönüşmekte olan tarihi ve turistik değerdeki mekanlarda yer alan kafe cephelerinin görsel etki çözümlemesi üzerinden, beğenilen mekânsal uyarım elemanlarına göre cephe düzenlenme kriterlerini belirlemeyi amaçlamaktadır. Çalışma alanı bu kriterleri taşıması sebebiyle İstanbul Karaköy Semti Kemankeş Karamustafa Paşa mahallesi olarak seçilmiştir. Cephelerin görsel etkisini belirleyen bileşenler zemin

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katların ölçekleri, cephe malzeme ve renkleri, formları, dolu-boş ve ışık-gölge oranlarıdır. Beğeni kriterleri, bu bileşenler üzerinden hazırlanmış bir dizi açık uçlu sorular ve anlamsal farklılaşmaya dayalı sıfat çiftlerinden oluşmuş anket çalışması ile tespit edilmiştir. Sıfat çiftleri seçimleri cephe etkisinin duygusal ve fiziksel boyutlarını belirleyebilecek şekilde cephelerin görsel algı parametrelerine uygun olanlarından derlenmiştir. Cephe görselleri zıt anlamlı sıfat çiftleri ve açık uçlu sorular ile analiz edilmiş sıfat çiftlerinin uyandırdığı etki ile beğeni düzeyi kararlarının verildiği açık uçlu soruların yanıtları arasındaki ilişkiler irdelenmiştir. Sıfat çiftleri her bir cephe kapsamında beş dereceli ölçek üzerinden değerlendirilmiştir. Anket sonuçlarının istatistiksel değerlendirmesi SPSS programı ile yapılmıştır. Araştırma evrenini mimarlık ve iç mimarlık eğitimi alan lisans son sınıf öğrencileri ile mimarlık ve iç mimarlık alanında eğitim almış lisans, yüksek lisans, doktora mezunları oluşturmuştur. Anket sonucunda elde edilen bulgulara göre katılımcılar tarihi dokuya saygılı, sade, açık renklerin kullanıldığı, bitkilerle zenginleştirilmiş sokaklardaki kafelerde oturmayı tercih etmektedir. Öznel yargıdan genel yargıya ulaşan çalışmanın sonucunda en fazla beğenilen cephe tipolojisi ve birleşenleri belirlenmiştir. Ülkemizin tanışmaya başladığı kentsel yenileşme çalışmaları kapsamındaki tarihi doku içerisinde yer alan kafe cephelerinde ortak bir lisan oluşturmak adına sonuçların değerlendirilmesi önem taşımaktadır.

Anahtar Kelimeler: Görsel Algı, Görsel Etki, Anlamsal Farklılaşma, Karaköy, Kafe Cepheleri

1. Introduction

Nowadays, as in many countries, renovation works are carried out in Turkey. The design concepts of new additions to historical buildings are a controversial issue in the literature. In this study, it is aimed to discuss the interventions made on the ground floor facades in historical areas based on common aesthetic values. In this way, it is aimed to discuss the limits of intervention on the fronts, which are not included in the scope of a new annex but are important in terms of affecting the street identity and silhouette. The study is limited to cafe facades. Further studies could be held for residential, office, hotel facades.

The research aimed to determine subjective preferences formed via reciprocal relationship between man and environment with the semantic differentiation method which is in common use by many disciplines (Ploder ve Eder, 2015, p.563). The cafes located in the coastal part of Kemankes Karamustafa Pasa Neighbourhood of Karakoy District in İstanbul, which has historical and touristic importance, were chosen for the fieldwork. Questionnaire which is based on semantic differentiation method conducts the research and issues the facades of the cafes in the fieldwork. The questionnaire contains a list of bipolar adjectives on five-point scale and a set of open-ended questions for determination of preferred shape, colour, texture, and proportion features.

The outcomes of the questionnaire, responses to open ended questions and arithmetic mean of bipolar adjectives processed by SPSS program analysed comparatively. The paper aims to determine the objective design criteria of pleasant places based on subjective aesthetic judgement. The outcomes of this paper will contribute for transforming streets into pleasant places which are compatible with the environment in urban regeneration process.

2. Streets and Aesthetic Values

Streets are major urban elements that link urban spaces therefore they are predominant elements in city image (Lynch, 2019, p. 52). Building facades compose street identity which is perceived as whole and has impact on our aesthetic judgement. Favourable aesthetic judgement is composed by pleasant places (Aydınlı,1986, p. 35).

Building facades and natural elements are components of an architectural composition in a street layout. We perceive unity in the composition as beautiful in aesthetic sense.

In order for an architectural composition in a street layout to be perceived as beautiful, it is not essential or sufficient for all the components to be beautiful individually, they ought to complement each other in a composition; only this way can it be perceived as aesthetic (Timuçin, 2004, p. 145).
We want to be at the places we like and revisit them. We spend time in such places. We form aesthetic judgements intrinsically and act accordingly (Leder vd., 2004, p. 492) (Figure 1). Understanding aesthetic preferences of people is crucial for designing environments.

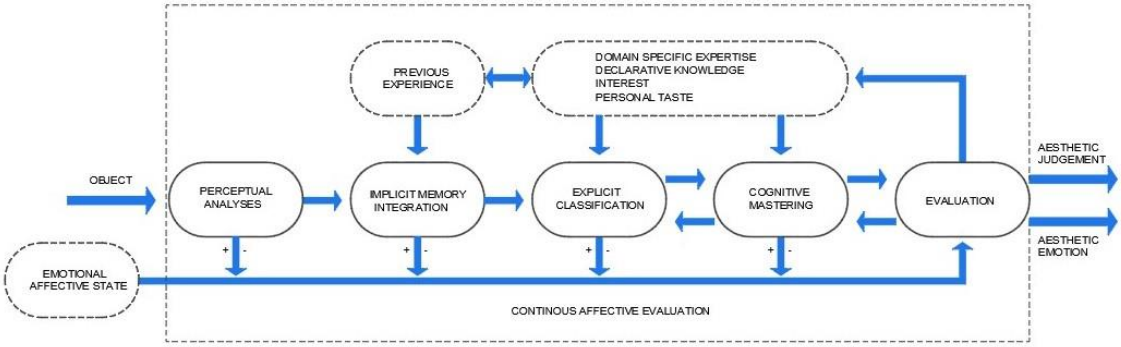

Figure 1. Model for aesthetic experience (Leder vd., 2004, p. 492).

Aesthetic evaluation in architecture is examined in two dimensions as formal and symbolic. Formal aesthetic issues which search for “beauty” are related to formal features of an architectural object while symbolic aesthetic search for the meaning of the object. Perceptual process is active in the evaluation of both dimensions (Aydınlı,1986, p. 32). Visual perception has been examined in architecture and urban design by various theorists (Arnheim,1977), (Lynch, 2019), (Rossi, 1982). Interaction between man and environment and the images in the users memories have been emphasized in studies (Perovic ve Kurtovic, 2012, p. 922).

2.1 Ground-Floor Facades

The perception of streets depends on speed that have been passed through. Passing through a street by walking or by vehicle what we perceive is different. Slowing down approaches us to human scale. Thus door numbers, windows, niches on facade, columns, shop windows, signages, ornaments on facades become distinguishable(Jacobs,1995, p.133), (Gehl, Kaefer, ve Reigstad, 2006, p. 29). Facade width reflecting parcel bigness, height of ground floor, proportion of both; the geometry of openings such as windows and doors, solid surfaces, proportion of both; dimensions, materials, colours of openings; materials, texture and colour of solid surfaces; facade components such as signboards, awnings; outdoor furniture and plants that both are

perceived as components of facades because of their closeness; the composition of all are spatial features that make us stimulate for aesthetic judgement while walking through a street. Ambience light identifies the impact of the composition of spatial features; it could be perceived weak or strong due to light-shade ratio.

What we see in a street depends on the distance between the street and the buildings in the street and us. We see the buildings with their full height when we are far enough and approaching to closer, we perceive directly proportionate to the physical dimension of human (Figure 2). Thus walking through a street the physical environment that we perceive is ground floor facades of the buildings which are related to human scale (Gehl, Kaefer, ve Reigstad, 2006, p. 33).

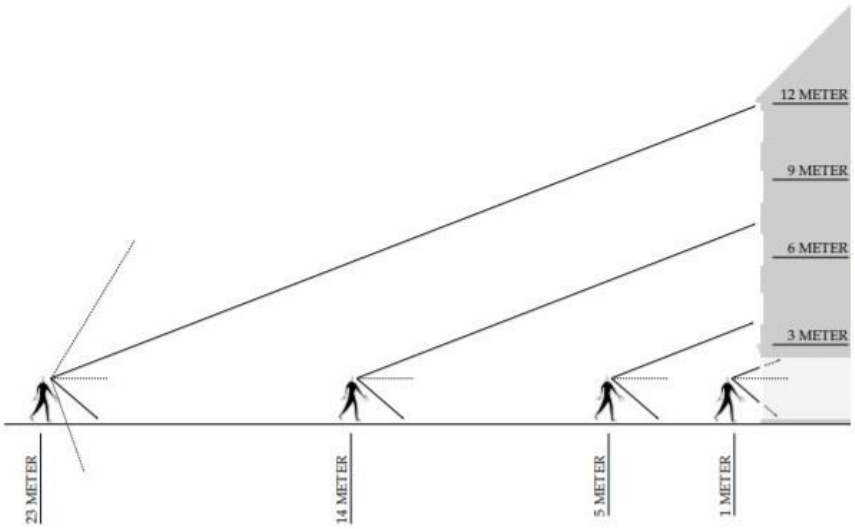

Figure 2. Effective viewing distances(Gehl, Kaefer, ve Reigstad, 2006, p. 33).

Broad definition of facade has been introducing us from 19th century. It is defined as physical border of building; communicative layer with city; medium for ornament; surface reflecting the function and forming the programme of the building or representation arena (Sönmez, 2013, p. 81). Ground floor is defined as the meeting place of the building and the city, where as citizens' and buildings' interacting arena (Gehl, Kaefer, ve Reigstad, 2006, p. 33). Initial studies on facade based on Alberti's "De re aedificatoria" which includes a new discourse originated with Vitruvius. Alberti defines the ground floor plan as the key of the building and based the height and proportion to it (S. Lang, 1965, p. 334).

2.2 Factors Affecting Visual Perception in Architecture and Analysis of Visual Impact

The spatial stimulation elements of the design appear as colour, form, and texture, while light contributes to the visualization and interpretation of the elements.

Form: The form that expresses the three-dimensional perception of the structures consists of the one-dimensional elements point and the line, the two-dimensional element formed by them, the plane and the volume formed by all of them. The proportion in the shape of the building makes it perceived as visually unpleasant or pleasant, unimpressive or impressive. The arrangement, rhythm and repetition of the linea

elements that create the open-solid effect on the facades give the facades an arranged or disarranged, static, or dynamic, uniform or diverse effect.

Colour: The use of colour is one of the elements that strengthen the design. Distinctive design effects are created by making use of the emotions evoked by colours. It is because of the colours chosen that we feel discord or harmonious, disturbing or relaxing, boring or interesting, repulsive or attractive, cold or warm, dull or alive. The use of colours in bright tones makes the space feel dynamic and cheerful, while pastel tones create a calming effect. The use of tones of the same colour in the space gives us the effect of unity, while the use of assorted colours gives the effect of diversity.

Material – texture: Each material has its own unique texture. Textures are perceived as smooth or rough, hard or soft according to their appearance. Familiar materials and textures make us feel ordinary, while dissimilar materials and textures leave an astonishing effect.

Scale – structural analysis: The concept of scale in architecture is associated with the physical dimension of human being. In determining the dimensions of the building, it is essential to consider the psychological dimension of the human as well as the physical dimension. In the unity that building elements establish revives the concept of proportion which determines the aesthetic quality of the building.

Ground floor – parcel width: The parcel size is a parameter that determines the dimensions of the facade. The larger the plot, the wider the facade. The parcel sizes in the historical texture are small, depending on the construction technique and understanding of the period. A part of the area preserves its historical background in the fieldwork. Due to the fires in the region, reconstruction and zoning activities related to the period decisions brought some deteriorations in the texture (Akın, 2002, p. 181).

Ground floor height: The ground floor height, which is evaluated as a function of the parcel size, constitutes the proportion and size parameter of the building. If aesthetic norms are considered in the ratio of the width and height of the facades, this type of facades is appreciated. The urban texture created with the proportions in which the human scale is preserved can be perceived and adopted more easily. The heights of the buildings in the study area vary in the range of 2-5 floors in accordance with the parcel structure. Ground floor heights do not exceed 3,5 m throughout the fieldwork.

Open – solid proportions: The walls as solid surfaces on the facades and the windows, doors, balconies as openings and their ratio to each other are important parameters that create the visual effect of the facade. The openings appear as a reflection of the building program. The openings to solid surfaces proportions of the ground floor facades in the fieldwork vary. There is no integrity throughout the area.

Light – shade: While light-shade, which reveals the effect of the facade and contributes positively or negatively to the effect, exists naturally in day light, it can be artificially designed in a more controlled manner in dark environments. With colour preferences, the effect of making the place darker or brighter than it can be created.

Man is surrounded by his environment and interacts with it mutually. Perception is the process of obtaining information about an individual from or about something in his/her environment. It is an active and purposeful action (J. Lang,1987, p. 11).

The information received from the environment with the five senses is guided by the relevant schema in the mind in line with the needs. A set of these schemas are innate and a sum of them are learned. Coordination of both perception and cognitive processes, forms the emotional responses reflect to spatial behaviours (J. Lang, 1987, p. 95). Since schemas vary according to individuals, perception appears as a personal experience and gains individuality by filtering through variables such as age, gender, culture, education and lifestyle (Aydınlı,1986, p. 78).

2.3 Karaköy District and Its Regeneration

Kemankes Karamustafa Pasa Neighbourhood, located within the Beyoglu Urban Protected Area, has been one of the districts where trade has taken place in Istanbul since the Middle Ages. It has been subjected to many physical changes and urban regeneration until today (Küçük ve Mazlum, 2017, p. 90).

The history of Kemankes Karamustafa Pasa Neighbourhood is date back to the settlement of Genoese in the region in the 13th century. Candle manufactures produced with animal fats obtained from slaughterhouses around Mumhane Street gave its name to the Street and the Mumhane gate, one of the many Gates in the Galata Walls (Küçük ve Mazlum, 2017, p. 91).

After the conquest, mostly Greeks were settled in the region. The area was damaged in the fires in the 19th century and many buildings were rebuilt; in this way urban texture was deteriorated. In the same period and afterwards, the region was exposed to zoning activities which were conducted throughout the city and narrow streets were turned into avenues by demolitions.

The fieldwork was determined as Mumhane Street and its immediate surroundings. The neighbourhood shares a common border with Salipazari Cruise Port Project, also known as Galataport, and is transforming again with the contribution of the Project. There are residences, offices, and hotels on the upper floors of the buildings while cafes, restaurants and small shops take place at ground floors which many of them were used to sell industrial products in the region.

Galataport Project is an urban renewal Project of 1,2 km coastline. The Project consists of a hotel, office, retail sales, food and beverage areas, recreation area and parking lot shaped in and around two quays. The transformation of Salipazari Port into a cruise port brings along the tourism potential, and local and foreign tourists is expected to visit the region (Aktaş ve Koramaz, 2020, p. 76). The field of study is assumed to be a part of the Project in terms of function and is an attractive option with its historical texture.

3. Method and Results

Although the architectural stimulation elements are fixed, they cause different effects on people. The evaluation system, which is designed to measure the emotion and the response that occurs as a result of the transformation of what eye sees into the image created in the mind of the person, is made through pairs of bipolar adjectives based on semantic differentiation (Heise, 1970, p. 235). Heise states that the evaluation system is reliable and stable even in a sample set of 30 means (Heise, 1970, p. 343).

Table 1.Bipolar adjectives and dimensions.

	FORM	COLOUR	TEXTURE-MATERIAL	SCALE	LIGHT-SHADE
EMOTIONAL DIMENSION	Unpleasant-pleasant Unimpressive-impressive	Discord-harmonious Disturbing-relaxing Boring-interesting Repulsive-attractive Cold-warm Dull-alive	Ordinary-astonished	Restless-restful	Distress-spacious
PHYSICAL DIMENSION	Disarranged-arranged Static-dynamic Uniform-diverse	Colourless-colourful	Complex-simple Monotonous-variable	Small-big	Dark-bright

Bipolar adjective pairs compiled from various sources (Aydınlı, 1986, p. 64-68) were used for facade visual impact analysis. The adjective pairs, which are suitable for visual perception parameters of the facades, determine the emotional and physical dimensions of the facade impact. At least one pair was selected for evaluation of each visual perception parameter form, colour, texture-material and light-shade.

Figure 3. Cafes were chosen for fieldwork around Mumhane Street

Cafes of diverse sizes were selected in the work area. Although the facade concepts of cafe groups vary in separate locations, the use of facade elements that are repetitive within the same group draws attention. This feature was taken in consideration in the selection of cafes that such groups were preferred. Although a few cafes are individual, they are included in the selection in terms of facade sizes and/or qualities. In total thirty cafes were selected and photographed. In addition to cafe facades, streets with characteristic features were selected and photographed and the relations between the facade and visual impacts of the streets were examined.

The facade images were analysed with nineteen bipolar adjective pairs and open-ended questions. The responses to semantic differentiation method and open-ended questions

were examined comparatively. Semantic differentiation was measured on five-point scale.

Two groups of open-ended question set with street images, facade images and bipolar adjective pairs were gathered to form a questionnaire. The first group of question of the questionnaire consisted of demographic questions including age, gender, occupation, and educational status. Street images and open-ended questions constituted the second group questions, facade images and bipolar adjective pairs constituted third group, and the open-ended question group of facade images that were aimed to determine the level of appreciation of facade components constituted the fourth group.

The respondents were undergraduate senior students, undergraduate, graduate, and doctoral graduates who educated architecture and interior design. Questionnaire was prepared digitally and delivered to participants via e-mail. Fifty-four questionnaire responses were evaluated.

Semantic differential responses were processed via SPSS program statistically. The frequency values of demographic data were calculated (Table 2).

Table 2.Occupation, age, gender

	Architect	Interior designer	Total	18-30	31-up	Total	Female	Male	Total
Frequency	33,00	21,00	54,00	40,00	14,00	54,00	41,00	13,00	54,00
Percent	61,10	38,90	100,00	74,10	25,90	100,00	75,90	24,10	100,00
Valid Percent	61,10	38,90	100,00	74,10	25,90	100,00	75,90	24,10	100,00
Cumulative Percent	61,10	100,00		74,10	100,00		75,90	100,00	

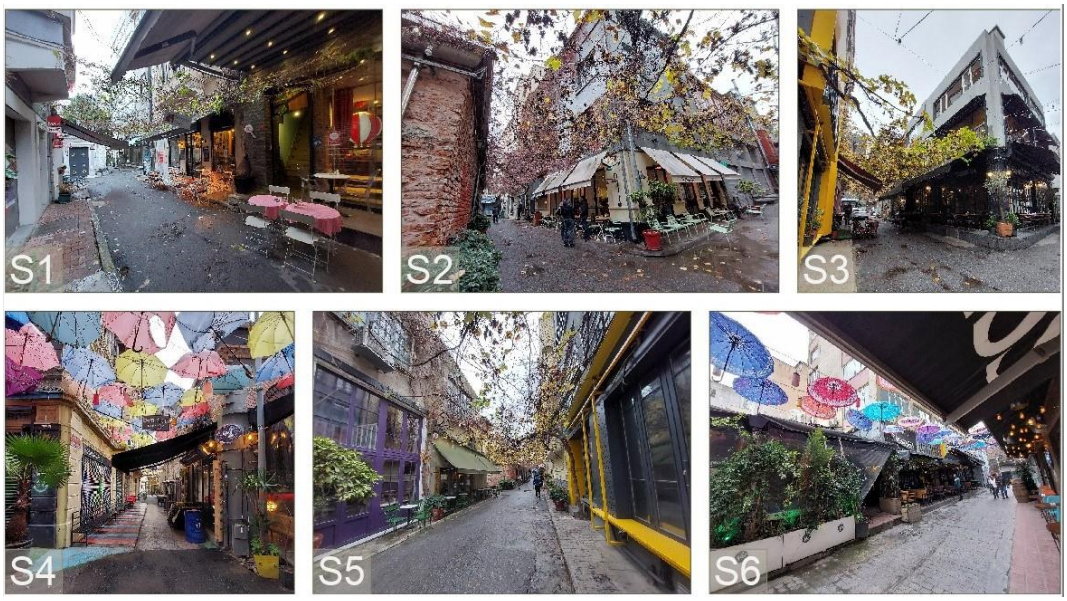

Figure 4. Street images.

The first question, “Which Street cafe would you like to sit in?” was answered by 29% of the respondents as S2 and 24% as S3. S2 was preferred because of its location next to historical texture, its simplicity, plants, use of light colours while S3 its spaciousness, plants, and calmness. S6 was never preferred. The next question, “Which streets and cafes do you think are compatible for the historical texture?” 43% of the respondents

answered as S2. It was preferred because of the simplicity of the colour and texture of the cafe on the street and its harmony with the historical texture next to it.

In this question group, streets in the S2 and S3 images were preferred more.

Respondents were asked to determine the impact of thirty facade images with the help of nineteen bipolar adjective pairs. The pairs were evaluated on five-point Likert type scale. In the measuring, preference was made to give one point to the negative adjective and five points to the positive adjective. The adjective close to negative was given two points, neither positive nor negative preference was given three points, and the adjective close to positive was four points. The consistency of the test was determined by Cronbach's Alpha reliability analysis. The closer the result of the analysis is to the value of 1.00, the more reliable the test is accepted (Brown, 2002, p. 17). The consistency of the answers given to the third part is 0.993. The reliability values of the bipolar adjective pairs for each facade are given in the table above (Table 3).

Table 3. Reliability Statistics of bipolar pairs of adjectives for each facade.

	Cronbach's Alpha	Mean	Variance	Standard Deviation		Cronbach's Alpha	Mean	Variance	Standard Deviation
C1	0,95	51,50	288,29	16,98	C16	0,97	58,31	286,79	16,93
C2	0,93	62,89	173,61	13,18	C17	0,96	50,43	269,80	16,43
C3	0,95	55,37	255,79	15,99	C18	0,96	59,61	233,87	15,29
C4	0,95	53,19	270,46	16,45	C19	0,96	61,06	298,88	17,29
C5	0,94	68,26	156,42	12,51	C20	0,97	46,94	331,34	18,20
C6	0,96	59,07	250,15	15,82	C21	0,97	50,61	304,17	17,44
C7	0,97	55,83	360,41	18,98	C22	0,96	61,61	248,70	15,77
C8	0,95	61,56	208,55	14,44	C23	0,96	59,20	221,18	14,87
C9	0,96	51,93	226,94	15,06	C24	0,97	46,74	302,31	17,39
C10	0,97	53,78	254,03	15,94	C25	0,96	47,78	288,55	16,99
C11	0,96	57,98	257,91	16,06	C26	0,95	62,61	175,56	13,25
C12	0,96	48,35	259,10	16,10	C27	0,97	51,81	293,81	17,14
C13	0,97	45,80	306,85	17,52	C28	0,96	57,52	216,90	14,73
C14	0,97	61,63	315,75	17,77	C29	0,97	47,19	287,02	16,94
C15	0,97	59,93	277,16	16,65	C30	0,96	58,30	268,06	16,37

The general appreciation of all respondents was determined via arithmetic mean values of the bipolar adjective pairs' answers in the third section of the questionnaire (Table 4.1, Table 4.2).

Table 4.1. Bipolar adjective final table arranged due to questionnaire respondents' mean values.

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15
DARK / BRIGHT	2,39	3,72	3,04	3,07	3,94	3,09	3,50	3,39	2,67	3,00	3,06	2,80	1,96	3,46	3,69
DISARRANGED / ARRANGED	3,15	3,80	2,94	2,91	4,02	3,35	2,81	3,83	3,26	2,96	3,61	2,76	2,81	3,02	3,31
UNPLEASANT / PLEASANT	2,94	3,81	3,04	2,81	4,06	3,41	2,87	3,63	2,91	3,11	3,02	2,67	2,57	3,39	3,43

DISTRESS / SPACIOUS	2,33	3,57	2,78	3,04	3,80	3,26	3,19	3,28	2,70	2,96	3,09	2,50	2,15	3,43	3,56
DISTURBING / RELAXING	2,61	3,56	2,85	2,69	4,00	3,39	3,15	3,43	2,81	3,06	2,89	2,57	2,37	3,37	3,44
BORING / INTERESTING	2,70	3,13	2,83	2,67	3,48	3,02	2,87	2,98	2,72	2,89	2,74	2,46	2,39	3,17	3,17
REPULSIVE / ATTRACTIVE	2,83	3,41	2,87	2,74	3,83	3,20	2,98	3,37	2,74	3,06	2,98	2,59	2,54	3,43	3,33
STATIC / DYNAMIC	2,70	3,02	2,81	3,02	3,22	3,04	3,06	3,00	2,80	2,89	3,04	2,37	2,56	3,11	3,00
COLD / WARM	2,63	3,07	3,41	2,87	3,39	3,26	3,22	3,24	2,63	3,00	3,26	2,50	2,54	3,43	3,07
DULL / ALIVE	2,63	3,02	3,06	2,98	3,48	3,04	3,06	3,04	2,65	2,93	3,07	2,39	2,52	3,19	3,19
RESTLESS / RESTFUL	2,74	3,59	2,89	2,69	4,06	3,17	2,91	3,50	2,74	2,94	2,98	2,67	2,37	3,37	3,44
DISCORD / HARMONIOUS	2,69	3,72	3,13	2,72	4,02	3,37	2,81	3,63	2,96	2,72	3,17	2,65	2,61	3,39	3,13
ORDINARY / ASTONISHED	2,63	3,09	2,76	2,57	3,09	2,96	2,74	2,98	2,50	2,67	2,78	2,72	2,28	3,20	2,93
MONOTONOUS / VARIABLE	2,63	3,00	2,67	2,70	3,13	2,85	2,72	2,98	2,59	2,56	2,87	2,59	2,31	3,13	2,70
COMPLEX / SIMPLE	2,74	3,19	2,94	2,74	3,74	3,07	2,85	3,33	2,83	2,75	2,89	2,83	2,63	3,26	3,17
UNIMPRESSIVE / IMPRESSIVE	2,81	3,43	2,98	2,54	3,81	3,02	2,85	3,30	2,57	2,61	2,91	2,41	2,43	3,31	3,06
SMALL / BIG	2,48	2,93	2,80	2,63	2,96	2,74	2,63	3,09	2,74	2,57	3,61	2,26	2,24	3,02	2,91
COLOURLESS / COLOURFUL	3,02	2,91	2,83	2,80	3,11	2,91	2,78	2,80	2,63	2,56	3,04	2,26	2,30	2,96	2,72
UNIFORM / DIVERSE	2,83	2,93	2,74	3,00	3,11	2,93	2,83	2,76	2,46	2,56	2,98	2,35	2,22	3,00	2,69

Table 4.2. Bipolar adjective final table arranged due to questionnaire respondents' mean values.

	C16	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30
DARK / BRIGHT	2,93	2,78	3,81	2,70	2,20	2,96	3,35	3,28	2,24	2,41	3,74	2,28	3,02	2,62	3,02
DISARRANGED / ARRANGED	3,24	3,30	3,11	3,46	2,80	2,52	3,09	3,11	2,59	2,98	3,46	2,85	3,13	2,50	3,57
UNPLEASANT / PLEASANT	3,20	2,81	3,31	3,48	2,48	2,59	3,44	3,52	2,46	2,57	3,52	2,61	3,13	2,57	3,11

DISTRESS / SPACIOUS	2,93	2,83	3,52	3,00	2,13	2,74	3,31	3,33	2,26	2,50	3,46	2,50	3,13	2,59	2,93
DISTURBING / RELAXING	3,13	2,76	3,31	3,24	2,44	2,74	3,37	3,13	2,37	2,43	3,31	2,63	3,15	2,52	2,94
BORING/ INTERESTING	3,22	2,31	3,07	3,31	2,46	2,61	3,39	3,09	2,31	2,43	3,17	2,72	2,91	2,33	3,13
REPULSIVE / ATTRACTIVE	3,17	2,57	3,19	3,56	2,46	2,67	3,35	3,35	2,41	2,57	3,33	2,67	3,13	2,33	3,07
STATIC / DYNAMIC	3,15	2,57	3,04	3,28	2,61	2,78	3,26	3,07	2,41	2,39	3,30	2,57	2,98	2,54	3,00
COLD / WARM	2,96	2,50	3,11	2,98	2,35	2,76	3,41	2,91	2,41	2,31	3,31	2,61	3,07	2,69	2,87
DULL / ALIVE	3,00	2,56	3,07	2,98	2,37	2,83	3,24	3,02	2,44	2,30	3,28	2,67	3,07	2,61	2,81
RESTLESS / RESTFUL	3,15	2,69	3,28	3,28	2,37	2,74	3,37	3,17	2,39	2,43	3,37	2,65	3,06	2,65	2,96
DISCORD / HARMONIOUS	3,33	2,89	3,20	3,37	2,59	2,59	3,24	3,13	2,63	2,80	3,48	3,02	3,00	2,65	3,22
ORDINARY / ASTONISHED	3,00	2,30	2,83	3,07	2,44	2,61	3,06	2,98	2,35	2,43	3,07	2,72	2,80	2,33	3,11
MONOTONOUS / VARIABLE	2,93	2,26	2,85	3,22	2,39	2,59	3,20	3,06	2,41	2,39	3,13	2,65	2,85	2,39	3,02
COMPLEX / SIMPLE	3,19	3,13	3,07	3,28	2,61	2,61	3,39	2,96	2,65	2,65	3,41	2,91	2,89	2,67	3,35
UNIMPRESSIVE / IMPRESSIVE	3,24	2,61	3,09	3,48	2,46	2,56	3,35	3,07	2,50	2,57	3,46	2,94	3,02	2,44	3,26
SMALL / BIG	3,22	3,41	2,74	3,46	3,09	2,30	2,13	3,26	2,91	3,02	3,06	3,28	3,20	1,94	3,39
COLOURLESS / COLOURFUL	2,61	2,07	3,04	2,85	2,35	2,74	3,44	2,91	2,54	2,26	2,89	2,70	2,98	2,39	2,76
UNIFORM / DIVERSE	2,72	2,07	2,94	3,04	2,31	2,67	3,20	2,85	2,46	2,35	2,85	2,83	3,00	2,28	2,76

The first and second recognised facades and related adjectives are listed below (Table 5).

Table 5. Most recognised facades due to adjectives list and mean values.

	First Recognised		Second Recognised			First Recognised		Second Recognised	
	Mean	Nbr. Facade	Mean	Nbr. Facade		Mean	Nbr. Facade	Mean	Nbr. Facade
BRIGHT	3,94	C5	3,81	C18	RESTFUL	4,06	C5	3,59	C2
ARRANGED	4,02	C5	3,80	C2	HARMONIOUS	4,02	C5	3,72	C2
PLEASANT	4,06	C5	3,81	C2	ASTONISHED	3,20	C14	3,11	C30
SPACIOUS	3,80	C5	3,57	C2	VARIABLE	3,22	C19	3,20	C22
RELAXING	4,00	C5	3,56	C2	SIMPLE	3,74	C5	3,41	C26
INTERESTING	3,48	C5	3,39	C22	IMPRESSIVE	3,81	C5	3,48	C19
ATTRACTIVE	3,83	C5	3,56	C19	BIG	3,61	C11	3,46	C19
DYNAMIC	3,30	C26	3,28	C19	COLOURFUL	3,44	C22	3,11	C5
WARM	3,43	C14	3,41	C3	DIVERSE	3,20	C22	3,11	C5
ALIVE	3,48	C5	3,28	C26					

Accordingly, it can be stated that facades C2, C3, C5, C11, C14, C18, C19, C22, C26 and C30 are the most admired (Figure 5.1, Figure 5.2, Figure 5.3, Figure 5.4, Figure 5.5).

Figure 5.1. C2 arranged, pleasant, spacious, relaxing, restful, harmonious; C3 warm.

Figure 5.2. C5 bright, arranged, pleasant, spacious, relaxing, interesting, attractive, alive, restful, harmonious, simple, impressive, colourful, diverse; C11 big.

Figure 5.3. C14 warm, astonished; C18 bright

Figure 5.4. C19 attractive, dynamic, variable, impressive, big; C22 interesting, variable, colourful, diverse.

Figure 5.5. C26 dynamic, alive, simple; C30 astonished.

The respondents were asked to evaluate the facade design, window, awning, signboard forms and outdoor furniture design in thirty facade images through open-ended questions in the fourth section of the questionnaire.

The first question, “List your three facade designs, starting with your favourite.” While 22% of the respondents wrote C2 and 20% C5 facades in the first place, 15% of them wrote C4 and 7% C8 facades in the second. Facade designs were found to be warm, alive, harmonious, restful, bright, arranged, spacious, and the use of colours was appreciated.

The second question, “List your three facade designs starting with your unfavourite.” While 15% of the respondents wrote C17 and 11% C29 facades in the first place, 9% of them wrote C7-C20-C24 and 7% C4-C21 facades in the second place. Facade designs were found distress, discord, ordinary, dark, and colourless.

The third question, “List your three window forms, starting with your favourite.” While 20% of the respondents wrote C2 and 11% C3 facade in the first place, 17% of them wrote C5 and 9% C18 facades in the second place (Figure 6). The windows forms are compatible with the facade, the colour tone is warm, respectful to the historical texture, original, sincere, in human scale and the workmanship was appreciated.

The fourth question, “List your three window forms starting with your unfavourite.” While 17% of the respondents wrote C17 and 13% C12 in the first place, 13% of them wrote C12 (again) and 11% C7-C25 in the second place (Figure 7.1, Figure 7.2). The window forms were found to be ordinary, incompatible with the facade, dominant and rough.

Figure 6. First place (C2, C3) and second place (C5, C18) recognised window forms.

Figure 7.1. First place unfavourable window forms, C17 and C12.

Figure 7.2. Second place unfavourable window forms, C7 and C25.

The fifth question, “List your three awning forms, starting with your favourite.” While 15% of the respondents wrote C8 and 13% C15 in the first place, 20% of them wrote C8 (again) and 13% C15 (again) in the second place (Figure 8). Awning forms were found to be elegant, complementary to the facade, compatible to the facade, impressive, pleasant, and simple.

Figure 8. First and second place recognised awning forms, C8 and C15.

The sixth question, “List your three awning forms starting with your unfavourite.” While 24% of the respondents wrote C28 and 13% C1 facades in the first place, 17% of them

wrote C11 and 9% C29 facades in the second place (Figure 9.1, Figure 9.2). Awning forms were found to be sloppy, unpleasant, ordinary, incompatible with the facade, and cheap and their colours were not liked.

Figure 9.1. First place unfavourable awning forms, C28 and C1.

Figure 9.2. Second place unfavourable awning forms, C11 and C29.

The seventh question, “List your three signboard forms, starting with your favourite.” While 15% of the respondents wrote C8 and 11% C2-C5 facades in the first place, 19% of them wrote C14 and 9% C6 facades in the second place (Figure 10.1, Figure 10.2). Signboard forms were found to be compatible with the facade, stylish, small, and plane.

Figure 10.1. First place recognised signboard forms, C8, C2 and C5.

Figure 10.2. Second place recognised signboard forms, C14 and C6.

The eighth question, “List your three signboard forms starting with your unfavourite.” While 11% of the respondents wrote C30 and 9% C17 facades in the first place, 11% of them wrote C20 and 7% C12-C21-C25 facades in the second place (Figure 11.1, Figure 11.2). Signboards were found to be sloppy, incompatible with the facade, boring, dominant, and complex.

Figure 11.1. First place unfavourable signboard forms, C30 and C17.

Figure 11.2. Second place unfavourable signboard forms, C20, C12 and C21.

The ninth question, “List your three outdoor furniture design, starting with your favourite.” While 19% of the respondents wrote C5 and 11% C4-C30 facades in the first place, 11% of them wrote C8-C14 and 7% C19 facades in the second place (Figure 12.1, Figure 12.2). Outdoor furniture designs were found to be elegant, stylish, compatible with the facade, in scale, arranged and comfortable.

Figure 12.1. First place recognised outdoor furniture design, C5, C4 and C30.

Figure 12.2. Second place recognised outdoor furniture design, C8, C14 and C19.

The tenth question, “List your three outdoor furniture designs, starting with your unfavourite.” While 13% of the respondents wrote C30 and 11% C7 facades in the first place, 11% of them wrote C7-C20-C25 and 9% C21 facades in the second place (Figure 13.1, Figure 13.2). Outdoor furniture designs were found to be disarranged, uncomfortable, incompatible with the facade, cheap and ordinary.

Figure 13.1. First place unfavourable outdoor furniture design, C30 and C7.

Figure 13.2. Second place unfavourable outdoor furniture design, C7, C25 and C21.

The most recognised facades from this question group are respectively C2, C5, C4, C8 in facade design; C2, C3, C5, C18 in window form; C8, C15 in awning form; C8, C2, C5, C14, C6 in signboard form; C5, C4, C30, C8, C14, C19 in outdoor furniture design.

The most unfavourite facades are respectively C17, C29, C7, C20, C24, C4, C21 in facade design; C17, C12, C7, C25 in window form; C28, C1, C11, C29 in awning form; C30, C17, C20, C12, C21, C25 in signboard form; C30, C7, C20, C25, C21 in outdoor furniture design.

4. Discussion and Conclusion

There are many cafes in and around Mumhane Street, which has historical and touristic value. The facades of the cafes are diverse and there is no unity in the region. Its closeness to the Galataport Project, which has an attraction value for both domestic and foreign visitors, necessitates the work area to take on a quality appearance befitting its historical value.

A survey was conducted to the respondents of architects and interior designers, based on images of thirty cafes selected from the work area. According to the outcomes, the respondents prefer cafes, which are respectful to the historical texture, plain, light colours are used and enriched with plants.

The visual impact stimulated by facades has been examined in two dimensions, physical and emotional. The facades that are recognised in the first and second place among bipolar adjective pairs are C2, C3, C5, C11, C14, C18, C19, C22, C26 and C30. The most favourable facades evaluated through the open-ended questions in the last section

are C2, C5, C4, C8 in facade design; C2, C3, C5, C18 in window form; C8, C15 in awning form; C8, C2, C5, C14, C6 in signboard form; C5, C4, C30, C8, C14, C19 in outdoor furniture design. Comparing the third and fourth sections' outcomes state that related results were obtained from different techniques. In the evaluations made for the impact of facades, facade design, window and signboard forms, the most recognised facades were determined as C2, C5, C8. For the awning form C8 facade and for outdoor furniture design C5 and C8 facades were rechosen.

Figure 14. The most recognised facades.

Among the thirty facade images, the two facades, C5 and C8, the most recognised ones (Figure 14). The main outcomes of these facades are listed as below:

- The ground floor width and height of the facades show similarities. The ratios are compatible with the historical texture and in accordance with parcel structure.
- There is similarity in opening-solid surface proportion as well the repetition, width and height of the lines forming the spaces are similar.
- On the facades, which we perceive as plane, depth is created in the window locations which recessed slightly that the expression of the third dimension is added to the planar effect.
- The rhythm in the repetition of the openings ensures that the facades are perceived as pleasant, arranged, impressive and dynamic.
- Colour tones are beige and light yellow. Such light colours give the impression bright, spacious, relaxing to facades.
- The pastel colours of outdoor furniture on the C5 facade and the dark colours of the windows have added a colourful feeling to the facade.
- The signboards on the facade are arranged in harmony with the facade and large enough to be a part of them.
- While the awning on the C5 facade was arranged as one piece, on the C8 facade it was arranged in pieces appropriate to the window dimension and in harmony with the repetition of openings as well.
- The awning in pieces on the C8 facade is the most favourite one.
- The awning colours are contrast with the facade colours to obtain dynamism.
- The variety of materials and textures on the C5 facade has given an astonishing and variable impact.
- The flat surface on the C8 facade was found to be ordinary.

The dark coloured facades in the images were not discerned. The street preference in the second group questions also in line with the recognised facades. Plants on the streets to attract the attention of visitors, spaciousness, calmness, harmony with the historical texture are prominent features. Ivy-type plants forming shadows, light colours can be taken in consideration in street arrangement.

As a result of the study which aimed to reach from subjective aesthetic judgments to objective design principles, the most recognised facade typology and its components

were determined. Creating a common language on the facades of cafes located in the historical texture within the scope of urban renewal works is a necessary attitude in terms of the legibility and integrity of the space. It is important to plan in an equivalent way to achieve integrity on the facades of cafes on Mumhane Street and its surroundings. It is suggested that these design principles to be adapted accordingly.

Further studies for residential, office, hotel facades could be held and matched with the generated outcomes. Accordingly, design criteria and the limits of intervention to facades on ground floors in historical areas could be specified.

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