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# Determining the suitability level of urban markets to the urban planning and design criteria: case of Bilecik, Turkey

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**Abstract**
Despite the increasing number of shopping centers day by day, the urban markets, whose visitors and popularities continue to increase, are the facts of urban life that have been left behind in terms of making even ordinary analyses on their historical positions and socio-economic stances. Urban markets are intense areas of socialization apart from all their important features. In this context, the quality and quantity of times spent in these areas should be configured in the best possible manner. The main subject of this study is the evaluation of the urban markets (district bazaar/street market), which is a subject worth to be examined in historical, architectural, economic, environmental, scientific and sociological aspects, specifically in Bilecik (Turkey), with regard to urban planning and design criteria. In the study, it is aimed to examine the study areas comparatively in line with the surveys that contain general questions that will determine the planning and design preferences applied to the users in two marketplaces in different parts of the city in Bilecik and the observation studies made in the market places. The gathered data were analyzed using normal statistical methods of the SPSS program. A set of urban market items were defined using the factor analysis in order for designating the main and underlying factors.

**Keywords** Street market · Open bazaar · Urban market · Sustainability level

## 1 Introduction

Cities absorb, use and revive any momentum. Scientists agree that the essence of metropolitan settlements lies in the markets and heavily used streets at certain stages of history (Calabi, 2016). A wide range of retail options meet the basic needs of consumers such as food, clothing and household stuff, while providing an environment for social change and entertainment (Zinkhan et al. 1999). It is important to create a balance between environment, economy and society for reaching urban sustainability (Rauf & Weber, 2020). Development of these markets affects the spaces, communities, and natural areas by means

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of transforming and restructuring (Önaç and Birişçi 2019). Mankind has long adopted the culture of street shopping and developed a commercial and urban infrastructure accordingly. Although this culture or ritual, directing the urban dynamics, seems to have left its place to the shopping centers in time, urban markets have always maintained their existence as the locomotives of the consumption sector.

The markets which are indispensable elements of a Mediterranean city have certain basic features: they are compact, complex, efficient and socially cohesive. These features may be a strategic response to the fact that people around the world were dissatisfied with the poor design of spaces reserved for trade and consumption. It is foreseen that a significant contraction will be experienced in the business centers which now dominate the retail sector (Panozzo, 2013). The urban markets played important economic, social and cultural roles for the cities and served as places of trade and work where goods are purchased and sold, festivals are held and where people came together and shared information and these marketplaces were often surrounded by powerful institutions like town hall, law court, business premises (IMMB, 2015). The marketplace concept is generally known as people's coming together in a special place (Shepherd, 2009). However, these urban markets are increasingly being viewed as an element to achieve a wide range of objectives. Among these objectives are access to quality food, better marketing opportunities for farmers, enhancing social interaction, increasing social cohesion, local employment opportunities, re-arrangement of the urban–rural network, and the improvement of the economic development (Caramaschi, 2014).

For promoting the local economy in a better way, the urban politics are made according to the demands of local stakeholders and to the expectations of those operating outside of it (Corsico, 1994). A marketing expert, Jan van der Meer (1992) defines urban marketing as a group of activities devoted to improving the connection between the elements offered by urban functionalities and demanded by its inhabitants, local companies, tourists and other visitors (Meer, 1992). The general principle of urban marketing should focus on developing the city including the problems related to housing, jobs, communication, facilities and environment. This is a planning process composed of allocating the tasks, determining the current situation, strengths and weaknesses and level of competitiveness and finally implementing, monitoring and evaluating the activities (d'Angella & Go, 2009). Here the key element, which is mostly difficult, is defining the city's identity and values in a manner that will be broadly accepted and easily marketed to all target groups (Zhang & Zhao, 2009).

Usually, the informal urban markets are associated with criminals, illegal acts, chaos, spontaneous incidents and a lack of organization. However, these markets also involve a certain degree of planning, order, efficiency, deliberation, calculation, formalization and regularization (Evers & Seale, 2015). Depending on the changes in conditions, vital factors and expectations over time, urban markets also differed in terms of shape and practices. While some of them have turned into economic and social spaces suitable for today's conditions, others have become bad examples of urban space use due to the insufficient control and steering mechanisms (Çalışkan, 2007).

TUSPAF (Turkish Federation of Vegetable and Fruit Sellers and Mobile Retailers) define the urban markets as outdoor and indoor spaces where the goods and other food and necessities offered by the producers and retailers are sold directly to the customers (Akçi 2015). The rise of a consumer culture backed by the proliferation of retail outlets represents not only the increased expenditures but also the transformation of consumption activity (Zinkhan et al. 1999). During a time when rebranding is forming different urban futures, these markets are seen as a return to a more traditional and historic form of city life (Moore-Cherry & Bonnin, 2018). According to one study, the urban markets are

usually the shopping organizations established on certain days and in specific places that allow families to buy their needs such as food, clothing, toys and glassware at affordable prices (Akbaş 2019). The actors of urban markets include consumers, producers and retailers (Tsuchiya et al. 2015). Özgüç and Mitchell (2000), on the other hand, define the "urban market" as gathering of buyers and sellers at regular intervals and in special places allowed by the authorities (Akçi 2015).

In urban marketing, the cities must be organized in a way to meet the requirements of the target segments interested in urban development. The urban marketing is thought to reach its goals only when the business communities and the citizens are satisfied with the economic-social environment and also when the expectations of the visitors and investors are met (Kotler et al. 2002). Urban marketing is becoming a prominent characteristic of local economic development strategy. The economic development entails a long-term marketing strategy for protecting and developing the natural, economic and man-made potential of the local community (Stanciulescu, 2009). The main goals of urban marketing can be considered as creating a positive image for the community, attracting companies and institutions as well as tourists and skilled work force and lastly finding markets for their exports and adopting tools for a strategic marketing management in order to create an "urban brand" (Kotler & Gertner, 2002).

### 1.1 History of urban market

The term marketplace, also known as *laiki agora* (λαϊκή αγορά) in Greek language, means people's gathering mostly around a square (Shepherd, 2009). In ancient Greece, the agora was the town's marketplace and people gathered in these places where social interactions and political conversations took place. The politicians were dealing with the international trade, and philosophers were looking for the meaning of justice (Santirocco, 2008). These food markets were also the places where the citizens were sharing cultures with each other, so an interrelation was happening in these places. (Crespi-Vallbona & Dimitrovski, 2017). For many years, these two elements have been the main features of marketplaces in many towns around the world (Marinelli 2018). An example of this is the Mercat de la boqueria which was an open market outside the walls of the town in the medieval era and has remained since the twelfth century (Crespi-Vallbona & Perez, 2016). The Grand Bazaar in İstanbul is another remarkable example which started as a caravan in 1453 under the rule of Mehmed the Conqueror (Roberge & Lewicki, 2010). For more than hundred years, the public markets have been deemed significant by the scholars in promoting business formation, supplying convenient and cheaper goods and fresh products, enhancing civic life, and incorporating the new residents into society (Tangires, 2003). During the course of history, these urban markets have been the headquarters of economic life (Morales, 2009). Entering these urban markets was comparatively easier so they provided a means of generating wealth for the citizens who could not make business with more capital-intensive enterprises. In addition to being historically important, the markets in the suburbs took the place of central markets for most of the twentieth century (Morales, 2011). But this trend started to reverse in recent years. The efforts of the cities to develop have been focused on attracting private sector investment in order to generate the largest possible labor-force impact for the lowest public outlay (Beitman, 2016). The cities have started to be interested in enterprise activities. The business start-ups such as farmers' markets, business centers, community kitchens and other innovative programs designed to support these business start-ups

have spread over the cities. Nowadays, urban markets are known as an indispensable part of economic development.

### 1.2 The importance of urban markets

Urban markets have important cultural, functional and socio-economic values, and these values reflect the main factors required for an efficient sustainable development (Elsayed et al. 2019). It is also important to provide knowledge about using urban marketplaces to develop low carbon, local supply chains, better and more sustainable urban planning, employment and community (Caramaschi, 2014).

#### 1.2.1 Design features of urban markets

Marketplaces have been a part of our cities, towns and villages for a very long time and acted as locomotives for the urban growth, and thus sustainable solutions are needed to accommodate this growth (Caramaschi, 2014). These solutions include space standards, selection of materials and structures and considering the impact of climate (precipitation, temperature, wind) when designing these places (Elsayed et al. 2019). The marketplaces provide an important contribution to the social, environmental and economic welfare of cities. The key benefits of these markets include those related to social life, health, regeneration and environment (Panozzo, 2013 2003).

The role of markets in urban areas can only be understood by considering their relationship with the demographic changes in city structure, changing traffic patterns, the availability of public transport, conflicts with other land uses and the location of the residential population they are serving. Redevelopment of inner city sites, market relocation issues and potential linkages to wholesale markets are also the other factors which should be taken into account. The basic two types of markets are: (Tracey-White, 1995).

- covered, open and roadside markets in the city center and inner sites,
- markets for urban skirts and suburbs.

The street markets in low-income countries offer easy access to cheaper food, clothes and grocery and provide a natural environment of shopping for urban residents (Rheinlander et al. 2008). These markets are arranged on the street in specific periods and places, and the consumers in the urban neighborhoods could therefore access the items they need in a convenient and easy way (Tipraqsa & Schreinemachers, 2009).

The urban markets, and particularly the street markets, must be located at right angles considering the main traffic arteries, linkages with pedestrian routes and with parking areas behind so that cars can pull off the main road without entering the market area. For minimizing their impact on the environment, parking areas should be located in small-scale lots and covered by plants or walls (Tracey-White, 1995).

#### 1.2.2 Benefits of urban markets

Urban markets can be a strong way of creating economic opportunities. The core of economic development is entrepreneurship. In this respect, the countries are reshaping their development efforts in a manner to prioritize entrepreneurship. Urban markets can be the first step of entrepreneurship. If these markets have lower barriers, this will allow citizens

to make investment. Otherwise the opportunities of these citizens will be limited due to lack of enough access to capital. The lack of these markets will definitely decrease the wealth and self-sufficiency opportunities for these citizens (Denis, 1998). The individuals can obtain a certain independence through self-employment by means of these markets and this opens the path to wealth. The newcomers and citizens who are deprived of economic opportunities can benefit from the lower barriers provided by these marketplaces (Kallick, 2015).

Face-to-face trading of different products as well as other distinctive features can propose enriched and authentic experiences. If markets are managed properly, they can revive the city centers and link them with the rural communities and can form new multicultural habits (Caramaschi, 2014). The two most important features of urban transformation are the territory and identity. The markets are the places of interaction, proximity, identity, creativity and diversity. However these economic and social effects have mostly been underestimated (Guàrdia & Fava, 2010).

We have to go beyond the rural–urban stereotypes and recognize that determining the extent of poverty is not enough for understanding the complex rates and patterns of change. The connections between different areas are strong, particularly during hard times. A strong domestic agriculture market may affect urban staple food prices, and increase the supply of goods that are produced locally. Strong agricultural policies can make efficient use of unskilled rural labor force and reduce rural to urban migration (ODI 2008).

Market mentality was connected to the spaces and places in which exchanges took place—the marketplaces. The urban markets can be seen as a whole, both place and space, as a key component of civic identity, that is identified through the role of the marketplace in the civic imagination, the evaluation of marketplaces over time, the buildings and structures, the topographical of market activities, as the infrastructure-shops and stalls, architecture and arrangements of the streets and shops, the economic activities of buying and selling and as ethics and values through the evaluation of the physical layout, architecture and decorations and how they helped in maintain the ideals (Romano, 2015).

The study is based on examining two market places in Bilecik centrum within the context of urban planning and design. In this regard, survey applications and periodic observation studies were carried out with people who use both markets, one of which is indoor and the other is outdoor. Urban evaluations were made on marketplaces based on numerical data and observations.

## 2 Material and method

### 2.1 Case area: location, boundaries and geographical characteristics of Bilecik City

Bilecik is located on the southeast of Marmara Region and the connection point of Marmara, Black Sea, Central Anatolia and Aegean Regions It is surrounded by Bolu and Eskişehir to the East, Kütahya to the South, Bursa to the West and Sakarya to the North. Bilecik, along with its territory of 4.302 $km^{2\prime}$, is one of the smallest provinces in Turkey. It ranks 65th in terms of size. Its total population is 204.116, and the population density of the province is 47 (person/ $km^{2\prime}$). The districts of the province are; Bozüyük, Gölpazarı, Inhisar, Osmaneli, Pazaryeri, Söğüt and Yenipazar (Göker et al. 2020).

The main material of this research is: Indoor Urban Market of the Municipality of Bilecik and Outdoor Urban Market of Ertuğrul Gazi District. The urban markets, which

are the subject of this study, are weekly/periodic markets in the provincial and district centers, where fresh fruit-vegetables, clothing, glassware, furnishings, dried legumes, spices, dairy products, fresh fish, etc., are displayed in. Fig. 1

### 2.2 Data collection instrument

In order to collect data within the scope of the study, survey applications and on-site observation studies were conducted. The sample size was determined to be 245 with 5% sampling error according to Table 1, and in addition, the highest number of participants was tried to be reached. Accordingly, 263 applications were made and 245 questionnaires were deemed suitable for evaluation.

The study is looking for the answers for the questions given below through the samples of Indoor Urban Market of the Municipality of Bilecik and Outdoor Urban Market of Ertuğrul Gazi District located in the city center of Bilecik province.

- Are the street markets suitable for the access and use of individuals with disabilities / temporary disabilities, elderly individuals and parents with infants?
- To what extent have environmental scientific concerns been considered in terms of reaching and accessing urban markets?
- What kind of design problems do the urban markets need in terms of size, form, material usage, texture and outfit elements and service units?
- What are the parking lot needs of the urban markets and are the solutions sufficient? Are the parking lots suitable in terms of size?
- Is the integration of urban markets with public transportation provided?
- To what extent have aesthetic concerns been taken into consideration?
- Are solutions provided in terms of visual, sound and environmental pollution?
- What architectural solutions are offered against adverse weather conditions?
- Are the infrastructure problems of the marketplaces resolved?

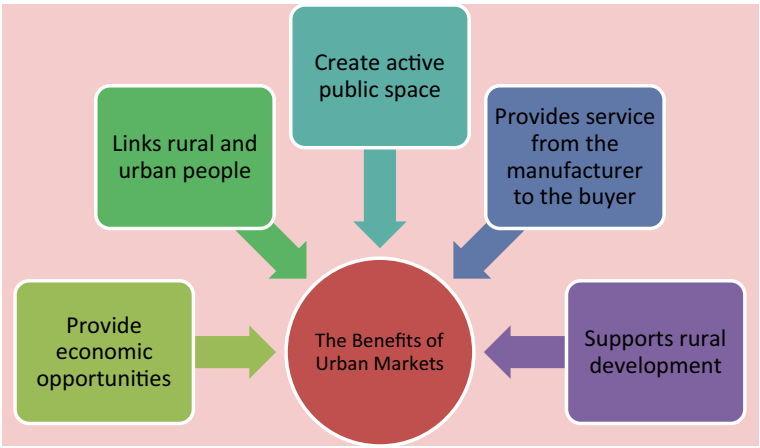


**Fig. 1** The benefits of urban markets (arranged by authors)

**Table 1** Required sample sizes for different target audience sizes and error levels (Baş, 2003)

| Target audience size (N) | Sample sizes for α = 0,05 | | | | | |
|---|---|---|---|---|---|---|
| | ±3% sampling error (d) | | ±5% sampling error (d) | | ±10% sampling error (d) | |
| | $p=0.5$ $q=0.5$ | $p=0.8$ $q=0.2$ | $p=0.5$ $q=0.5$ | $p=0.8$ $q=0.2$ | $p=0.5$ $q=0.5$ | $p=0.8$ $q=0.2$ |
| 100 | 92 | 87 | 80 | 71 | 49 | 38 |
| 250 | 203 | 183 | 152 | 124 | 70 | 49 |
| 500 | 341 | 289 | 217 | 165 | 81 | 55 |
| 750 | 441 | 358 | 254 | 185 | 85 | 57 |
| 1000 | 516 | 406 | 278 | 198 | 88 | 58 |
| 2500 | 748 | 537 | 333 | 224 | 93 | 60 |
| 5000 | 880 | 601 | 357 | 234 | 94 | 61 |
| 10.000 | 964 | 639 | 370 | 240 | 95 | 61 |
| 25.000 | 1023 | 665 | 378 | 244 | 96 | 61 |
| 50.000 | 1045 | 674 | 381 | 245 | 96 | 61 |
| 100.000 | 1056 | 678 | 383 | 245 | 96 | 61 |
| 1.000.000 | 1066 | 682 | 384 | 246 | 96 | 61 |
| 100.000.000 | 1067 | 683 | 384 | 246 | 96 | 61 |

Within the scope of the study, the questionnaire results were evaluated with SPSS 21 data analysis program and queries were made in terms of several variables (Fig. 2).

In addition, on-site observation studies were carried out in order to add a professional perspective to the questions given above and to make an evaluation regarding the two Marketplaces located in the city and selected as study areas. In this context, these evaluations have been collected under 7 headings: ease of access and use of individuals with disabilities; measurement, material use, outfit elements and service units; transportation, access and integration to public transportation; parking lot solutions; protection against adverse weather conditions; environmental effects of urban markets and architectural aesthetics of urban markets.

## 3 Research findings

A total of 245 participants attended the study. Table 2 shows the demographic information of the participants. The majority of participants were male (52, 7%, $n=129$), 25–34 years old (35, 9%, $n=88$) and had university level education (45, 07%, $n=112$). Also, the most of the participants were employed in public sector (57, 6%, $n=141$) and lived in Bilecik more than 25 years (40, 4%, $n=99$) and their incomes were between 4500 and 6000 TL (29, 0%, $n=71$).

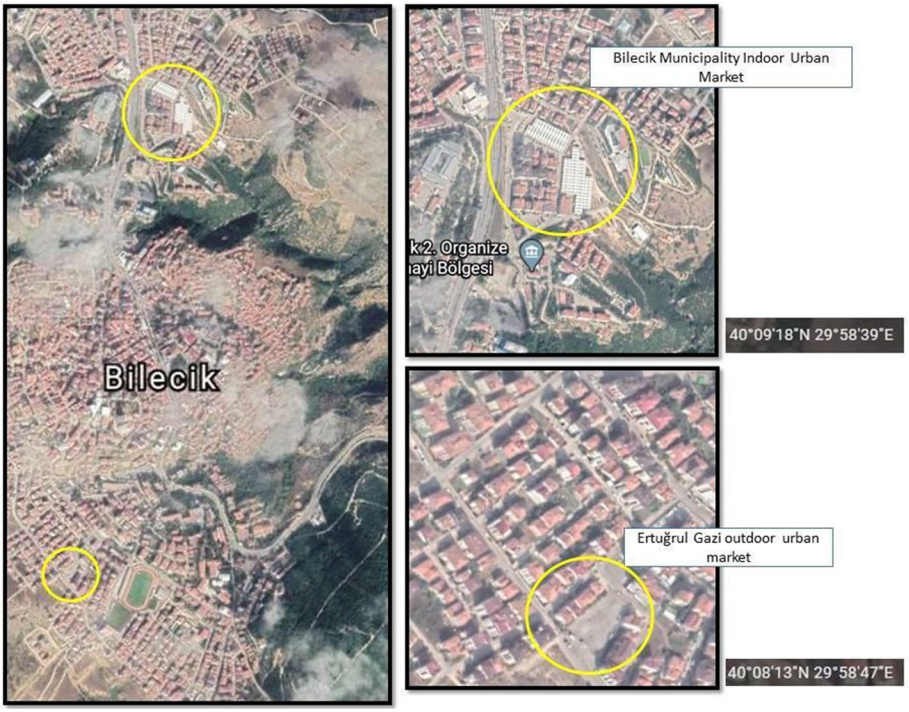


**Fig. 2** Location of urban markets (Google Earth 2020)

**Table 2** Demographic description of the survey

| Participant profile | | Frequency(*N*) | Percentage (%) |
|---|---|---|---|
| Gender | Female | 116 | 47,3 |
| | Male | 129 | 52,7 |
| Age group | Less than 24 | 25 | 10,2 |
| | 25–34 | 88 | 35,9 |
| | 35–44 | 61 | 24,9 |
| | 45–54 | 45 | 18,4 |
| | 55–64 | 20 | 8,2 |
| | More than 65 | 6 | 2,4 |
| Education | Primary | 15 | 6,1 |
| | Secondary | 15 | 6,1 |
| | High School | 75 | 30,6 |
| | University | 112 | 45,7 |
| | P.Grad/PHD | 27 | 11,0 |
| | Other | 1 | 0,4 |
| Job status | Public | 141 | 57,6 |
| | Private | 36 | 14,7 |
| | Retired | 27 | 11,0 |
| | Student | 17 | 6,9 |
| | Unemployed | 15 | 6,1 |
| | Other | 9 | 3,7 |
| Period of residence in study field (years) | 0–5 | 55 | 22,4 |
| | 6–10 | 30 | 12,2 |
| | 11–15 | 22 | 9,0 |
| | 16–20 | 11 | 4,5 |
| | 21–25 | 28 | 11,4 |
| | More than 25 | 99 | 40,4 |
| Household income status(tl) | 0–2500 | 31 | 12,7 |
| | 2500–4000 | 56 | 22,9 |
| | 4500–6000 | 71 | 29,0 |
| | 6500–8000 | 46 | 18,8 |
| | 8500–10,000 | 27 | 11,0 |
| | More than 10,000 | 14 | 5,7 |

Below is a figure showing the frequency of people shopping from the marketplaces across Bilecik; according to Fig. 3, 51.4% of the participants which forms the majority of them use the markets once a week.

Below is a figure showing the architectural status of the urban market preferred by the people participating in the surveys in Bilecik Province; according to Fig. 4, 62% of the participants use the indoor urban market and 38% use the outdoor urban market.

The distance of the markets to homes of participants (km) is shown in the figure below. According to Fig. 5, 28.6% of the participants prefer the market places that are 0–1 km away and 27.3% prefer the market places 1–2 km away (Table 3).

The distribution of the vehicles used by the participants to reach the markets is given below. In this context, it is seen that the most used transportation method is private vehicle

| | FREQUENCY (N) | PERCENTAGE (%) |
|---|---|---|
| Several times a week | 15 | 6,1 |
| Once a week | 126 | 51,4 |
| Every other week | 39 | 15,9 |
| Once a month | 37 | 15,1 |
| Other | 28 | 11,4 |

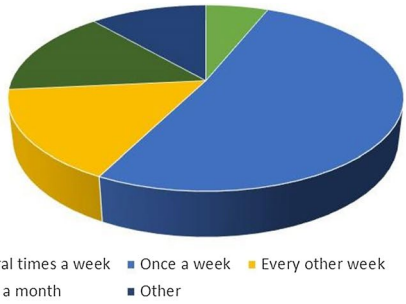


**Fig. 3** Frequency of people shopping from the marketplaces across Bilecik

| | FREQUENCY (N) | PERCENTAGE (%) |
|---|---|---|
| Open | 93 | 38,0 |
| Closed | 152 | 62,0 |


**Fig. 4** Architectural status of the urban market preferred by the people

| (km) | FREQUENCY (N) | PERCENTAGE (%) |
|---|---|---|
| 0-1 | 70 | 28,6 |
| 1-2 | 67 | 27,3 |
| 2-3 | 36 | 14,7 |
| 3-4 | 31 | 12,7 |
| More than 4 | 41 | 16,7 |

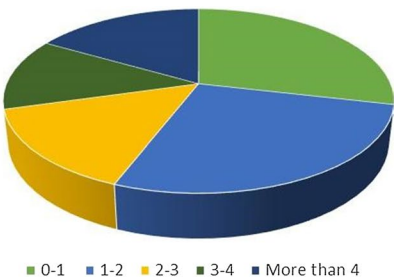


**Fig. 5** Distance of the markets where people shop to their homes (km)

at a rate of 49%. On the other hand 29.8% preferred walking and 20.4% preferred public transportation. In addition, although the use of bicycles, which is an environmentally friendly tool, was among the options offered to the participants, it was not preferred numerically. The fact that Bilecik has a topographically rugged and even mountainous geography and the absence of bicycle paths that allow safe travel in traffic were seen among the reasons for this Fig. 6.

The reasons for the participants to use their preferred vehicles to go to the market are shown in the figure. According to Fig. 7, 33.5% of the participants make their vehicle preferences for comfort and convenience and 26.5% for proximity when they go to the market places where they shop.

The answers given to the question about the existence of a public transportation vehicle that will provide a direct connection between the marketplace they use and their

**Table 3** Answers given to the questions "Could you rate the following items between 1 and 5 (1 = very bad, 5 = very good) regarding the market place where you constantly shop?"

| | | 1 (Very bad) | 2 (Bad) | 3 (Neutral) | 4 (Good) | 5 (Very good) |
|---|---|---|---|---|---|---|
| Ease of access | N | 13 | 24 | 20 | 122 | 66 |
| | % | 5,3 | 9,8 | 8,2 | 49,8 | 26,9 |
| Sufficient parking lot | N | 91 | 84 | 23 | 36 | 11 |
| | % | 37,1 | 34,3 | 9,4 | 14,7 | 4,5 |
| Infrastructure adequacy | N | 61 | 63 | 68 | 42 | 11 |
| | % | 24,9 | 25,7 | 27,8 | 17,1 | 4,5 |
| Service unit adequacy (WC, police, security, emergency medical intervention unit, etc.) | N | 50 | 61 | 59 | 59 | 16 |
| | % | 20,4 | 24,9 | 24,1 | 24,1 | 6,5 |
| Adequacy of warning, direction, signposts | N | 37 | 63 | 56 | 74 | 15 |
| | % | 15,1 | 25,7 | 22,9 | 30,2 | 6,1 |
| Architectural design and aesthetics | N | 68 | 80 | 57 | 33 | 7 |
| | % | 27,8 | 32,7 | 23,3 | 13,5 | 2,9 |
| Protection against adverse weather conditions | N | 46 | 62 | 35 | 83 | 19 |
| | % | 18,8 | 25,3 | 14,3 | 33,9 | 7,8 |
| Adequacy of outfit elements (bank, trash bin, lighting element etc.) | N | 41 | 74 | 48 | 65 | 17 |
| | % | 16,7 | 30,2 | 19,6 | 26,5 | 6,9 |
| Visual, sound and environmental pollution | N | 51 | 80 | 49 | 55 | 10 |
| | % | 20,8 | 32,7 | 20,0 | 22,4 | 4,1 |
| Suitability for the disabled, the elderly and families with infants | N | 59 | 70 | 49 | 53 | 14 |
| | % | 24,1 | 28,6 | 20,0 | 21,6 | 5,7 |
| Cleaning capability | N | 26 | 60 | 61 | 82 | 16 |
| | % | 10,6 | 24,5 | 24,9 | 33,5 | 6,5 |

| | FREQUENCY (N) | PERCENTAGE (%) |
|---|---|---|
| Private Car | 120 | 49,0 |
| Taxi | 1 | 0,4 |
| Mass Transport | 50 | 20,4 |
| Motorcycle | 1 | 0,4 |
| Pedestrian | 73 | 29,8 |

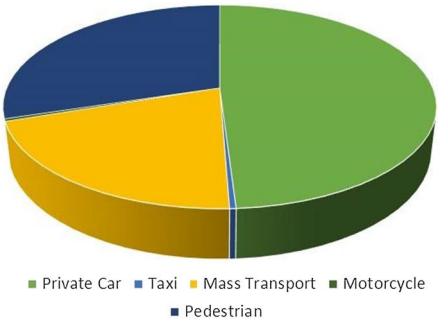


**Fig. 6** The distribution of the vehicles used by the participants (prepared by authors 2020)

| | FREQUENCY (N) | PERCENTAGE (%) |
|---|---|---|
| Proximity | 65 | 26,5 |
| Distance | 22 | 9,0 |
| Comfort and convenience | 82 | 33,5 |
| Time saving | 28 | 11,4 |
| Economy | 34 | 13,9 |
| Sports Activity | 9 | 3,7 |
| Other | 5 | 2,0 |

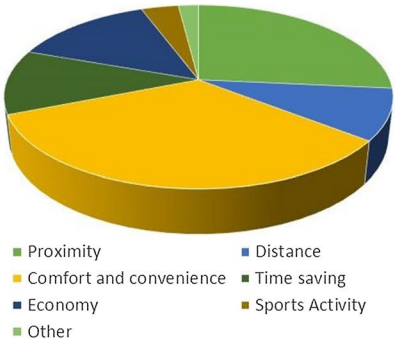


**Fig. 7** The reasons for the participants to use their preferred vehicles to go to the market

| | FREQUENCY (N) | PERCENTAGE (%) |
|---|---|---|
| Yes | 194 | 79,2 |
| No | 34 | 13,9 |
| I don't know | 17 | 6,9 |

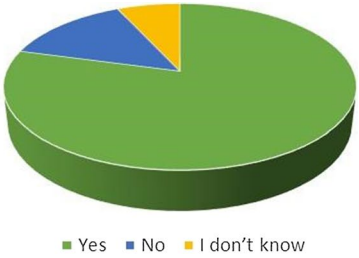


**Fig. 8** Availability of mass transport

homes/workplaces are given in Fig. 8. Accordingly, 79.2% of the participants have a public transportation vehicle that will provide direct connection with their homes / workplaces. (Fig. 9).

The question group, which constitutes the last part of the questionnaire, has been prepared in a way that includes propositions for questioning the basic components of urban design and planning in market places. In addition, it is aimed to examine the deficiencies in the two marketplaces comparatively at a later stage.


**Fig. 9** View from Bilecik Municipality Indoor Urban Market parking lot (Original 2020) (captured by authors 2020)

The propositions under the question "Could you rate the following items between 1 and 5 regarding the market place where you constantly shop?" have been evaluated on weighted percentages. The proposition "*Ease of access"* was replied as "good" by 49.8% and as "very good" by 26.9%. In terms of *"Sufficient parking lot"*, 37.1% replied as "very bad" and 34.3% replied as "bad." For *"Infrastructure adequacy"*, 24.9% replied as "very bad," 25.7% replied as "bad" and 27.8% preferred the "neutral" option. Although there is no prominent preference for *"Service unit adequacy"*, the highest preference is "bad"; at a rate of 24.9%. With a rate of 30.2%, "bad" has become the most preferred option for "*Adequacy of warning, direction, signposts"*. In terms of *"Architectural design and aesthetics"*; 32.7% preferred the "bad" option and 27.8% preferred the "very bad" option. Of the participants, 33.9% replied as "good" and 25.3% replied as "bad" for *"Protection against adverse weather conditions"*. As for the proposition "Adequacy of outfit elements," 30.2% replied as "bad" and 26.5% replied as "good." According to the evaluations for *"Visual, sound and environmental pollution"*, 32.7% of them have "good" and 22.4% have "bad" comments. According to the answers regarding the proposition *"Suitability for the disabled, the elderly and families with infants"*, 28.6% considered the "bad option," while 24.1% considered "very bad." In terms of *"Cleaning capability"*, it is thought to be "good" at a rate of 33.5% (Fig. 10).

**Fig. 10** View from Bilecik Municipality Indoor Urban Market (Original 2020) (captured by authors 2020)

The mutual numerical evaluation of the two market places in terms of various urban factors is discussed in Table 4 with the guiding factors and possible reasons in Table 5.

## 4 Evaluation

The recent institutions and buildings such as Bilecik Şeyh Edebali University which was established in 2016, Bilecik City Hospital, which is planned to enter into service in 2021 and Bilecik Station of Ankara-İstanbul High Speed Train Line easily provide the foresight that the city will gain a momentum of attraction in the near future. In this sense, the discussion of urban development on planned and scientific grounds is vital in terms of eliminating irreversible problems before they arise. In this context, evaluations regarding market places were made by making use of the questionnaires, interviews and on-site observation studies conducted in Bilecik Ertuğrul Gazi District Outdoor Urban Market and Bilecik Municipality Indoor Urban Market study areas (Table 6).

### 4.1 Evaluation in terms of ease of access and use of individuals with disabilities

The disabled concept in terms of architecture can be defined according to Goldsmith (1976) as "people who suffer from obstacles due to the lack of suitable facilities in the use of buildings designed for general needs due to their physical deficiencies" (Yılmaz, 2005). Disability is a situation that concerns everyone and is more common than most people are aware of. Most likely everyone will experience disability, even temporarily, throughout their lifetime. (Story et al. 1998).

The two market places were evaluated as follows according to Some Design Criteria Situated in TS9111 (2011) The Guideline of Universal Standards for Disabilities (Ay et al. 2017):

1. Accessible building standards
   - An accessible road connecting to the entrance,
   - Flat inlets and outlets for outdoor use,
   - Easy access to the information desk, elevators and disabled toilet,
   - Wide door openings and easy door use, sufficient space to make it possible to open and close the doors with a wheelchair,
   - Sufficient room for maneuver.
2. Entry into buildings
   - Unimpeded transport and access should be provided to at least one entrance of the buildings. All accessible route points should be at least 90 cm wide and the slope of the ramps should not be more than 1:12 (8%). Rails should be arranged on both sides of the ramps that go higher than 15 cm. Guardrails should be 90 cm above the ramp surface.
   - Edge guards at the edges of ramps should be at least 5 cm high.
   - Regarding the entrances of the buildings, the following regulations are given in TS 12,576 for the building entrances to be at the same level with the ground.

**Table 4** Comparative analysis of two urban markets in terms of urban criteria

| Criteria | Guiding factor(s) | Indoor market(IM) | Outdoor market(OM) | Possible reasons |
|---|---|---|---|---|
| Ease of access | Marketplace location Public transport presence | | ✓ | Both market places are located very close to Bilecik center. However, since OM is located in the middle of the residential area, more frequent transportation can be provided by vehicle and on foot |
| Sufficient parking lot | Number of parking lots | | ✓ | Although IM has a wider parking area, people can park on the roadside on days when there is a market, as there are so many parallel and steep streets connecting to OM. Therefore, it is thought to be preferred |
| Suitability for the disabled, the elderly and families with infants | Ramps tactile paving/surfaces Lighting service units availability | | ✓ | OM is located on a flat ground as the market is directly accessed from the street. It does not require solutions such as stairs and ramps. Therefore, perceptually it has been preferred |
| Service unit adequacy (WC, police, security, emergency medical intervention unit etc.) | Availability and existence of units | ✓ | | The closed market place system has solved the organization of such units more effectively and allocated the necessary areas for service units. In OM, there is a neglected and inadequate operation |
| Cleaning capability | Collecting garbage Cleaning of floors and surfaces Waste accumulation and image pollution | ✓ | | As the IM marketplace provides a regular system organization, it offers more effective solutions in terms of cleaning |
| Protection against adverse weather conditions | Shelter from rain, wind, cold weather, etc. | ✓ | | Since IM is a closed area with its roof and wall system, it provides protection against bad weather conditions. OM has only awnings on the counter tops that sellers use to protect themselves. There are no protection measures for customers |
| Adequacy of warning, direction, signposts | Providing easy access to the market area Locating the product groups Easy access to service units Easy access to service units | ✓ | | IM offers a more specific and visible system of guide posts and signs within a particular organization |

**Table 4** (continued)

| Criteria | Guiding factor(s) | Indoor market(IM) | Outdoor market(OM) | Possible reasons |
|---|---|---|---|---|
| Architectural design and aesthetics | Harmony with urban identity Aesthetic look Land use (stands, circulation area)Land use (stands, circulation area) | ✓ | | OM does not have any qualifications or features worth evaluating in terms of architectural and aesthetic appearance. Although IM contains a structural system, it is a field that is built for more functions without prioritizing aesthetic concerns |
| Adequacy of outfit elements (bank, trash bin, lighting element etc.) | Number and quality | ✓ | | IM is better in terms of the number of outfit elements |
| Infrastructure adequacy | Drainage adequacy Lighting adequacy Quality and problems of hard floors and grounds | | ✓ | Since OM is located in a smaller area, solutions are provided faster before the problems related to the infrastructure reach the consumer |
| Visual, sound and environmental pollution | The noise arising from vendors and customers Vehicle horns Waste management | ✓ | | IM has more noise, visual and environmental pollution due to its being in a closed area and its systematic operation |

**Table 5** Comparative analysis of two urban markets in terms of obligatory facilities

| | Indoor market | Outdoor market |
|---|---|---|
| Vendor and producer sales points | ✓ | ✓ |
| Police office | ✓ | |
| Garbage collection point | ✓ | |
| Electronic weighing control point | ✓ | |
| Speaker system | ✓ | |
| Lighting system | ✓ | ✓ |
| Security camera | ✓ | |
| Service unit (WC) | ✓ | ✓ |

**Table 6** Crosstab of market architecture and protection against adverse weather condition

| Market architecture and protection against adverse weather crosstabulation | | | | | | |
|---|---|---|---|---|---|---|
| Market architecture(N) | Protection against adverse weather (N) | | | | | Total |
| | Very bad | Bad | Neutral | Good | Very good | |
| Outdoor urban market | 31 | 31 | 11 | 14 | 6 | 93 |
| Indoor urban market | 15 | 31 | 24 | 69 | 13 | 152 |
| Total | 46 | 62 | 35 | 83 | 19 | 245 |

- At the direct entrance to the buildings from the sidewalk, if the building construction boundary constitutes a border with the pedestrian road, the entrances should be stepless. The slope of the sidewalk should be toward the roadway.
- In the main entrances of the building, a separate floor covering of $1.25 \times 1.25$ m perceivable by the visually impaired should be used separately from the floor covering of the pedestrian path.
- If the public and commercial building entrances have stairs, a ramp should be built at a slope that can be used by the disabled.

3. Ramps

- Places at different levels should be connected to each other with ramps.
- Ramp surfaces should be hard, non-slip and smooth.
- Ramps close to building entrances should not be steeper than 1/12 (about 5°).
- It is recommended that the length of the ramps should not exceed 6 m. For a slope between 1/15 and 1/12 (approximately 4° and 5°) the ramp length should be at most 10 m.
- If the ramps and places close to the ramp are not covered, a slope should be given to prevent the accumulation of water on the walking surfaces. The lowest possible slope should be used on ramps.

4. Toilets

- Toilets should be located on an accessible route.
- With the door opening out, the minimum net floor surface width and depths are $1.22 \times 1.675$ m in the frontal approach (for a straight transfer), 122cmx142cm in the right side approach (for a diagonal transfer) and $1.5 \times 1.42$ m in both the front and

left side approach (for a lateral transfer). When placing the toilet, the distance of the middle axis from the side wall should be at least 46 cm and the net width of the toilet seat should be at least 92 cm in total.
- Toilet bowls should be used in toilets.
- For a rear wall-mounted toilet, the distance of the toilet paper from the back wall should not exceed 90 cm.
- Grab bars on the side of the toilet should be at most 30 cm from the back wall and at least 1.07 m long. The distance of the end of this grab bar to the back wall will be at least 1.37 m. Grab bars on the side wall should also be at a height of 80 cm-95 cm from the floor surface.

5. Washbasins

- Pedestal wash basins should not be used, and cupboards should not be placed under the washbasin.
- Washbasins should not have angular lines and have rounded edges, as they can be approached from all directions with a wheelchair.

6. Mirrors

- The lower edge of the mirrors should be at most 90 cm above the floor and the upper edge at least 1.9 m.
- Eye level of the wheelchair user is 1.1 m / 1.3 m above the ground. For wheelchair users, adjustable mirrors that can be lowered and raised, and if the mirror is fixed, mirrors with 10° -15° inclination toward the front should be preferred.

Ertuğrul Gazi District Outdoor Urban Market does not constitute a problem in this sense for the disabled only in terms of having a flat entrance to the allocated area. It offers absolutely no solution in terms of all other design criteria.

It is considered that a sensitivity has been shown in this regard during the design phase of the Bilecik Municipality's Indoor Urban Market. For this reason, it would be more correct to talk about only the missing and weak points:

- Apart from the floor covering of the pedestrian road, a separate floor covering of $1.25 \times 1.25$ m in size that can be perceived by the visually impaired has not been used in the main entrances of the building,
- The door opening to the toilets section including the disabled toilet is usually a heavy metal door in the closed position. The height of the arm used to open the door is above the access height of disabled individuals using a wheelchair. Likewise, the height of the electronic scale at the weighing control point is too high for a disabled person who has to use a wheelchair.
- It is not possible to throw any wish or complaint envelope into the wish and complaint box with the phrase Provincial Human Rights Board of the Governor's Office of Bilecik for a person using a wheelchair as it does not meet the criteria for ground clearance.
- There is no parking place for the disabled.
- There is no toilet paper in the disabled toilet.
- Since the toilet is not mounted on the wall but instead mounted on the ground approximately 30 cm ahead, the grip bars on the sides remain short and become dysfunctional during use, although they are of the required length. The height of these grab bars above ground is more than 1 m and outside the acceptable size range.

- Although the sinks are not free standing, angular corners were preferred instead of rounded ones.
- The height of the mirror above the sink is over 90 cm from the floor. A fixed mirror was preferred in the sink, but no forward inclination was given.
- Adequate illumination has been provided for individuals with poor eyesight within the structure. In addition to the projector and fluorescent lamps placed on the ceiling, sufficient amount and size of glass skylights were used on the roof. These skylights allow moving in a proper way in the place during the daytime without the need for any lighting element.

### 4.2 Evaluation in terms of measurement, material use, outfit elements and service units

According to the Regulation on Marketplaces published on the Official Gazette of Turkey no 28351 and dated 12.07.2012, the compulsory service facilities that should exist in all marketplaces in Turkey are as follows:

(a) Vendor and producer sales points
(b) Police office
(c) Garbage collection
(d) Electronic scales
(e) Speaker system
(f) Lighting system
(g) Security camera
(h) Service unit (WC)

Ertuğrul Gazi District Outdoor Urban Market where approximately 100 benches are exhibited, contains no structural elements apart from the asphalt applied on the floor of the allocated area, one service unit (WC) as 6$m^2$ female and 6 $m^2$ male, four projectors around a pole positioned in the middle of the market area for lighting purposes. The total area allocated for the marketplace is 3450 $m^2$ bench area and 770 $m^2$ parking area (Fig. 11).

Bilecik Municipality Indoor Urban Market, in which 656 benches are exhibited, is spread over 2 indoor areas of total 12,050 $m^2$ including 7600 $m^2$ food and 4450 $m^2$ clothing, glassware and furnishing areas. There are service units and outfit elements such as a

**Fig. 11** View from Ertuğrul Gazi District Outdoor Urban Market (Original 2020) (captured by authors 2020)

police office, garbage collection point, electronic weighing control point, speaker system, lighting system, security camera and toilet in the marketplace. In addition to these, a sufficiently large resting area, 1 baby care room and 2 worship areas only serving for the marketplace have been offered to the visitors (Table 7).

The comparative assessment of the two marketplaces in terms of compulsory facilities and services is as follows:

However, an issue that is ignored in the regulations seems to be noteworthy. It is an important need to have emergency medical intervention units in these areas of intensive use. No such service unit has been encountered in two market places.

Concrete was used as floor material in the marketplace building. Concrete floor seems suitable for cleaning and ease of movement and durability. Lines bordering the bench and circulation paths are drawn on the floor, and sufficient space is left for both product display and the width of the circulation paths.

The benches where the products are exhibited are generally formed by wooden panels placed on metal legs. The layout of the benches was left to the shopkeepers, and a fixed solution was not preferred during the construction phase of the building. It can be said that it is problematic in terms of aesthetics and partly in terms of durability.

The building has been statically designed and constructed as composed of reinforced concrete columns, brick walls between the outer columns and steel construction roof structure. The outer walls have left their place to the glass windows up to the roof which are mobile from place to place and fixed from place to place. Thermal insulation is not considered important in windows which have been preferred for illumination. Paint was applied on the plaster on the columns and walls, and composite cover was preferred as roof material on the steel construction which is electrostatic furnace painted. Glass skylights with a width of approximately 1 m are used at certain intervals on the roof and vertical louvers are placed for ventilation purposes. The main entrance doors of the buildings are made of steel material of sufficient width and height. No problem is experienced either during the transportation of the products to the vendors' benches with trucks and vans or during the intensive use of visitors. Ceiling height is sufficient according to usage density. A sufficient number of service units were offered to users as a separate structure just outside the food market and directly connected to the interior of the clothing market. In terms of building materials, durability and economy are at the forefront in buildings. Aesthetically, buildings do not have any aesthetic feature that gives a pleasure of watching but instead it makes people finish shopping and leave the place as soon as possible.

### 4.3 Evaluation in terms of transportation, access and integration to public transportation

The two defining characteristics of the urban dimension are density and proximity (Calabi, 2016). It has been argued that community services would need to be within a 400–m radius of citizens' houses or working places that is an approximately 5-min walking time (Pikora et al. 2001).

According to the results of the survey, 55.9% of the participants (28.6% 0–1 km + 27.3% 1–2 km) prefer to go to the market areas 0–2 km away and 49% of the participants prefer to go to the market areas with their private vehicles. However, 29.8% prefer to go on foot, while 20.4% were the participants using mass transport.

The allocation of only 4 urban markets in Bilecik in order to meet the needs of the central district population reaching approximately 80.000 (eighty thousand) spread over

**Table 7** Mutual numerical (%) values of two marketplaces in terms of determined criteria

| | | Ease of access | Sufficient parking lot | Infra-structure adequacy | Service unit adequacy (WC, police, security, emergency medical intervention unit etc.) | Adequacy of warning, direction, signposts | Archi-tectural design and aesthetics | Protection against adverse weather conditions | Adequacy of outfit elements (bank, trash bin, light-ing element etc.) | Visual, sound and environ-mental pollution | Suitability for the disabled, the elderly and fami-lies with infants | Cleaning capability |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 (Very bad) | Outdoor market (OM) | 4,3 | 32,3 | 19,4 | 29,0 | 26,9 | 33,3 | 33,3 | 19,4 | 18,3 | 24,7 | 11,8 |
| | Indoor market (OM) | 5,9 | 40,1 | 28,3 | 15,1 | 7,9 | 24,3 | 9,9 | 15,1 | 22,4 | 23,7 | 9,9 |
| 2 (Bad) | OM | 7,5 | 40,9 | 23,7 | 31,2 | 31,2 | 37,6 | 33,3 | 30,1 | 36,6 | 28,0 | 21,5 |
| | IM | 11,2 | 30,3 | 27,0 | 21,1 | 22,4 | 29,6 | 20,4 | 30,3 | 30,3 | 28,9 | 26,3 |
| 3 (Neutral) | OM | 4,3 | 7,5 | 34,4 | 21,5 | 20,4 | 18,3 | 11,8 | 21,5 | 24,7 | 18,3 | 28,0 |
| | IM | 10,5 | 10,5 | 23,7 | 25,7 | 24,3 | 26,3 | 15,8 | 18,4 | 17,1 | 21,1 | 23,0 |
| 4 (Good) | OM | 41,9 | 12,9 | 14,0 | 9,7 | 15,1 | 6,5 | 15,1 | 18,3 | 12,9 | 19,4 | 31,2 |
| | IM | 54,6 | 15,8 | 19,1 | 32,9 | 39,5 | 17,8 | 45,4 | 31,6 | 28,3 | 23,0 | 34,9 |
| 5 (Very good) | OM | 41,9 | 6,5 | 8,6 | 8,6 | 6,5 | 4,3 | 6,5 | 10,8 | 7,5 | 9,7 | 7,5 |
| | IM | 17,8 | 3,3 | 2,0 | 5,3 | 5,9 | 2,0 | 8,6 | 4,6 | 2,0 | 3,3 | 5,9 |

an area of 841 km$^2$ (URL 1, 2020), increases the number of visitors that should travel long distances. This makes it almost impossible for visitors who need to transport goods to their homes or workplaces with their shopping bags to travel on foot. It is a necessity that people who do not have a public transport alternative can only travel with their cars.

There is no precaution taken for the integration of Ertuğrul Gazi District Outdoor Urban Market with public transportation. Although there is no bus line that reaches the market place directly from the city center, there is a minibus line that goes close to the market place and takes people there. The situation is different in Bilecik Municipality Indoor Urban Market. While making the transport planning, stops were established at the exit of the market where transportation to various points of the city can be provided. A large part of the market population are using these public transportation vehicles (bus and minibus). There are bus and minibus lines that provide direct access to the Indoor Market. Apart from these, there is no other transportation system (train, tram, bicycle path, etc.).

### 4.4 Evaluation in terms of parking lot solutions

71.4% of the participants responded negatively to the question asked about the evaluation of car parking sufficiency in the survey. This reveals that people who use marketplaces have a great deal of difficulty in finding a parking space for their vehicles.

It was determined that the 770 m$^2$ parking area, which was specially planned for the Ertuğrul Gazi District Open Urban Market, was reserved for bench use most of the time, and that people shopping in market used the streets as parking lots.

There are 2 specially allocated car parks in Bilecik Municipality Indoor Urban Market. One of these parking spaces has a capacity of 150 vehicles and the other 100 vehicles. A parking lot specially sized and identified for the vehicles of disabled citizens has not been encountered. Existing parking spaces offer no tangible solution in terms of design criteria such as size, ease of use and vehicle safety (stopper, strip line, etc.). The total number of parking lots is far from meeting the needs of the facility. This situation causes the visitors, who come to the markets by car on the days when the markets are active, to park their cars on the roadsides or even on the sidewalks in the surrounding streets. There is no convenience or ease of use for other pedestrians and vehicles using these streets but not using the marketplace. This atmosphere of chaos and disorder is dangerous, especially for people who live in the surrounding streets apart from the people who come for shopping. It is clear that public services such as firefighters, ambulances, and security, where time is of vital importance, will experience difficulties in situations where emergency access is required. Besides, no effort has been made in both urban markets for motorcycle and bicycle users to park their vehicles.

### 4.5 Protection against adverse weather conditions

The survey results show that 62% of the participants prefer indoor market area. However, 44.1% of the participants responded negatively and 14.3% said they were neutral about the question about the sufficiency of protection against adverse weather conditions in the marketplace. When a cross tab is created for the relationship between the architectural status of the market and the protection against bad weather conditions, it can be seen that while those who prefer the outdoor marketplace give a predominantly negative answer in this regard, positive answers are dominant as expected in the indoor marketplace.

Due to the lack of ventilation or air conditioning system with regard to being affected by adverse weather conditions in Bilecik Municipality Indoor Urban Market, negative conditions occur only in extreme hot and cold weathers. It is thought that the 30% negative response given for protection against adverse weather conditions in the Indoor Market area is due to this reason. However, air conditioning or ventilating such a large indoor area will bring quite high costs and when the electrical energy to be spent for the system is considered, it will be a matter of controversy whether it will be an ecologically desired condition or not.

Since it is an open market, the precautions to be taken against the bad weather conditions in the Outdoor Urban Market of Ertuğrul Gazi District are left to the personal efforts of the visitors and sellers. Vendors use top covers such as umbrellas and tents in various sizes and shapes in order to protect themselves and their products from the sunlight in summers and from snow, rain and hail in rainy weathers. Since they are only intended to cover the top parts, they are useless against the effect of the wind. This situation adversely affects the hygiene standards of food items exposed in open air when there is strong wind. In fact, on some days when very strong winds are seen, giant umbrellas with metal poles, wooden or metal arm mechanisms get rid of the places where they are fixed as a whole and pose a serious risk of injury.

### 4.6 Evaluation of urban markets in terms of environmental effects

In line with the survey results, 53.5% of the participants commented about the market areas negatively in terms of visual, sound and environmental pollution. Around 20% neutrality was noted. In this context, it can be interpreted that a significant majority of the participants have complaints about environmental pollution.

Another one of the countless problems of Ertuğrul Gazi District Outdoor Urban Market is the environmental impact parameter resulting from the fact that it is established in an open area. Since the opening and closing hours of the markets are not controlled, the noise of the preparations for setting up tents, awnings and benches, which starts in the early hours, continues with loudly shouts of the vendors. Elderly, sick, small children and their families in the houses are affected negatively by this situation (Çalışkan, 2007). Sound pollution is just one of the elements that require urgent solutions for the residents. The visual pollution is also very high in the marketplaces where the products are displayed on the shapeless benches completely lacking aesthetics and under the ugly awnings and umbrellas carried by randomly stacked rusty poles on the asphalt floor, combined with the vegetable and fruit wastes and plastic cases, which the sellers throw around.

Indoor Urban Market of Bilecik Municipality has a completely closed architecture, so at least the effects on the environment in terms of visual and sound pollution are minimized. Regarding the appearance, the effects of the building due to lack or more accurately absence of architectural aesthetics can be considered as the pollution factor.

However, the noise and carbon emissions of motor vehicles that provide transportation/access for people visiting both urban markets should be considered as sources of noise and air pollution for the people of the region. The scene of the vehicles parked randomly on the streets of both markets should be considered another factor of visual pollution. The majority of vehicle owners who have to visit these markets from distant locations carry these sound and air pollution factors outside the marketplaces, especially considering the arrival and departure routes.

### 4.7 Evaluation in terms of architectural design and aesthetics

When the marketplaces are examined from an architectural point of view, it is possible to say that both of them are useful in terms of entrance, the width of the countertops and therefore easy movement and circulation within the area. However, according to the survey results, 60.5% of the participants responded negatively in terms of architectural design and aesthetics. Obviously, when considered from an architectural point of view, Ertuğrul Gazi District Outdoor Urban Market can be considered out of concept because it does not contain any architectural element. However, it is not possible for the market to meet any design standard if evaluated in terms of aesthetics. This is also a very negative situation.

Indoor Urban Market of Bilecik Municipality is evaluated in terms of having a closed architectural structure.

The study field has been established in a manner that is completely devoted to the function and without any artistic concern, so it is far from meeting the expectations such as being a touristic landmark where users can have a pleasant time. This lack of architectural aesthetics psychologically causes the visitors to misuse the place and not to show due care in terms of space use.

In terms of design criteria, durability and economy are the only determinants in Bilecik Municipality Indoor Urban Market. However, when the historical architectural structures in this content are examined, it can be easily understood that aesthetic concerns are much more effective with regard to the criteria of being durable against time and also being economic.

## 5 Discussion and conclusion

Within the scope of the study, it was aimed to determine the situation and requirements of the market places in terms of urban design and planning through survey applications and observations performed in two Marketplaces in Bilecik, one outdoor and one indoor. Regarding the comparison of the two markets in terms of urban design and planning criteria, each criterion was evaluated separately, and the positive (good and very good) and negative (bad and very bad) answers were evaluated according to the options that received high percentage value together. The data on the evaluations have been obtained with the help of Table 4.

When considered in terms of "ease of access," the answer was "good" at a rate of 54.6% for the indoor market (IM) and 41.9% for the outdoor market (OM). In addition, the answer "very good" was given at a rate of 17.8% for IM and 41.9% for OM. When the answers "good" and "very good" given by the participants were evaluated together as positive answers, OM was preferred at a rate of 83.8% and CM was preferred at a rate of 72.4% in terms of "ease of access."

In terms of "Sufficient parking lot," the answer was "very bad" at a rate of 32.3% for OM and 40.1% for IM and the answer was "bad" at a rate of 40.9% for OM and 30.3% for IM. Although both market areas were found to be quite insufficient in terms of parking, when the markets were compared by evaluating the negative answers together, OM was found to be negative at a rate of 73.2% and IM at a rate of 70.4%. IM is slightly better in terms of parking efficiency.

In terms of "Infrastructure adequacy," OM received 19.4% "very bad," and 23.7% "bad" answers, while IM received 28.3% "very bad" and 27.0% "bad" answers. In this case, the IM received a negative response at a rate of 55.3% and was found to be more problematic.

In terms of "Service unit adequacy" (WC, police, security, emergency medical intervention unit etc.), OM received 29.0% "very bad" and 31.2% "bad" answers, while IM received 15.1% "very bad" and 21.1% "bad" answers. In this context, OM received a negative response at a rate of 60.2% in terms of service units and was found to be less adequate.

When the results of the survey on marketplaces in terms of "Adequacy of warning, direction, signposts" are evaluated mutually, OM received the answer "good" with a rate of 15.1% and IM with a rate of 39.5%, and IM was preferred by a clear margin.

In terms of "architectural design and aesthetics," OM received 33.3% "very bad" and 37.6% "bad" answers, while IM received 24.3% "very bad" and 29.6% "bad" answers. In this case, OM was evaluated as negative at a rate of 70.9%, while IM was evaluated as negative at a rate of 53.9%.

In terms of "protection against adverse weather conditions," OM was preferred at 15.1% and IM at 45.4% as "good," and IM stood out by a clear difference.

In terms of "adequacy of outfit elements," OM received 10.8% "very good" and 18.3% "good" answers, while IM received 4.6% "very good," 31.6% "good" answers, and when positive answers have been evaluated as a single ratio, OM received %29.1, and IM received 36.2% positive answers, in which case IM was found to be partially more adequate in terms of outfit elements.

In terms of "visual, sound and environmental pollution," OM received 18.3% "very bad" and 36.6% "bad" answers while IM received 22.4% "very bad" and 30.3% "bad" answers. OM was found to be negative at a rate of 54.9% while IM was found to be negative at a rate of 52.7%.

In terms of "suitability for the disabled, the elderly and families with infants" (providing physical fitness with roads, ramps, etc.), both market areas were rated negatively at an above average rate. The rate of the answer "very bad" was 24.7% for OM, and 23.7% for IM. However, OM received the answer "bad" at a rate of 28.0%, while IM at a rate of 28.9%. In this case, as a result of evaluating the negative answers, OM received a numerical value of 52.7%, while IM received 52.6%. Both marketplaces are seen almost equally inadequate.

In terms of "cleaning capability," OM received 7.5% "very good" and 31.2% "good" answers, while IM received 5.9% "very good" and 34.9% "good" answers. In line with these results, OM was evaluated as positive in terms of cleaning at a rate of 38.7%, while IM at a rate of 40.8%.

In line with the interviews with the local people who use the two market places, it was observed that there is no problem in transportation to both markets. The fact that Bilecik is a small city in terms of surface area and population and that there is no traffic density in the city are considered to reveal this outcome.

Market areas have not been found sufficient in terms of parking lots. Basically, professional observations show that there is an intense parking problem in these market areas, which are active once a week (Outdoor Market: Sunday, Indoor Market: Monday), and both streets and different shop fronts are used for parking cars. This causes an uproar in terms of the people (49%, according to the surveys) who mostly access the areas where the market is established by private vehicles. In terms of infrastructure, service units and equipment, the market areas were generally seen insufficient, and it was observed that these deficiencies were more intense especially in the outdoor market area. In terms of "architectural design and aesthetics," "suitability for the disabled, the elderly and families with infants"

and "visual, sound and environmental pollution," it has been determined in line with the surveys that there is not enough outfit in the market places. Observations show that both marketplaces are mostly designed to fulfill functional requirements and do not contribute to the urban identity and silhouette in terms of architectural design and aesthetics. In addition, both Marketplaces are far from meeting universal design standards. Regarding the pollution elements in the market areas, the indoor market area makes noise pollution less felt due to its location in a closed structure. It is not thought that any other measures have been taken.

As can be seen in the numerical indications and analysis results, the market areas in Bilecik are deemed neither as places that stir the sense of belonging, nor as those where people enjoy shopping. These are the areas where people meet their primary food-related needs on a regular basis, yet lacking the required properties and characteristics to meet the urban design and planning criteria such as transportation, infrastructure, parking areas and aesthetics. While the indoor market area achieved to reach satisfactory levels on certain aspects such as sheltering, means of transportation & accessibility, adequacy of warning, direction and sign posts, it, on the other hand, could not manage to do the same within the scope of other requirements. The outdoor market area is recognized as "unsatisfactory" in terms of each and every criterion. In this context, it can be clearly said that despite offering standards that differ greatly by each other, the market areas—one indoor and one outdoor—do not meet the relevant criteria in terms of urban design and planning aspects and that the market areas that are not integrated into the city itself cannot be classified as "sustainable".

Considering the specifications and regulations for the market area, it is seen that there is no clear information with regard to the design standard of a marketplace in Turkey. For this reason, it is necessary to prepare a design guide for these areas and clarify some standards. In this context, the area where the marketplace will be established should be evaluated in terms of its surface area (it should be determined or formulated considering the size of the city and its carrying capacity), the number of stands to be located, and the size of the stands, the width and length of the area required for pedestrian circulation. In addition, planning the entrances and exits, circulation areas and service units in accordance with universal design standards, setting up waste management as environmentally friendly and including recycling systems are of great importance for having areas which are more equipped, responding to the needs and correctly located within the scope of urban organization.

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