A study on shopping malls performance criterias analysis using AHP method

AHP yöntemi kullanarak alışveriş merkezleri performans kriterleri analizi üzerine bir çalışma

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A Study On Shopping Malls Performance Criterias Analysis Using AHP Method

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ABSTRACT

In recent years, with the increase in the number of shopping centers and consumer expectations, comprehensive research on the performance evaluation of shopping centers has started to be needed. In the performance evaluation process, it is very important to determine the correct measurement criteria. In this study, the performance measurement criteria were determined by reviewing the literature and interviewing experts and managers in the shopping center sector. In the next step, the Analytical Hierarchy Process (AHP), a multi-criteria decision making (MCDM) method, was used to determine the significance levels of these criteria and a new performance index model was hereby developed. The proposed method consists of a total of 140 criteria including six main criteria (green building, investors, visitors, tenants, shopping mall turnover, and social life) and 134 sub-criteria. As far as we know, this study is the first to propose a model for measuring the performance of shopping malls.

Keywords: Shopping malls, multi-criteria decision making, analytical hierarchy process, performance measurement.

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ÖZ

Son yıllarda alışveriş merkezleri sayısındaki artış ve tüketici beklentilerinin yükselmesi ile birlikte alışveriş merkezleri'nin performans değerlendirmesi ile ilgili araştırmalara ihtiyaç duyulmaya başlanmıştır. Performans değerlendirmesi sürecinde doğru ölçüm kriterlerinin belirlenmesi çok önemlidir. Çalışmada, performans ölçüm kriterleri literatür çalışmaları ve alışveriş merkezi sektöründe uzman ve yöneticilik yapmış kişilerle görüşülerek belirlenmiştir. Bir sonraki adımda, bu kriterlerin önem ağırlıklarını belirleme sürecinde çok kriterli karar verme (ÇKKV) yöntemi olan Analytic Hierarchy Process (AHP) yöntemi kullanılmış ve yeni bir performans indeks modeli geliştirilmiştir. Önerilen model, yeşil bina, yatırımcı, ziyaretçi, kiracı, avm ciro, sosyal yaşam ana kriterleri altında 134 alt kriter olmak üzere toplamda 140 kriter tanımlanmıştır. Bu çalışma, bildiğimiz kadarıyla alışveriş merkezlerinin performansını ölçmek için bir model öneren ilk çalışmadır.

Anahtar Kelimeler: Alışveriş merkezleri, çok kriterli karar verme, analitik hiyerarşi süreci, performans ölçümü.

1. INTRODUCTION

As the historical evolution of shopping malls is examined on a global scale, it is known that the transformation of trade areas to include shopping centers spread rapidly over the whole world in a short period of time. Turkey started being influenced by other countries in the 1950s and giant retail chains, like Migros Markets, were then opened in the country. By the 1980s, with the increasing interest in imported goods, the demand for shopping centers with these products peaked. According to Gottdiener, shopping malls are designed to be machines that transform capital into money, and they are defined as places that people long for to meet their physical and social needs and experience a safe, traffic-free, and conditioned urban environment. ([1], [2]). In recent times, shopping malls have become one of the most common alternatives to traditional shopping. A shopping center is a cluster of independent shops, planned and developed by one or several entities, with a common

objective [3]. Lately, with accelerating technological development and the increasing importance of shopping in people's social lives, it has been observed that shopping malls are not only centers for shopping anymore. Instead, they are enclosed or open social spaces that provide services for entertainment, food and beverages, and cultural and other such activities. This drastic change in shopping malls has resulted both from economics and from social causes. In recent times, many factors including the increase in the use of cars, demands for growth in product range, the use of credit cards, and the speed of urbanization have been quite effective in increasing the number of shopping centers. In the face of rising competition, which results from the increase in the number of shopping centers, shopping center administrations are now looking for ways to generate problem-solving mechanisms to tackle these seriously changing developments and create structural transformations. Particularly in recent years, owing to the increase in the number of ordinary shopping malls, it has become necessary to analyze the current situation, reveal deficiencies, and develop possible solutions. Today, it is

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a fact that increases in workloads, recreation, and leisure time have influenced active consumption preferences. The need for innovative alternatives has become inevitable. Businesses that aim to maintain their presences effectively and productively have to keep focusing on improvement with the help of actual situation assessments.

In particular, for large enterprises such as shopping malls, performance measurements in a sustainable framework can make positive contributions. At this stage, it is very important to determine performance evaluation criteria correctly. Some decisions must be made in the process of determining the importance levels of these criteria. For this reason, the Analytic Hierarchy Process (AHP) method, a multi-criteria (MCDM) method, was used to make decisions for multi-criteria problems that were aimed to evaluate large enterprises such as shopping malls. In the study, we defined a total of 140 criteria consisting of 6 main criteria (green building, investors, tenants, visitors, turnover and social life) and 134 sub-criteria, all of which are helpful to evaluate the performances of shopping malls in different areas [appendix-1]. A new and an unprecedented index model were proposed. In forming and developing the structure of the proposed model, we conducted a detailed literature review regarding sector-related data. As a result of the research, the main criteria and sub-criteria were determined by taking into consideration missing points in the literature, basic concepts of shopping malls, and expert opinions. In the next step, the hierarchical structure model was created. In this model, the main criteria are shown at the highest level while the sub-criteria are at the lower levels. The main criteria of the shopping center performance index are available in the Figureure 1. The sub-criteria schemes of each main criteria are given in the respective examples [Figure.2–Figure.7]. As the final step, experts were asked to evaluate the pairwise survey's efficacy by reviewing shopping malls in Istanbul. Consequently, with the application of the AHP method, the data for weight measurements were obtained for the determined criteria during the Istanbul malls evaluation. In both national and international literature, numerous studies have so far been conducted on shopping centers. However, a comprehensive examination of these studies revealed that each of them evaluate different aspects of shopping malls. For instance, while one research paper examines consumer shopping behaviors and the types of consumers, another paper focuses on the factors affecting shop atmosphere such as cleanliness, lightening, ambiance and similar such issues. Some of the studies regarding shopping malls are below:

E. Cengiz and B. Özden, (2002) examined buying behavior and conduct research on factors that influence visitors and tenants in preferring the shopping mall [4]. In the study, researchers discuss visitors' reasons for preference, what characteristics of malls are liked by customers, and what services provided by the mall are liked and used [4,5]. Kristy E. Reynolds and others'

(2002) compared traditional malls and factory outlets' shopper typologies and discussed implications for retail strategy [6]. Zacahrias puts forward in his study (2003) that entertainment activities and areas strengthen shopping centers. According to him, entertainment activities and dedicated areas in the shopping center increase the duration of the time spent by visitors in malls and thus affect the profile of visitors and their planning processes [2,7]. Ibicioglu's (2005) research aimed to examine visitors' demographic characteristics and visitors' behaviors. He suggests that malls need to develop new strategies and alternatives for middle-aged and elderly adults. This study, which is assisted by statistical techniques, demonstrates that there is a strong relationship between education level and going out/having fun, income level, and visiting frequency [8]. Akat and others' (2006) made a study regarding buying behaviors of customers' in a mall in Bursa. In the study, a correlation is observed between customers' age and shopping frequency, education level, and paying methods [9]. Yiu and Yau discuss in their study (2006) that there are six main factors that determine the success of shopping centers and can be used to compare their performances. According to the researchers, these factors include location, architectural design, promotion activities, property management, leasing strategies, and tenancy conditions [2,10]. Ngai points out in his study (2007) that the first of the nine quantitative factors that can be used to determine the performance of shopping malls is detailed population information containing various demographic characteristics such as age groups. The rest of the factors are the distribution of household income and expenditure items (food, clothing, etc.); socio-economic characteristics of the population; and measures of accessibility including road quality, bus services, bus stops, presence of parking spaces in the malls, car ownership, and rail system services [2,11]. Morrison et al. (2010) demonstrate that odor (pleasant) and music, which are sub-factors of store atmosphere, positively affect the costumer's feelings and trigger him/her to take action in the store. In their study, they further explain that the two sub-factors lead to a positive increase in the time and amount of money spent in the store along with the level of behaviors of satisfaction [12]. Vilnai-Yavetz and Gilboa argue in their study (2010) that hygiene provides satisfaction and confidence. The two researchers state that the cleanliness of the service area has a significant impact on customers' feelings of satisfaction. They therefore claim that there is an intense correlation between pleasure, trust, the cleanliness of the service area and the consumer behaviors [13]. Reikli in her study (2012), evaluates the key factors behind the success of the shopping malls. And she researched that there are four main factors that impact the performances of shopping malls: location, customer mix, tenant mix, and evaluations of shopping center success [2,14]. Narjes Haj-Salem and others (2016) researched what factors drive mall loyalty of male and female shoppers This study aims to explain how service

and product quality, prices, and mall atmosphere affect the mall loyalty of male and female shoppers [15]. Amit Mittal and Deepika Jhamb's research (2016) discusses determinants of shopping mall attractiveness. According to researchers, merchandising, variety, milieu, and convenience are these determinants [16]. Johan Anselmsson's research (2016) examines the positive relationship between developments in the mall sector, boosted sales Figureures, and visiting frequency. Moreover, it seeks an answer on how to compete with online shopping, which has noticeably increased in the last decade [17]. Wessam el-Abd and others (2018) investigate the design of roof windows in the context of daylight performance. This paper suggests new designs to optimize daylight performance, and it also gives a shopping mall from Cairo as an example [18]. The above-mentioned studies show that there is not any consistency in the literature about the factors behind the performances of shopping malls. As such, the different performance data revealed by different researchers have been examined. There is no comprehensive and extensive study that touches upon all the fields of shopping malls that we propose in our study. Thus, it can be said that this study is the first of its kind in the related literature. It is hoped that it will provide a significant and positive contribution to the literature by filling the gaps in related studies.

2. METHODOLOGY

2.1. Analytic Hierarchy Process (AHP)

The AHP is a multiple criteria decision-making technique that allows subjective as well as objective factors to be considered in the decision-making process. The AHP allows the active participation of decision-makers in reaching agreements, and it gives managers a rational basis on which to make decisions. The AHP is based on the following three principles: decomposition, comparative judgment, and synthesis of priorities [19]. The AHP was first introduced by Myers and Alpert in 1968 [20]. It was developed by Professor Thomas Lorie Saaty in 1977 as a model for solving decision-making problems. The AHP method helps decision makers by showing the correlation between purposes, criteria, sub-criteria, and alternatives to model the most complicated problems in a multi-level hierarchical structure. The AHP requires a well-structured problem represented as a hierarchy with the goal at the top. The subsequent levels contain the criteria and sub-criteria, while alternatives lie

at the bottom of the hierarchy [21]. The implementation steps of this method are as follows:

1. The problem should be clearly defined and the objectives should be determined.

2. Starting from the objectives, the main criteria and the lowest-level alternatives are placed in a hierarchical structure.

3. In order to determine which of the alternatives and criteria are more dominant, the pairwise comparison between the alternatives and criteria is made using the scale expressed in Table 1. Comparison matrices are (nxn) square matrix sizes. When the comparisons and matrices are formed, the pairwise comparison scale in Table 1 is used [22].

4. In order to normalize each column in the pairwise comparison matrix, the total number of columns is calculated and the normalized matrix is formed by dividing the elements of the matrix into the respective column sum.

5. The row sum of the normalized matrices, which are formed for each alternative and criteria, is determined and then the weight vector matrix is obtained.

6. In the weight matrix obtained with the weight vector, the weight values for each criteria or alternative are multiplied by the column elements of the pairwise comparison matrix of that criteria or alternative, and the total weighted matrix is thereby acquired.

7. The sum of the row values of the total prioritized matrix is divided into the row values of the weight vector matrix, and the arithmetic mean of the elements of the (nx1)-sized new matrix is calculated to obtain the weight values of the criteria or alternatives.

8. When calculating the consistency index [23], primarily, the CI value is found:

$$CI = (\lambda max–n /(n–1) \tag{1}$$

where CI = Consistency Index.

9. In the last step, the consistency ratio can be calculated by the combination of the values of the randomness scores and the combination of CI, where CR = Consistency Ratio and RI = Randomness Indicator. The consistency ratio in the AHP method should be less than 0.10. If the calculated value is greater than 0.10, the pairwise comparison matrix should be checked again and the steps are repeated after the corrections to be made.

10. The priorities of the alternatives calculated within the framework of the criteria and the priorities resulting from the pairwise comparisons of the criteria are multiplied for

Table 1. Scale of pairwise comparison values [24].

Numerical Value	Definition	Explanation
1	Equal importance	Two activities contribute equally to the objective
3	Weak importance of one over another	Experience and judgement slightly to moderately favor one activity over another
5	Essential or strong İmportance	Experience and judgement strongly or essentially favor one activity over another
7	Demonstrated importance	An activity is strongly favored over another and its dominance is showed in practice
9	Absolute importance	The evidence of favoring one activity over another is of the highest degree possible of an affirmation
2, 4, 6, 8	Intermediate values between two adjacent judgement value	Used to represent compromises between the preferences in weights 1, 3, 5, 7, and 9

each alternative, and the last desired weight value can be calculated.

3. PROPOSAL OF MEASURING PERFORMANCE CRİTERİAS AND RESULTS

As the level of competition increases in business, the importance of performance evaluation is similarly increasing day by day. Accurate determination of performance evaluation criteria is the most important step in the evaluation of performance. Several factors have been considered when evaluating shopping center performance. In the model we proposed for the shopping mall sector, a total of 140 criteria were defined, including 6 main criteria in Figure.3 and 134 sub-criteria in Figures [5-7-9-11-13-15]. The process of determining weight level of the criteria in the model was as follows: First, we reviewed the literature in detail. These criteria were evaluated by face-to-face interviews with experts. Then, by using the Superdecision v2.6 package program, hierarchical structures were created [Figure.1].

In the next step, the pair survey research presented to the experts [Figure.2], and the experts were asked to evaluate these criteria according to their significance by considering the shopping centers in Istanbul using Saatty's 1–9 scale. In Figureures [3-5-7-9-11-13-15] the main criteria of the shopping center performance index and the sub-criterion charts of each main criterion are listed, and their annotations are given in Appendix A. To share an example, the program screenshots of the tenant performance index are shown in Figure 1 and Figure 2. In the survey research, for each criterion, the geometric averages of the scores obtained from each expert were calculated and entered into the program. Within the direction of the data acquired via the program, the data in the tables of each sub-criteria were multiplied by the weights of the main criteria. The results were evaluated and the weights of the determined criteria in the shopping centers were revealed. First, for each main criterion, followed the weight numbers are given below [Figure.4].
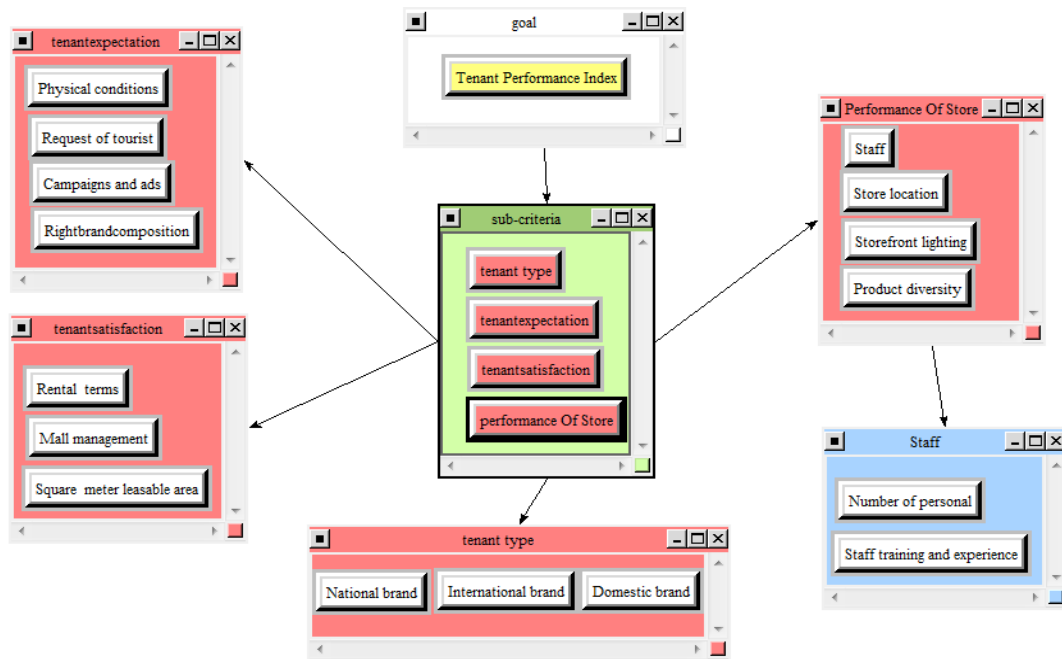

Figure 1. Superdecision program main screen image of tenant performance index

Figure 2. Screen image of pairwise comparison questionnaire

Figure 3. Hierarchical structure of shopping mall performance index main criteria

Weights Of Main Criterias

- Mall Turnover (0,22382)
- Tenant (0,375622)
- Social Life (0,088439)
- Investor (0,119605)
- Green Building (0,031645
- Visitor (0,160869)
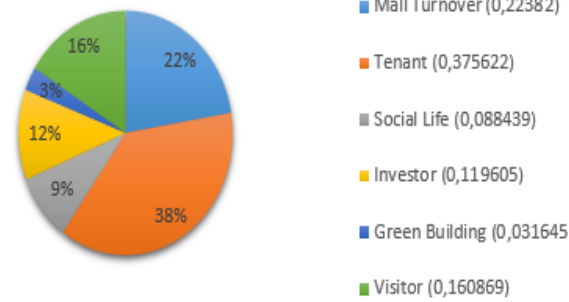
Figure 4. Weights of Main Criterias in shopping mall performance index

There are 6 main criteria in the shopping mall performance index; Green Building (A), Investors (B), Visitors (C), Tenants (D), Mall Turnover (E), and Social life (F) in Figureure 3. Definitions of criteria are in Appendix 1.

When Figureure 6 is examined, we can see that the most important sub-criterion in the green building category of shopping center performance is building management (0,005024). Then, we can see that there are additional important criteria in green building performance such as mall interior space life quality (0,003499), innovation (0,003061) and marketing (0,002512).
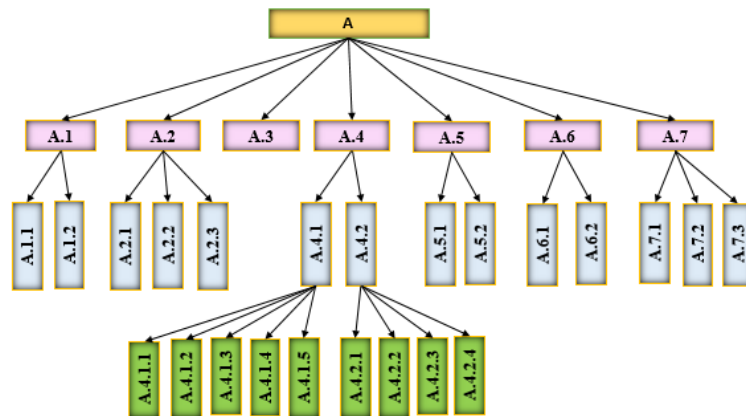
Figure 5. Hierarchical structure of green building performance index

When Figureure 4 is examined, it is seen that the most important criteria of shopping center performance is the tenant performance index with the highest weight (0,375622). Once the six main criteria were identified, each main criterion was divided into the sub-criteria. The weight values of the sub-criteria of each main criterion are shown below.

When Figureure 8 is examined, we can see that the most important criteria in the investor category of shopping mall performance is Brand composition (0,028684), the highest weight in the criteria. The rest of the criteria are as follows: shopping mall location (0,020715), accessibility to shopping center (0,015536), targeted customer (0,010653), the population of the region (0,008737), social economic status group (0,006914), shopping mall category (0,005355), competition with the environment (0,005179), and income level (0,004795).

Weights Of Green Building Performance Criterias

- Land And Environment (0,001378)
- Building Management (0,005024)
- Use of Material (0,000967)
- Innovation (0,003061)
- Proximity to urban transportation vehicles (0,001033)
- Utilization of recycled material (0,000369)
- Marketing (0,002512)
- Intelligent building (0,00057)
- Trigeneration and cogeneration (0,000113)
- Heat pump (0,000228)
- Mall interior air quality (0,001749)
- Domestic material (0,000086)
- Wastewater treatment (0,000077)
- Water basis of green roof (0,000109)
- Energy efficiency (0,001344)

- Waste And Recycling (0,000737)
- Mall Interior Space Life Quality (0,003499)
- Efficiency And Activity (0,001791)
- Land and road structure (0,000344)
- Collection area of waste and residue (0,000369)
- Occupational health and safety (0,001256)
- Cleaning-repair maintenance (0,001256)
- Energy basis of green roof (0,000077)
- Renewable energy (0,000356)
- Mall interior utilization of daylight (0,001749)
- Obtainable material (0,000541)
- Eco friendly material (0,000341)
- Gray water (0,000109)
- Rainwater collection (0,000154)
- Water efficiency (0,000448)

Figure 6. Weights of sub-criteria of green building performance index
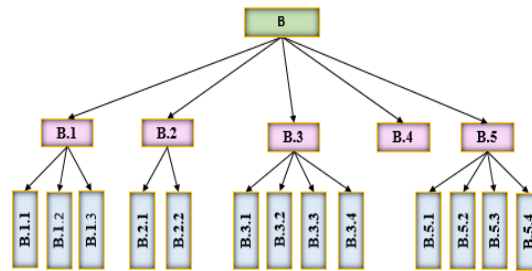
Figure 7. Hierarchical structure of investor performance index

Weights Of Investor Performance Criterias

- Shopping mall category (0,005355)
- Population of the region (0,008737)
- Brand composition (0,028684)
- Open and closed roof mall (0,00159)
- Accessibility to shopping center (0,015536)
- Gender (0,001687)
- Age(0,001588)
- A social economic status group (0,006914)
- C1 social economic status group (0,000896)

- Shopping mall location (0,020715)
- Targeted customer (0,010653)
- Entertainment focused shopping mall (0,00289)
- Outlet (0,000875)
- Competition with the environment (0,005179)
- Income level (0,004795)
- Population growth prediction (0,000667)
- B social economic status group (0,001948)
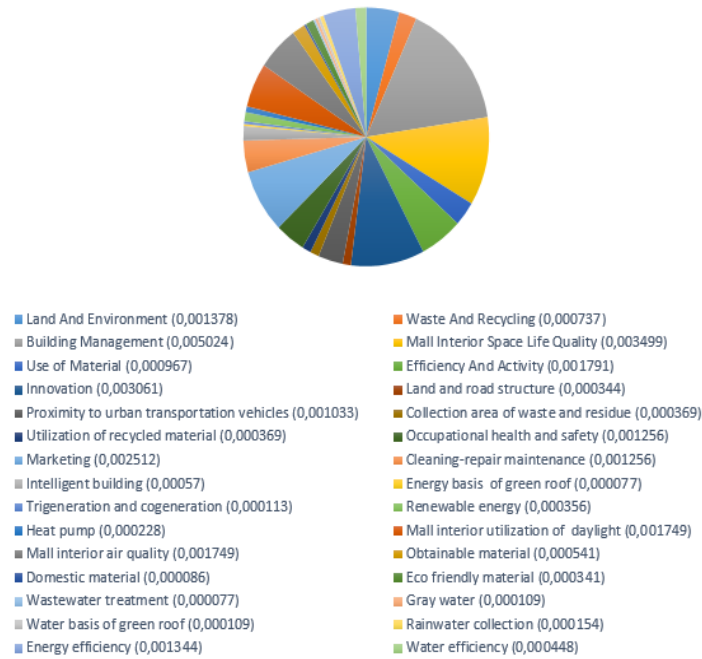- C2 social economic status group (0,000896)

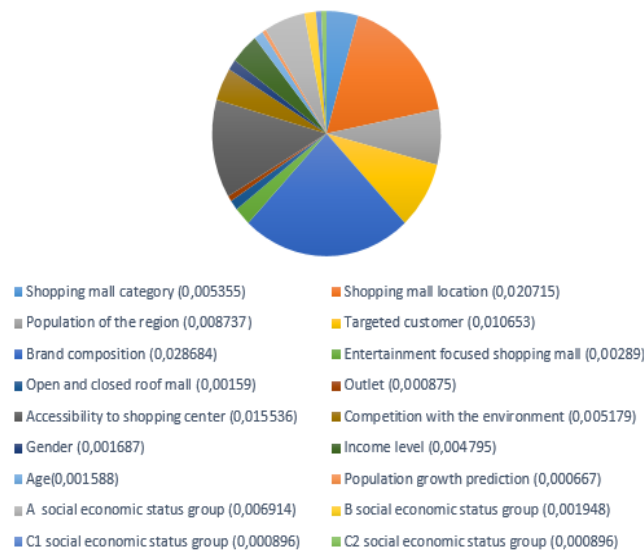**Figure 8.** Weights of sub-criteria of investor performance index

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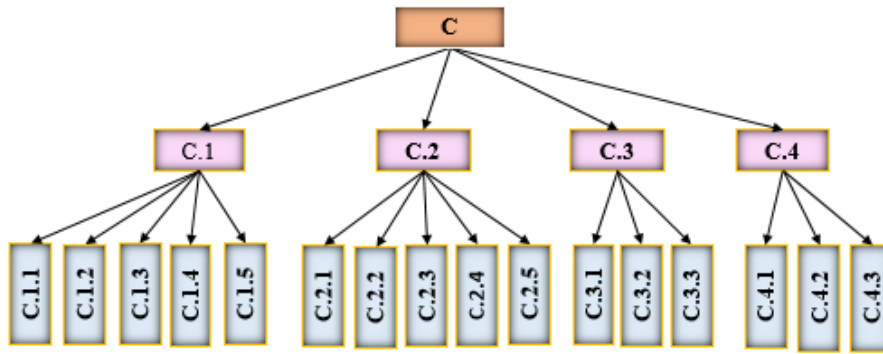
Figure 9. Hierarchical structure of visitor performance index

Weights Of Visitor Performance Criterias

- Expectations of Visitor (0,01314)
- Satisfaction of Visitor (0,031788)
- Profile of Visitor (0,01314)
- Loyalty of Visitor (0,022366)
- Outdoor and green area expectation (0,001988)
- Physical elements expectation (0,001834)
- Brand composition expectation (0,007137)
- Health and fitness service expectation (0,000546)
- Social activity expectation (0,001636)
- Diversity in service (0,007432)
- Interior-exterior design (0,00287)
- Location (0,014464)
- Staff (0,002747)
- Customer and shopping mall prestige relation (0,004276)
- Tourist visitor (0,001253)
- Child visitor (0,003283)
- Frequency of going to mall (0,005591)
- Male-Female visitor (0,008604)
- Time spent at mall (0,005591)
- Financial expenditure capacity (0,011183)

Figure 10. Weights of sub-criteria of visitor performance index

Figure 11. Hierarchical structure of tenant performance index

When Figureure 10 is examined, it can be seen that the most important criteria in the aspect of visitors in shopping center performance is visitor satisfaction with the highest weight (0,031788). Other important factors are visitor loyalty (0,022366), location (0,014464), expectations of visitors (0,013140) profile of visitors (0,013140), and financial expenditure capacity (0,011183).

The data of Figureure 12 demonstrate that the most important criterion in terms of tenants in shopping mall performance is Store performance, which has the highest weight (0,067426).The other significant criteria include tenant satisfaction (0,052547), tenant expectations (0,030907), personnel (0,028911), rental terms (0,028740), tenant type (0,022475), shopping mall management (0,018105), and product diversity (0,017182).

Weights Of Tenant Performance Criterias

- Tenant expectations (0,030907)
- Satisfaction Of tenant (0,052547)
- Type of tenant (0,022475)
- Performance of store (0,067426)
- The right brand composition (0,014443)
- Physical conditions (0,004948)
- Campaigns and ads(0,008567)
- Request of tourist visitor (0,00295)
- Mall management (0,018105)
- Rental terms (0,02874)
- Square meter leasable area (0,005703)
- National brand tenants (0,009511)
- International brand tenants (0,010887)
- Domestic brand tenants (0,002077)
- Store location (0,015819)
- Storefront lighting (0,005515)
- Staff (0,028911)
- Product diversity (0,017182)
- Staff training and experience (0,014455)
- Number of personal (0,014455)

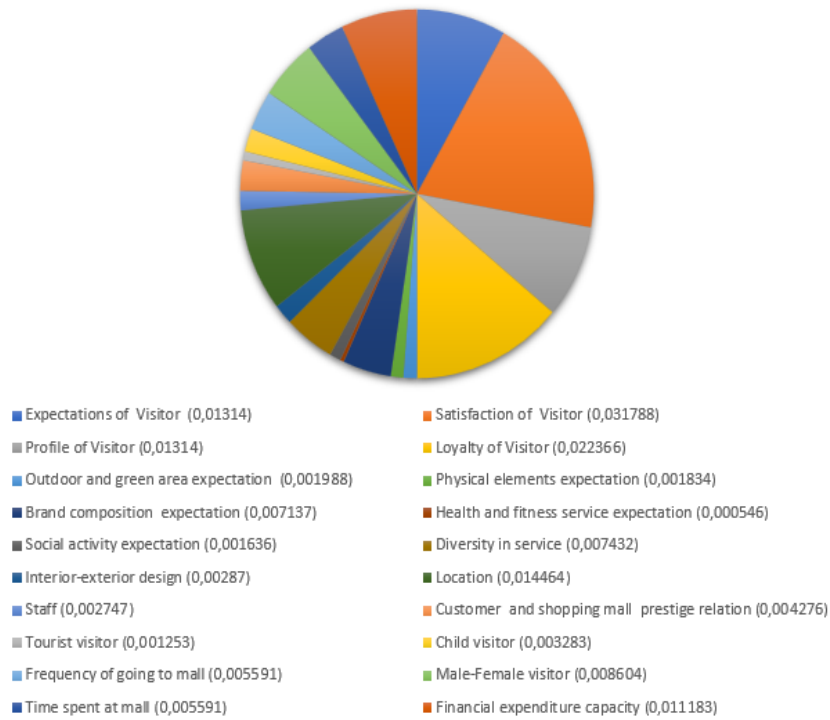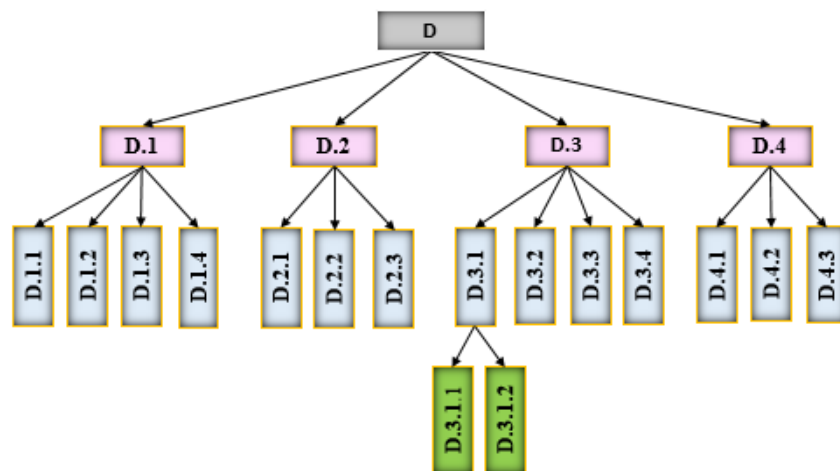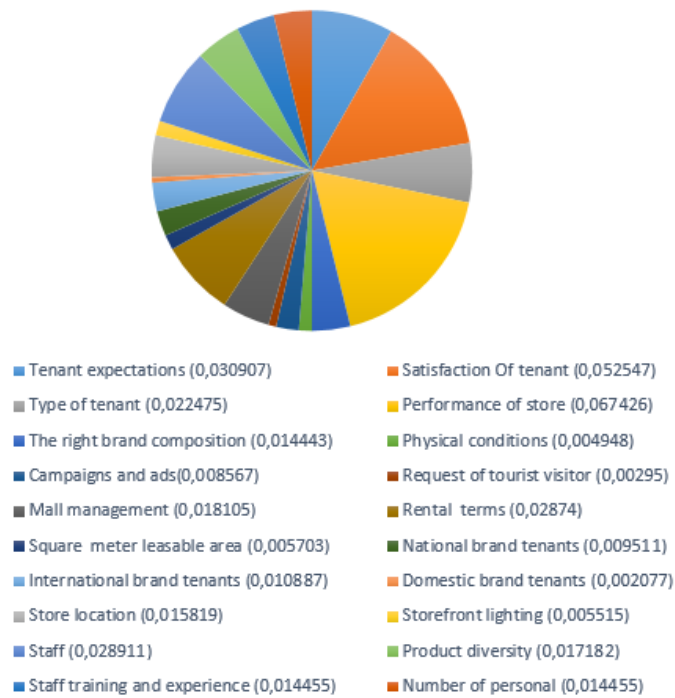**Figure 12.** Weights of sub-criteria of tenant performance index

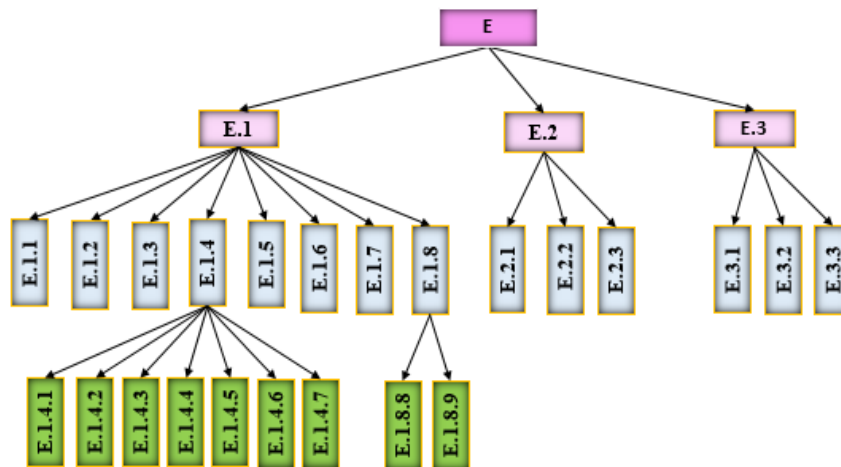**Figure 13.** Hierarchical structure of mall turnover performance index
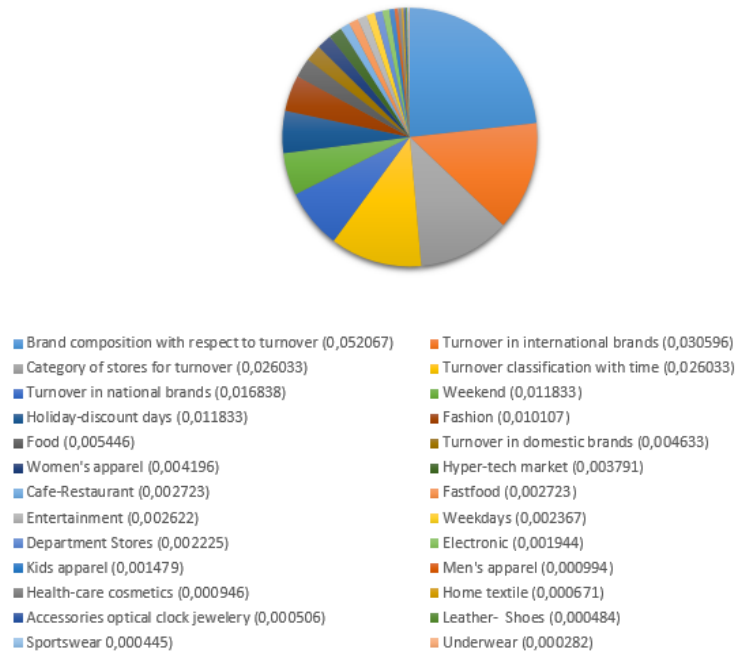
Weights Of Mall Turnover Performance Criterias

- Brand composition with respect to turnover (0,052067)
- Turnover in international brands (0,030596)
- Category of stores for turnover (0,026033)
- Turnover classification with time (0,026033)
- Turnover in national brands (0,016838)
- Weekend (0,011833)
- Holiday-discount days (0,011833)
- Fashion (0,010107)
- Food (0,005446)
- Turnover in domestic brands (0,004633)
- Women's apparel (0,004196)
- Hyper-tech market (0,003791)
- Cafe-Restaurant (0,002723)
- Fastfood (0,002723)
- Entertainment (0,002622)
- Weekdays (0,002367)
- Department Stores (0,002225)
- Electronic (0,001944)
- Kids apparel (0,001479)
- Men's apparel (0,000994)
- Health-care cosmetics (0,000946)
- Home textile (0,000671)
- Accessories optical clock jewelery (0,000506)
- Leather- Shoes (0,000484)
- Sportswear 0,000445)
- Underwear (0,000282)

Figure 14. Weights of sub-criteria of mall turnover performance index
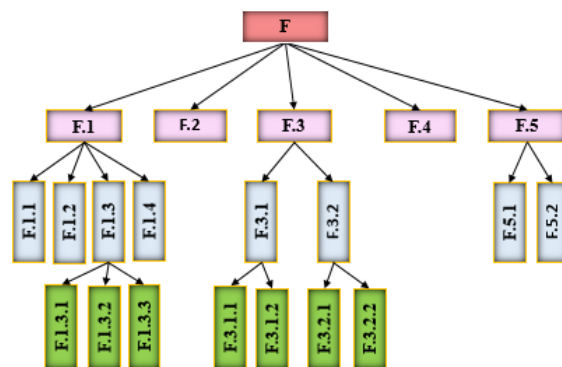
Figure 15. Hierarchical structure of social life performance index

Weights Of Social life Performance Criterias

- 15-18+years old (0,000472)
- 6-15 years old (0,000749)
- 0-6 years old (0,001189)
- Fields of sports and recreational (0,001812)
- Historical building structure (0,002314)
- Game halls (0,002409)
- Educational activities for adults (0,002412)
- Educational activities for kids (0,002412)
- Social-cultural activities for adults (0,002412)
- Social-cultural activities for kids (0,002412)
- Art (0,003396)
- Entertainment and education (0,004431)
- Modern Building structure (0,004627)
- Educational activities (0,004823)
- Social-cultural activities (0,004823)
- Building Design (0,006941)
- Originality (0,009326)
- Number Of Activities (0,009647)
- Outdoor And Green Areas (0,009785)
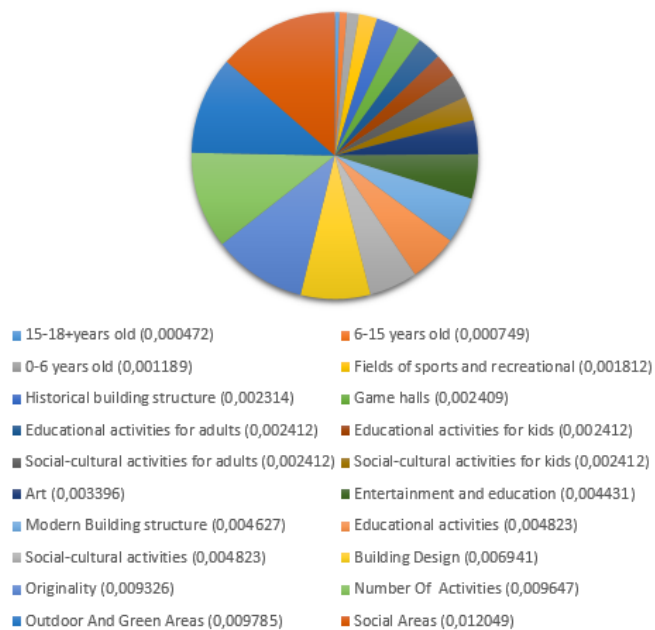- Social Areas (0,012049)

Figure 16. Weights of sub-criteria of social life performance index

Figureure 14 shows that the most important criteria in terms of turnover in the shopping mall performance is Brand mix (0,052067), which combines national, international and local brands. The other effective criteria are international brands (0,030596), shopping mall category (0,026033), time (0,026033), national brands (0,016838) and fashion (0,010107). Figureure 16 reveals that the most important criterion in terms of social life in shopping malls is social areas (0,012049). Other criteria include outdoor and green areas (0,009785), number of activities (0,009647), originality (0,009326) and building design (0,006941).

4. CONCLUSION

The number of shopping centers increases day by day. Factors that affect the development of shopping centers include changes in social structure, consumption habits, rapid urbanization, change in income and education, ease of transformation, accessibility, technological developments, increased interaction with foreign cultures, security concerns, and changing lifestyles [2,25]. As the number of shopping centers increases, competition grows. For this reason, it is more important than ever to make accurate analyses, to be open to innovations, and to develop comprehensively planned projects. Shopping centers that develop themselves with an original and innovative approach are well-managed, provide a space for social life, perceive the needs of the consumer correctly, and develop solutions in this direction come to the forefront in this competition. While a new generation of shopping malls enters the sector, old ones start renovating works according to new needs. Shopping centers are no longer just places to go for shopping; instead, they reflect lifestyle with their architecture, services, and social spaces and activities. Having an original identity, catching the right concept, being properly manageable, and keeping up with new generations, all allow shopping centers to survive in the sector. The model we propose in this study is aimed to determine important concepts for shopping centers and to make a positive contribution to the performance evaluation process provided so far in the literature by obtaining importance weights for each evaluation category or criterion. In the study, we determined primary shopping center performance criteria and asked sector experts to use them for evaluations. The specified criteria were transferred to the Superdecision program we use in the AHP method, and hierarchical structures were thereby created in Figure. (3–5-7-9-11-13-15). The data for the model to which AHP was applied were collected through the survey study. Saaty's 1–9 scale was presented to five experts in the shopping mall sector and they were asked to evaluate the pairwise comparison surveys using shopping malls in Istanbul. In the last step, a single entry was made to the program by taking the geometric mean from all the experts for each pairwise criteria comparison. The aim of this study was to determine the importance and weights of the criteria for shopping mall performance evaluation using the AHP model and asking sector experts. Alternatives were not indicated in this study because the importance levels of the criteria weights for determined shopping mall alternatives will be shown in a following study using a different method. The results of this study are as follows: We can say that the most important factor of shopping center performance is the Tenants of the shopping center (with a weight of 0,375622). Each main criterion was evaluated. When the sub-criteria of green building [Figureure 6] were examined, building management was the most important sub-category (0,005024) followed by marketing (0,002512). The last criteria was the Intelligent building system (0,000570). When the sub criteria of Investor were examined [Figureure 8], Brand composition had the highest weight (0,028684) followed by accessibility (0,015536). Figureure 12 demonstrates that the most important criteria within tenants is store performance (0,067426) followed personnel (0,028911). The lowest for the tenants is personnel number, and the education and experience of personnel have the same importance. According to the data on Visitor sub-criteria [Figureure 10], Customer satisfaction was the most important (0,031788). The most important sub-criteria for was location (0,014464). The turnover performances date [Figureure 14] shows that the most important factor for the turnover criteria affecting shopping mall performances is the brand composition, which combines national, international and domestic brands (0,004633). For its sub-criteria, it can be said that the international brands (0,030596), national brands (0,016838), and fashion (0,010107) are the most significant factors. When the subcriteria of social life (Figureure 16) are examined, the most important for shopping mall performance is the social Areas among its sub-criteria with the highest weight (0,012049). The other two sub-criteria were social-cultural and educational social-cultural activities (0,004823), and numbers of these activities come to the forefront. Considering the results, some suggestions are made here. The most important structure in the shopping centers is the tenants. Therefore, in order to boost the performances of shopping centers, the tenants should be pleased by meeting their expectations. The shopping mall administrations, thus, should develop standards of lifestyle in their malls and carry out innovative marketing strategies. Some recycling projects, such as the water purification system, need to be generated and improved. The level of competition among the shopping centers can be increased with diversity in the brands to be formed according to the target customer group, as well as with ease of access and transportation facilities. Within the framework of converting visitor satisfaction into loyalty, findings indicate that criteria such as brand mix, diversity in service and attractiveness of indoor and outdoor design can be used. The experienced and educated people in the management of the malls, product range in stores, and choosing the right location for the malls lead to positive developments in tenant satisfaction and store

performances. Some special strategies need to be generated for international and national brands, on which the turnover factor have the most significant impact, as well as trends, particularly in women's clothing, food, holidays, and weekends. In order to increase the turnovers, social life events such as exhibitions, pop-up days, and so on can be organized in holidays and weekends. Customers' social life can be improved with original, open-enclosed green spaces, social, cultural, and educational events, not only for children but also for adults, workshops, and so on.

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