A PRACTICAL MULTIPLE FACTOR INDEX MODEL FOR SHOPPING CENTER INVESTMENT DECISIONS IN ISTANBUL

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İSTANBUL'DAKİ ALIŞVERİŞ MERKEZİ YATIRIM KARARLARI İÇİN PRATİK BİR ÇOKLU FAKTÖR ENDEKS MODELİ

ÖZET

Günümüzde İstanbul alışveriş merkezi piyasası, ticari taraftaki güçlüklere ek olarak, sosyal ve çevresel alanlardaki problemlerle de yüzleşmektedir. Bu tez, tüm paydaşlar tarafından kullanılabilecek özgün bir çoklu faktör değerlendirme modeli ortaya koymakta; bunu yaparken de güçlü sürdürülebilirlik paradigmasını ve sürdürülebilir kalkınma prensiplerini kendisine temel olarak almaktadır. Bu doğrultuda öncelikle kapsamlı bir literatür taraması yapılmıştır. Bu bağlamda model, Ticari, Sosyal ve Çevresel Sacayakları üzerine oturtulmuş ve bu sacayaklarının alışveriş merkezi tipolojisi özelinde ne gibi alt faktörlere sahip oldukları (dokuz adet alt faktör, toplamda yirmi altı adet alt başlık içerir) tespit edilmiştir. Ardından, işbu sacayaklarından, alt faktörlerden ve alt başlıklardan oluşan bir analitik hiyerarşi prosesi (AHP) anket modeli geliştirilmiş ve İstanbul'da geliştirdiği en az bir alışveriş merkezini halen uhdelerinde bulunduran yirmi bir (uygun şartlara sahip yirmi beşi arasından cevap verenler) Alışveriş Merkezleri ve Yatırımcıları Derneği (AYD) üyesi firmanın üst düzey yöneticilerine yüz yüze görüşme yöntemi ile uygulanmıştır. Yöneticiler, %58,1 oranında Ticari Sacayağını en önemli birleşen olarak görmüş; Sosyal ve Çevresel Sacayakları ise sırasıyla %22,8 ve %19,1'de kalmıştır. Bu sonucun ardından, daha objektif bir zemin yaratabilmek için ek bir birincil araştırma kurgulanmıştır. Bu sefer, sürdürülebilirlik temelli çalışmalar yürüten üç adet uzmandan oluşan bir panel oluşturulmuş ve her biriyle iki adet açık uçlu sorudan oluşan yapılandırılmış yüz yüze mülakatlar düzenlenmiş ve kayıt altına alınmıştır. Buradan toplanan ve literatür taraması ile örtüşen yapıcı içgörüler ışığında, modelin Sosyal ve Çevresel Sacayaklarına etik koruma getirilmesi uygun bulunmuştur. Bu karara modelin görsel tasvirinde yer verilmiştir. Model ayrıca tüm paydaşların kullanımına açık, pratik bir Proje Kontrol Listesi de oluşturmuştur. Çalışmada, sürdürülebilirliğin temelleri, alışveriş merkezlerinin gelişimi, İstanbul'un kentleşme süreci ve kentin alışveriş merkezi piyasası hakkında da bir bakış sunulmaktadır.

Anahtar Kelimeler: alışveriş merkezleri, İstanbul, sürdürülebilir kalkınma, AHP

A PRACTICAL MULTIPLE FACTOR INDEX MODEL FOR SHOPPING CENTER INVESTMENT DECISIONS IN ISTANBUL

ABSTRACT

Istanbul shopping center market is currently dealing with problems in the social and environmental spheres, in addition to its challenges at the commercial side. This thesis presents a genuine multi-factor evaluation model that can be used by all stakeholders of the market. While doing so, the model has its base on the paradigm of strong sustainability and the principles of sustainable development. First of all, an extensive literature review has been conducted in this respect. Accordingly, the model is built on Commercial, Social and Environmental Pillars and their industry-related sub-factors (nine sub-factors that are corresponding to a total of twenty-six underlying headlines) are determined. Afterwards, an analytical hierarchy process (AHP) survey model has been developed based on these pillars, sub-factors and underlying headlines and it is performed face-to-face on the top decision-makers of twenty-one (out of twenty-five eligible entities that answered back) members of the Council of Shopping Centers Turkey (AYD) which have at least one self-developed Istanbul shopping center in their portfolio. Commercial Pillar has been selected by the decision-makers as the most important component with %58.1; while Social and Environmental pillars stayed behind with 22.8% and 19.1% respectively. Following this result, another primary research setup has been formulated in order to create a more objective ground. This time, a panel comprised of three experts working on the field of sustainability is assembled and individual structured face-to-face interviews which included two open-ended questions are conducted and recorded with each participant. As a result of the constructive insights that have been in line with the literature review, assigning ethical protection to the Social and Environmental Pillars of the model is deemed reasonable. This decision is also reflected in the visualization of the model. The model also offers an open source, practical Project Checklist. This thesis also acts as an overview of the foundations of sustainability, development of shopping centers, Istanbul's urban development and its shopping center market.

Keywords: shopping centers, Istanbul, sustainable development, AHP

Teşekkür

Hayatımın yazarı sevgili eşim Elif'e, bana verdiği içten destek ve gösterdiği anlayış için teşekkür etmek istiyorum. Bu siyah mürekkepte dahi kendisine olan aşkım hep ışıl ışıl parlamaya devam edecek. Akıl hocam ve tez danışmanım sayın Prof. Dr. Ali Murat Ferman'a ise, bana araştırmayı öğrettiği ve kafamdaki bölünmüş fikirlerden böyle bir akademik çalışma yaratmamı sağladığı için yürekten teşekkür ediyorum. Kendileriyle anket ve mülakatlar gerçekleştirmeme izin veren tüm profesyonellere ve uzmanlara da teker teker teşekkür ediyorum.

Sevgili Eşim Elif'e ve Canımız Oğlumuz Demirhan'a

Önsöz

"İstanbul'daki Alışveriş Merkezi Yatırım Kararları için Pratik Bir Çoklu Faktör Endeks Modeli" başlıklı bu tez, Işık Üniversitesi Sosyal Bilimler Enstitüsü Çağdaş İşletme Yönetimi Doktora Programı kapsamında hazırlanmıştır.

29 Temmuz 2019'da çok önemli bir şey oldu. O gün, yegâne evimiz olan dünyanın, tüm yıl boyunca uğraşarak yerine koyabileceği ekolojik kaynakların tamamen sonuna geldik. Doğanın çeşitli mucizeleriyle ancak on iki ayda yerine koyabileceği muazzam büyüklük ve çeşitlilikteki kaynaklar, yedi ayda bitti. Geriye kalan beş ayı, bir yandan onulamaz bir hızda doğal alanları ve kaynakları tüketmeye devam ederek, bir yandan da atıklarımızla, çevre kirliliğiyle ve karbon salınımı ile doğaya daha da fazla zarar vererek geçirdik. Dünya Limit Aşım Günü, her geçen yıl biraz daha erken geliyor.

Çevresel sorunlara ek olarak, küresel çapta toplumsal sorunlarla da boğuşmaktayız. Bu iki ilintili katmandaki sorunları çözebilmek için bakmamız gereken ilk yerlerden biri de mevcut küresel ekonomik sistem olmalıdır. Yeni binyılın ilk çeyrek asrını geride bırakmak üzere olduğumuz bu dönemde, istisnasız her alanda eşitlikçi ve yaratıcı yaklaşımlara daha önce hiç olmadığı kadar çok ihtiyaç duyuyoruz.

Yapılı çevremiz için de durumun farklı olduğunu söyleyebilmek pek mümkün değil. Bir mıknatıs gibi kitleleri kendilerine çeken ve sürekli büyüyen kentlerimiz, ele alınması gereken alanların da başında geliyor. İşbu tez, geride kalan on yıllarda kent hayatının vazgeçilmez unsurlarından biri haline gelen alışveriş merkezlerinin penceresinden yapılı çevremizin dikte ettiği girift ekonomik, sosyal ve çevresel sistemler ağını masaya yatırmaktadır. Bunun için de insanlık tarihinin en kadim kentlerinden biri olan İstanbul'a yoğunlaşmıştır. Alışveriş merkezileri ile kompleks bir ilişkisi olan bu metropol, bu alanda çok değerli içgörüler sunmaktadır.

İstanbul örneği üzerinden ilerleyen, ancak sürdürülebilir kalkınma anlayışını ve güçlü sürdürülebilirlik kurgusunu kullanarak çok daha evrensel ve özgün bir analiz modeli ortaya koyan tez, değişimin bir tercih değil de bir zaruret haline geldiği günümüz dünyasında, konunun paydaşları için faydalı bir referans olacaktır.

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Chapter 1

Introduction

Over decades, shopping centers have become the staples of contemporary urban life; inevitably accompanied by numerous prophecies of rise and fall along the way. Sometimes simultaneously, sometimes successively, they have been glorified and parodied, seen as modern marvels and obsolete remnants of a long-gone age… At a time when cities throughout the world tend to become more and more similar to one another, it is virtually impossible to analyze shopping centers as an isolated or regional incident. In this respect, being accustomed to shopping centers and truly understanding them as a typology are two completely different things.

The increasing similarities among different cities are not the sole issue here. Cities and their quasi-natural byproducts such as shopping centers are also growing in size every day; in one form or another. Concurrently, concerns have been increasing and intensifying too. As expressed in this study, these concerns are not only limited to the economics and mechanics of the related business models either. There are more fundamental issues at stake here; issues that are overlooked for so long. This study puts forth these issues through the lens of sustainable development and the paradigm of strong sustainability, while focusing on the shopping center business. This field of commercial real estate development is facing a new breed of challenges that can take place concurrently or individually in the majority of the geographical markets around the world.

Istanbul is far from being an exception in this respect. Accelerated and strategic action is needed for rehabilitating and improving the city's immense shopping center market –which does not only pose risks in a commercial sense but also in the equally important social and environmental aspects. Accordingly, this study puts forward a practical multiple factor index model for the shopping center investment decisions in Istanbul. Main components of this model are based on the sustainability approach and they rely on both primary and secondary research. This entire structure is designed in a way that would be practical for all stakeholders to use as a strategic revelation document. Following three chapters covering the foundation work, the model is demonstrated and explained in full detail in Chapter 5.

It is important to cover the basics first. Shopping center is a commercial building typology that has its roots in the American suburbia; a post-WWII time glorifying single family houses and family cars. Yet, it has managed to become a global phenomenon and seemingly an inseparable part of so many cities all around the world. Shopping center is an object of desire and hate simultaneously (Barber 2015, Newsweek Staff 2005). After all, by 1987, 13% of the US' gross domestic product (GDP) and 8% of its employment were coming from the shopping center market (Feinberg and Meoli 1991); leading to the belief that it must have been a modern economic miracle. However, a more recent study from Australia (McGreevy 2016) states that new shopping centers actually negatively affect the economy by cutting down local businesses and employment (starting slowly in the short-term and becoming a serious issue with the following snowball effect).

It is visible that, even via the limited lens of commerce, wholly and objectively evaluating the shopping center business is a challenge and commercial perspective alone is no longer enough. In line with the growing environmental and social problems, sustainability concerns and sustainable development strategies are gaining serious momentum. According to Cambridge Dictionary, sustainability is "the quality of being able to continue over a period of time". One can easily think about the qualities of this planet as a whole with its wonderfully complex ecosystems and with humanity's socioeconomic and cultural treasures. Degradation of this planet's natural realm and capital, together with the severe issues at the socioeconomic side are both strikingly apparent. Sustainable development is an end-product of this revelation. It offers a set of principles which are aimed at re-balancing the ongoing negative trajectory by creating a new stakeholder perspective and by offering an integrated combination of new social, environmental and economic targets for attaining a just future and a sustainable coexistence. The concept of negative externalities should also be evaluated in relation to sustainable development. Such externalities occur when the individual benefits and costs resulted in a business scenario differ from the gross environmental and social burden.

This study, in order to narrow down the focus for attaining the most meaningful results possible, is looking at a specific city (i.e. Istanbul) and a specific market (i.e. shopping centers) through; (1) decoding the sustainable development principles and

the paradigm of strong sustainability, (2) conducting detailed secondary research and (3) realizing two separate primary research endeavors. Neither Turkey nor Istanbul, as the country's economic and cultural capital, is exempt of the world's problems. Even though the local shopping center market has a visible presence, it is clear that the shopping center typology is just one part of the complicated urban sprawl mechanisms. Even without its existence, Turkey and Istanbul would have to tackle other major sustainability-related challenges. Either way, shopping centers are here. As of year-end 2018, there have been 431 projects all around the country that correspond to 12.92 million m^2 gross leasable area (GLA) and 123 of those (with 4.75 million m^2 GLA, 37% of the entire national supply) are located in Istanbul; leading up to 316 m^2 retail space per thousand Istanbulites (JLL 2019).

Shopping centers do not filter carbon, generate the vital oxygen, clean the soil or act as a home to the wildlife; which are the natural positive inputs of the forests that have been taken for granted for so long. Actually, shopping centers are net consumers of land and resources (both finite) and they leave large carbon footprints and pollutants behind them. Social issues constitute another crucial topic. In her research on the 20th century consumerism, Lizabeth Cohen (2003) shows that fusing citizenship and consumerism through suburban growth and shopping centers had been once seen as a way to create a prosper and equal society but the results of this social experiment were not that positive. Also in Turkey's experience, shopping centers are accused of discriminating certain demographic groups and harming traditional craftsmen and the old socio-commercial areas (Erkip and Özduru 2015).

Both social and environmental concerns are more serious in Istanbul, the largest shopping center sub-market in Turkey. More than thirty years have passed since the opening of the first Western style shopping center in Istanbul. In due course, shopping centers have become a dominant force in the megacity's fabric –by not only changing how urban dwellers engage in economic and social activities but also by redefining the urban landscape and by creating a new social and environmental narrative. In Istanbul, an investment rush had taken place in 2000s with 48 projects being opened in a ten-year span (the year 2008 leading with 13 openings). The following decade also started with a similar push but as a result of the internal and external shifts (e.g. the subprime mortgage crisis, the following global tensions and

the eventual stagnation of Turkish real estate ecosystem), this trend is slowly but reassuringly coming to an end.

Table 1 – Recent Growth of the Turkish Shopping Center Industry (JLL 2014, 2015, 2016, 2017, 2018, 2019)

Report Year	# of centers	m^2 GLA
2013	352	9,5 mio
2014	344	10,0 mio
2015	368	10,9 mio
2016	375	11,2 mio
2017	401	12,2 mio
2018	431	12,9 mio

Following the national economic turbulence of the summer months, September 2018 saw the Presidential Resolution putting a hold on foreign currency lease contracts; removing the most crucial selling point of Turkish shopping center investments as a stable hard currency income generator. By that time, market saturation was already a serious topic in Istanbul (especially in and around the more sought-after areas such as Levent-Maslak CBD and the dense residential zones such as Bakırköy). Also, base rents and investment yields were and still are shattering, while operational costs and turnover performances are also continuing to show a negative trend.

At this point, it should be reaffirmed that this study is not only aiming at the commercial side of the deal. It is a common mistake to evaluate commercial real estate investments exclusively through the lens of their investors, financiers, service providers and tenants. This half-done approach also tends to see urban dwellers simply as customers, while leaving the environmental concerns almost entirely outside of the equation. Actually, Istanbulites (both as individuals and as members of various communities) and the environment are crucial stakeholders that must be more visible in the decision-making processes concerning the future of the city.

In this respect, this study has created the much-needed sustainable development multi-factor model for the shopping center business –with a specialized approach towards Istanbul. As stated in the beginning, this model is following the paradigm of strong sustainability (i.e. putting environment -and natural capital- at the heart of its

structure as the outermost and most crucial circle). According to this paradigm, everything is an integral part of the environment and the natural capital it embodies is lethally finite and non-replaceable (Noël and O'Connor 1998). Environment's inner circle is society. Commerce, as the innermost circle, is actually just a set of anthropic structures. Some mainstream sustainable development approaches tend to visualize environment, society and economy as individual topics that are only partially interacting with each other (i.e. weaker correlation and higher interchangeability between different pillars). The basic visual comparison between weak and strong sustainability approaches can be seen below;

Figure 1 – Common Visualizations of Weak Sustainable Development (adapted from Tanguay et al. 2009 and Tutulmaz 2012)

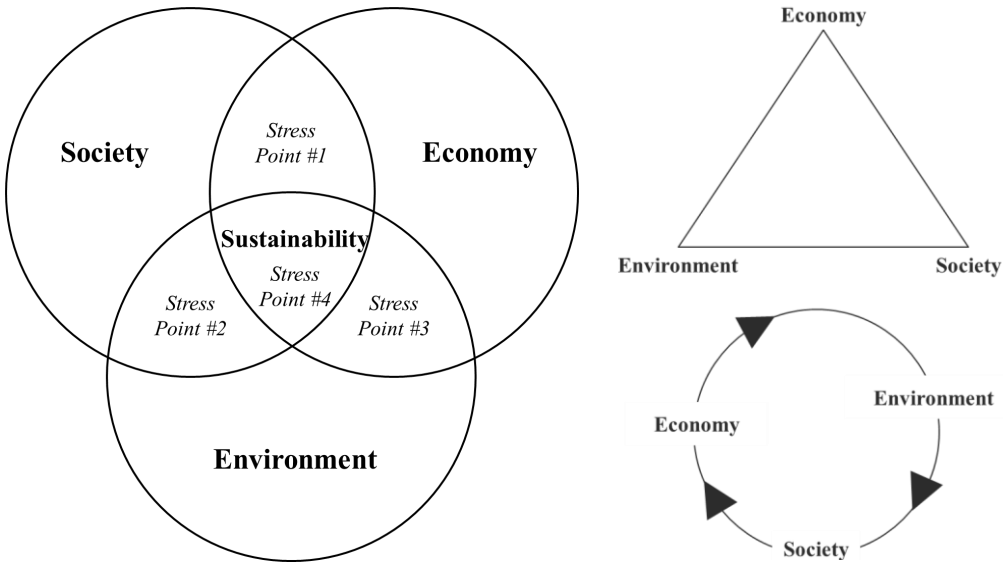
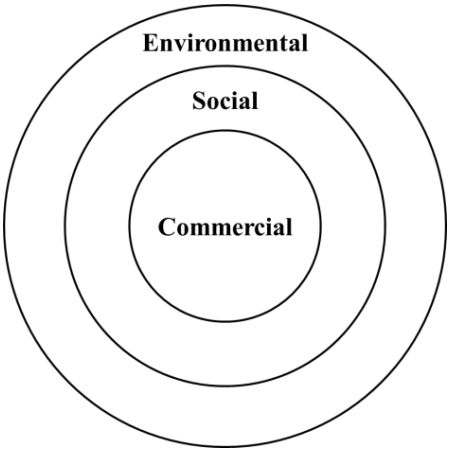
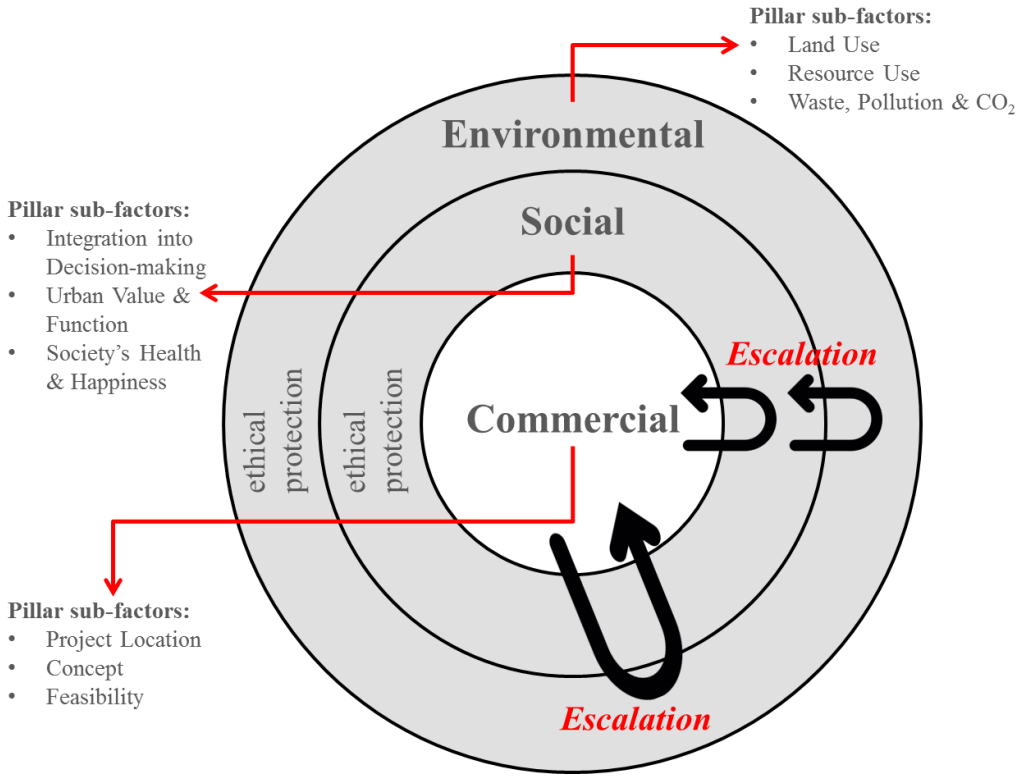


Figure 2 – Sustainable Development Based on Strong Sustainability (adapted from Cato 2012)



This study's model makes the following additions to the discussion; (1) it identifies, through secondary research, the crucial shopping center industry-specific sub-factors of each sustainability pillar (three sub-factors for each pillar, nine in total), (2) it details the industry-specific headlines that are positioned below each pillar, (3) it establishes the inter-related action-reaction relationship between Environmental, Social and Commercial Pillars of sustainable development (e.g. any misconduct in one of the spheres can negatively impact others and all of these cumulative impacts can also later hit back to the original sphere –this perspective is visualized in the model through its genuine loop-back escalation arrows) and (4) it highlights that all three pillars must be working in an irreplaceable correlation and accordingly assigns ethical protection to the spheres of environment and society in the light of its primary and secondary research findings.

Figure 3 – Simple Visualization of the Study's Model



The path leading to the model is laid down and expanded on through comprehensive literature review. During this process, certain fields have been checked; (1) weak vs. strong sustainability, (2) negative externalities, (3) sustainable development, (4) shopping centers as a global phenomenon and (5) the trajectory of Istanbul's urbanization and its shopping center market. However, it must be stated that there is

a serious lack of publicly available, sufficient and comparable data for the Istanbul shopping center market. Both private (i.e. investors, financiers, service providers and tenants) and public (i.e. municipalities, central government and other public offices) sectors either do not have the relevant data themselves or they are not willing to share what they have. This model is neither an investment calculator nor a spatial endeavor. In this respect, it shall serve as a practical evaluative tool that can be utilized by all stakeholders – something that is urgently needed for developing a new, inclusive and strategic perspective for assured long-term sustainability.

Still, the principle visualization (see "Figure 3") is just one part of the overall model. The other crucial component comes in the shape of a checklist (i.e. Project Checklist) that organizes all of the related evaluative elements into a practical analysis tool. In this new tool, each sub-factor has equal (i.e. four) maximum points for a potential total of thirty-six points for all listed elements. All sub-factors have certain headlines (a total of twenty-six) that are also determined through literature review. Qualified majority approach is used for the final "checklist pass grade" (two-thirds majority in this case). In a nutshell, Project Checklist; (1) upholds all three pillars of sustainable development, (2) gives them equal weight and importance, (3) expects a final score that would pass as a qualified majority without principally failing in any of the pillars and (4) operates as a readily-available, practical medium for all stakeholders.

Chapter 5 contains detailed definitions of all major pillars, sub-factors and headlines. Since every building needs a purpose that it can successfully fulfill, this study also takes a constructive look the related commercial issues. The Commercial Pillar has the following sub-factors; (1) Project Location which looks at the catchment area, competition, accessibility and micro-location traits, (2) Concept which is designed for successfully reading the ever-changing wants and needs of the target customers and innovatively, flexibly and humanely reflecting these in all aspects and (3) Project Feasibility which defines the profitable balance point between income and cost sides, while also looking at the long-term stability and availability of a sound exit strategy.

While numerous studies have a deeper look at the commercial issues and mostly end up with this narrow perspective, this study elaborates on all relevant aspects of shopping center development. This has led to the formulation of a 360-degree approach that also contains Social and Environmental Pillars. Social Pillar offers the

following sub-factors; (1) society's integration into the decision-making processes regarding shopping centers (i.e. defining a reasonable and operable middle ground for more active and solution-minded participation by the communities at all stages of the investment), (2) creating urban value and function that shall showcase the mutual qualities and sustainable coexistence of form (i.e. a line of deep-rooted intangible requirements and taste elements) and function (i.e. a building's utility, ability and practicality) and (3) social health and happiness that are generated through equitable, civilized and healthy living grounds that are fully connected to nature and human emotions via green and responsible design, construction and operation.

Of course, the model would not be complete without the Environmental Pillar –the all-encompassing outermost circle in this study's structure. Environmental Pillar has the following sub-factors; (1) Land Use (i.e. the initial decision to build a shopping center that would be the initiator of all following environmental concerns, while also being a risky move for the already fragile urban-nature areal balance), (2) Resource Use (i.e. the impact of resource use during extracting, processing, transporting and implementing) for the entire building life cycle of a shopping center and (3) the gross negative environmental impact (i.e. all the air, water and soil pollution, waste and CO_2 emissions that shall be generated). As a result of the depleting natural resources, there is a growing tendency towards strictly limiting Greenfield endeavors (i.e. not developing on a site that is not already a part of the existing built environment) and giving utmost care to limit and, better still, reverse the negative impacts of current and future real estate developments.

As previously stated, this study is not solely dependent on secondary research but it also utilizes the merits of two primary research endeavors. Through the setup that is established during the secondary research process, primary data was gathered from two different sources with two different methods; (1) a survey based on the pillars and sub-factors of the abovementioned model that follows Saaty's (2008) analytical hierarchy process model (AHP) which was applied face-to-face to the top decision-makers of 84% (twenty-one companies replied out of twenty-five eligible ones) of AYD members which currently hold at least one self-developed Istanbul shopping center in their portfolio and (2) a panel comprised of three experts working on different fields of sustainability in which all participants answered two pre-

determined open-ended questions in structured face-to-face interviews. AYD participants represent 43% of the entire Istanbul market in terms of m^2 GLA.

Notably, this is also the first time that a study based on Istanbul shopping center market is (1) reaching out to the top level of the industry and (2) fortifies its stance through additional research endeavors. Participant details can be seen below;

Table 2 – AYD Participant Companies and Their Portfolios

	AHP Survey Participants					
#	Date	Company	Assets	m^2 GLA	Executive	Position
1	2/13/2019	**TSKB REIT**	Pendorya	30,500	Hüseyin Tiken	General Manager
2	2/14/2019	**Orjin Group**	İstinyePark	87,000	Hakan Kurt	General Coordinator
3	2/18/2019	**Zorlu Real Estate**	Zorlu Center	73,000	Didem Aydın	General Manager
4	2/21/2019	**Artaş Group**	Vadistanbul, ArmoniPark, Arenapark, Carousel	204,000	Aydın Ayçenk	Tema Istanbul General Manager
5	2/22/2019	**Akiş REIT**	Akbatı, Akasya	145,500	Gökşin Durusoy	General Manager
6	2/26/2019	**Sur Yapı**	Axis Kağıthane, Metrogarden, Axis İstanbul	115,000	Münir Köndel	Deputy General Manager
7	2/28/2019	**Doğan Holding**	Trump	42,500	Bülent Kural	Trump Towers General Manager
8	3/5/2019	**Tepe Emlak**	Tepe Nautilus	52,500	Hayal Olcay	General Manager
9	3/5/2019	**Akmerkez REIT**	Akmerkez	33,200	Murat Kayman	General Manager
10	3/5/2019	**Metal Yapı**	Aqua Florya	50,000	Mert Durdağ	Deputy General Manager
11	3/7/2019	**Tahincioğlu**	Palladium Ataşehir	40,000	Elif Germirli	Member of the Board
12	3/8/2019	**MAYA**	Anatolium Marmara	60,000	Fuat Atalay	CEO
13	3/12/2019	**Canpark Holding**	Canpark	40,000	Cem Gür	Chairman
14	3/15/2019	**Emaar**	Emaar Square	150,000	Feyzi Tecellioğlu	CEO
15	3/20/2019	**VIA DMC**	Via/Port Asia, Via/Port Marina	145,000	Ogün Turanlı	General Manager
16	3/27/2019	**3S Kale**	Kale Outlet Center	28,000	Sema Gürün	Chairman
17	5/8/2019	**Multi Turkey**	Forum Istanbul, Marmara Forum	310,000	Pınar Yalçınkaya	CEO
18	5/9/2019	**IS REIT**	Kanyon	40,000	Gülfem Tandoğan	Head of Sales & Marketing
19	5/10/2019	**Nurol REIT**	Oasis Designer Outlet	29,000	Sena Ersoy	Project Development Director
20	5/14/2019	**Rönesans**	Piazza, Hilltown, Kozzy, Optimum, Maltepe Park	253,500	Murat Özgümüş	Member of the Board
21	5/17/2019	**ECE Türkiye**	Marmara Park	100,000	Stefan Zeiselmaier	CEO
			Total m^2 GLA	**2,028,700**		

Table 3 – Expert Panel Members

Participating Expert	Profession	Affiliation	Nature
1. Faruk Göksu	Urban Planner	Kentsel Strateji, TAK, Vizyon Atölyesi, Atölye Muğla	Private, NGO, University
2. Prof. Dr. Murat Güvenç	Urban Planner	Kadir Has University Istanbul Studies Center, TESEV, İlhan Tekeli Foundation	NGO, University
3. Assoc. Prof. Dr. Duygu Erten	Construction Engineer	TURKECO, ÇEDBİK, USGBC, Medipol University	Private, NGO, University

Visibly against the findings of this study's extensive literature review, it has been observed that AYD participants heavily favor the commercial aspects of the Istanbul market (see "Chapter 5" for the details). This is why the sustainability expert panel is added to the overall structure; leading to a two-tier primary research endeavor. Three leading experts of this special purpose panel are working on a line of sustainability-related causes. The participants have identified the social and environmental risks encircling the shopping center market and the proposed ways and means to minimize these risks. Significantly, panelists have put forward numerous highly similar and/or sequential ideas during this process. This additional dataset reassures the results of the literature review, brings overall balance to the study and leads to the final version of the model that specifically highlights the joint importance of Social and Environmental Pillars. In the end, it is proposed that no existing or future project shall skip the related requirements in terms of the inter-related cornerstones of commercial, social and environmental sustainability.

Much has to be covered before going into the details of the model and this study's detailed findings. This introductory chapter is followed by three crucial supporting chapters, then a full chapter on the model (i.e. structure, findings, limitations and future research topics) and a concluding chapter for fully covering the topic and opening the way for future research. The supporting chapters are; (1) theory and practice of sustainable development, (2) history and evolution of shopping centers in general and (3) shopping centers' place in Istanbul's urbanization and the sub-market's dynamics. Accordingly, this study offers a new perspective both for newcomers and experts of sustainable development and/or the shopping center industry –with a detailed look at Istanbul and its sub-market. However, this study's audience is not limited to these groups. Hopefully, readers that are interested in decision-making processes and urban planning would also find it rather enthralling.

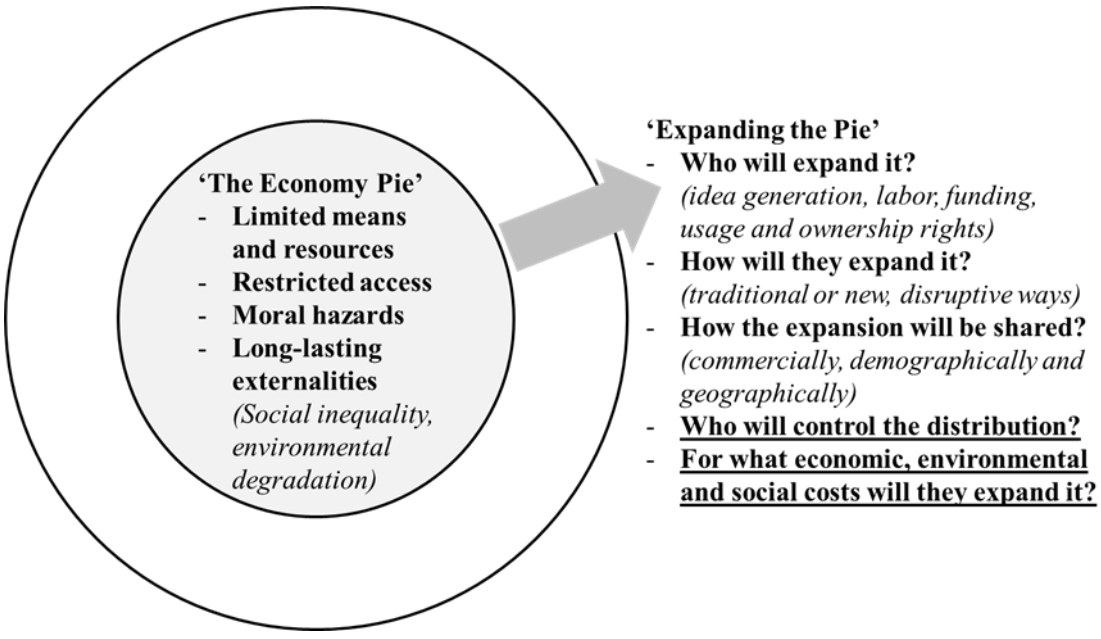
Before going into more detail, let's remember Thorstein Veblen. In his inspirational work on the "leisure class", among many things, Veblen (1899) also looks at the artificial positive correlation that the society forms between high price and quality. Veblen points out that the actual form and function of objects (i.e. traits of quality) are not directly related to the anthropic aspects such as money and status. In recent years, quite interestingly, luxury objects have become more abundant (thus, less stratifying) and they are consequently losing their preeminence and leaving the top spot to the new upper-class belief systems that separate the fortunate from the struggling on a much more pressing moral, psychological manner (Henderson 2019). Regardless of all these periodical changes, Veblen's statements on the inner workings of society are still fundamentally valid in our age –even though Veblen developed these ideas at a time when nature had not been understood as this lethally important but finite and fragile element yet. Now, humanity's (and therefore the world's) trajectory is way more alarming than ever with its inclusion. There is not much time left to leave all forms of the leisure class behind and focus on things that are actually important for the sustainability of this majestic planet. There is a serious need to establish an aware and responsible society and to seriously reshape our economic doctrine for the wellbeing of all stakeholders. This study, even in all its intensity and subject focus, shall also help the readers in this respect.

Chapter 2

Theory and Practice of Sustainable Development

The global economic system have been metaphorically identified as a divisible and expandable pie on numerous occasions –for example, among many more, in Sinha and Sheth's (2018) take on the emerging markets and how to expand the pie, in Angelis and Levesque's (2006) comparison of a bigger slice and a larger pie from the lens of new firms and even in Bazerman et al.'s (2001) reasonably built critique of the hidden agendas of states and state officials in their popular book "You Can't Enlarge the Pie". It is important to understand the inner workings of this metaphor; as this would also support the upcoming discussion on the current global economic system. For that matter, economy as a pie would be finite, even when the expansion potential is considered. The growth is not equitably distributed or accessed by all social strata –because of the shortcomings and/or blank spots at individual, social and environmental levels (Cohen 2016). The control, ownership and expansion of this pie are also highly debatable. How and by whom this so-called pie is currently controlled, divided and expanded? Who gets the most benefits out of it; especially when many stakeholders inescapably face the negative aspects? "Figure 4" is a visual representation of these concerns regarding the pie metaphor.

Figure 4 – Economy as a Pie



Individuals, communities and organizations –be it a for-profit, an NGO, a state, a trade union or an educational institute– are the more easily recognizable stakeholders and people tend to analyze them predominantly through their economic relationships. Apparently, this is the more dominant tendency, even when a critical argument is put forward. This is also currently happening with statistical measurements such as gross domestic product (GDP). Actually, GDP is not a fully fitting benchmark for truly understanding the modern social mechanisms; as it is focusing solely on the narrative of economic growth (Gertner 2010). According to one estimate, the wealth of the richest one percent of the world is growing twice as fast as the wealth of the rest of the global population and this may potentially lead up to a 2030 scenario in which the richest one percent would own two-thirds of the entire wealth (Savage 2018). This is at odds with the ongoing rhetoric regarding the alleged decrease in the global inequality since 1970s. However, that drop has happened only in relative terms and since the poorest people started on such a low point, after so many decades, the inequality has actually increased in absolute terms (UNU 2016).

Another pressing problem is the degradation of nature (both from areal and quality sides) amid its role as a key stakeholder. While the environmental concerns are growing, most of the global actors are still trying to find new ways to pursue their old economic goals and even choose to counter these concerns with marketing gimmicks (i.e. building a green front that hides the major problems from those concerned; an act that is casually called “greenwashing”) (Brenner 2014).

Humanity’s striking pace has been increasing its pressure on the environment. Even though Industrial Revolution and its aftermath had created vast economic growth, majority of the spoils actually went to the creation of the Western industrial capital and this colossal shift has been leading to widespread and intense social and environmental degradation throughout the globe (Bergquist 2017). This trend can also be analyzed under the negative externalities umbrella. It is known that such externalities occur when the individual benefits and costs resulted in a business scenario differ from the gross environmental and social burden (e.g. neither the steel factory nor the shopping center investor is held responsible for the waste, pollution and CO_2 emissions generated during the production of the necessary steel for the construction site; as they just cover the transaction based on the “economic value” of

steel). Thinking purely in economic terms (i.e. not properly taking into account the externalities) and trying to by-pass social and environmental responsibilities have become extremely unsustainable (The Union of Concerned Scientists 2016, Müller 2019).

Since 1970s, sustainable development has been steadily increasing its importance under these critical circumstances. Basically, it is a set of principles and applications that can rebalance the world's negative trajectory through an integrated combination of new social, environmental and economic targets for the sustainable coexistence of all stakeholders. Economy is not something that can be conceptualized out of the realm of society; instead, it is completely embedded in social structures (Machado 2011). Societies and all of their systems are also unbreakably tied to environment. Nothing can be a real enclosed, offline case in such a connected structure. Even the actions that are taken subconsciously (such as visiting a shopping center or buying a plane ticket) can have negative environmental outcomes.

However, more detail is needed before proceeding further with the research premise. Therefore, this chapter takes a deeper look at the major elements; (1) the environmental and social impacts of the modern economic system, (2) sustainability, negative externalities and sustainable development (for understanding the essential theoretical and practical approaches), (3) real estate's global impact (for a basic understanding of the built environment and urbanization) and (4) the environmental and social impacts of the shopping center business (for a case-specific overview).

2.1 Environmental and Social Impacts of the Modern Economic System

A recent Asian Development Bank (ADB) report pointed out that global perceptions and business methods regarding economic growth must change to tackle climate change; otherwise the frequency of natural and manmade disasters and the burden of social degradation would both continue to increase (Thomas and Lopez 2015). This imbalance created by the climate change has its source in global CO_2 emissions that are mostly a result of fossil fuel extraction, processing and use. According to the interactive environmental dataset of Ritchie and Roser (2017), at the beginning of Industrial Revolution around 1760, the annual global CO_2 emissions had been just 11 million tonnes but this figure jumped to almost 36 billion tonnes in 2013.

CO_2 is constantly piling up in the atmosphere as the human civilization has emitted a staggering amount of 2100 Gt (gigatonnes; i.e. 1.000.000.000 metric tonnes) already; with just a 800 Gt margin remaining (i.e. only enough for around 20 years with the world's current economic pace) for managing to limit the average global temperature increase for the whole 21st century around 2° C above the pre-industrial levels as per the Paris Agreement of 2015 (Peters 2017). However, the world's governments are short of achieving this goal; as the current pace can even end up in a temperature increase as high as 3.2° C by the year 2100 (Miller 2018).

Yet, from an environmental perspective, there are many other problems in addition to climate change. There are also pollution and waste problems alongside with the loss of natural areas and resources. Outdoor air pollution had increased by 8% in urban areas around the world between 2011 and 2016 alone and with 3 million deaths each year; it evolved into the most deadly individual hazard (Vidal 2016). At the other end, water pollution claims around 1.8 million lives annually, while both manmade water contamination (because of radioactive substances, oil pollution, sewage and wastewaters) and water's excessive use also seriously threaten the long-term sustainability of global ecosystems (Denchak 2018). According to a WRI report (Luo et al. 2015), if countries cannot find more sustainable ways to preserve their water resources and go on to proceed as they currently do, out of 167 countries analyzed, 33 would face "extremely high water stress" (including Turkey), while another 26 countries would face "high water stress" by 2040.

Of course, all of these immediate threats have been understood and analyzed from a predominantly human-centric perspective. This can be useful to trigger a demand for more substantial change but it is ultimately inadequate. One has to also think about the sea life and the life on and above land –endless amounts of organisms that have the right to prosper as much as humans do. Sadly, the ongoing loss of natural areas is not helping in this respect. Strikingly, 10% of the world's wilderness had been lost between 1993 and 2016 (around 3.3 million km^2); further limiting the global carbon storage capacities and creating an existential risk (Vaughan 2016). Currently, a similar story is also unfolding at the side of natural resources. Global Footprint Network annually calculates the global human consumption and compares it with our planet's capacity to regenerate. They calculated that, by 1 August 2018 (i.e. Earth

Overshoot Day), the humanity had already consumed more than the planet could have regenerated for the entire 2018 (meaning that around 1.7 Earths are needed for the current pace) and some experts think that even these terrifying assumptions can very well be understatements (Richardson 2018).

The modern economic system misguidedly looks at the nature's realm as a source of raw material and an area to be cleared for the expansion of the built environment. As a result, countless different industries create substantial amounts of end products each year and some of these instantly turn into waste. This is another crucial problem. Each waste item that is not separated at its source and not transferred to a treatment facility to be reused or recycled would create new environmental problems. Even when the EU countries are considered (representing a highly-developed part of the world), it is seen that they can only recycle 36% of their waste (WHO 2015). There is another dangerous trend among developed countries involving the transfer of large sums of waste to countries like China for recycling. Yet, there are valid concerns regarding the actual fate of the shipped waste; as some shipments are seemingly not treated at all (O'Neill 2017).

Environmental degradation created by economic activities is actually harming the societies all around the world; way beyond health problems, deaths and disasters. Just to give some examples; (1) environmental degradation has a huge impact on the quality, quantity and just distribution of agricultural products (Ackerman and Stanton 2013) and (2) economic activities that lead to environmental degradation tend to create their own vicious circles as they have net winners and losers that create even larger wealth and power inequalities, which then lead to even more degradation and inequality (Boyce 1994). Thus, through the misuse of environment, especially the people in disadvantaged regions and communities are constantly affected negatively. Even for the most essential needs, the outlook is bleak. Thus, it is no surprise that some of the most deep-rooted social problems are connected to the sphere of environment in one way or another.

Even when the environment is taken out of the equation (i.e. exclusively focusing on the relationship between economy and society), the situation does not get brighter. Even though its results have been speculated, Oxfam issued a striking report based on the Credit Suisse data in 2016 that outlined that the richest one percent of the

world's population has accumulated more wealth than the rest combined for the first time in history; with tax havens keeping $7.6 trillion of wealth hidden, while the income of the poorest people rose by less than $3 per annum during the past quarter of a century (Oxfam 2016). Keeping the reservations about these findings aside, this means that the economic system is failing to prevent the wide-ranging inequality.

It is natural to assume that national policies and economic trajectories highly matter in this respect. Yet, research shows that economic inefficiency is not something exclusive to poorer nations. People in the US and Europe are also critical of poverty, weakening of democratic values and unfairness (Starmans et al. 2017). As a source of this displeasure, bottom half of the US citizens have captured just 3% of the growth generated since 1980 (Porter and Russell 2017). According to Kristof (2015), neoliberal policies in the country are playing their part in the deteriorating education levels and the concurrent rise of inequality, incarceration and family breakdowns.

Growing trade volumes, new routes and global interconnectedness are also among the most praised features of the current economic system. Yet, they are not exempt of criticism either. Even though global trade should theoretically support and enable countries that are experiencing problems such as food shortages, the research suggests that it may also lead to; (1) overproduction in exporter countries, (2) unfair competition for the farmers in the importer countries and (3) countries with limited food resources nonetheless exporting their production overseas (D'Odorico et al. 2019). Arguably, World Trade Organization's (WTO) policies are harming poorer nations as tariffs and agricultural subsidies are not welcomed in the name of worldwide trade liberalization (Narula 2010).

2.2 Sustainability, Negative Externalities & Sustainable Development

AtKisson and Hatcher (2001) are on the spot by saying that sustainability is a large, utopic, far-reaching goal that would always create competing definitions but it shall almost always be about the long-term integrated efficiency and coexistence of nature, economy, people's lives and their social structures. Sustainability has its source at the growing imbalance and rapid degradation that limits this planet's chances of survival. According to Liu (2017), sustainability can be found between the monotonous aspects related to the duality of increases and decreases. Constructing

one more building (i.e. increased urbanization and more wealth for the developers) and, thus, ripping the nature off its realm and resources a little more (i.e. decreased nature) may also mean displacing local communities and/or harming their existing socioeconomic structures (i.e. decreased social wellbeing). Therefore, if this new building would not be constructed at all or the supposed needs would be sorted out through a truly sustainable manner, everything shall continue to be in a balance as they are –free from zero-sum increases and decreases.

Situations in which an entity is experiencing a decrease because of an increase unrelated to its prosperity have become a crucial economic stigma. This phenomenon is called negative externalities. IMF's Thomas Helbling (2010) states that economic activities also affect the parties that are not part of the actual transaction and such effects can be negative and not necessarily limited to the economic sphere either. Helbling gives the example of pollution; as a polluter only thinks about the direct costs and opportunities and leaves out the indirect costs incurred by those outside of his/her business deal. Water, soil and air pollution generally harms those who have little or nothing to do with their source. Helbling also stresses the importance of public and environmental good and the ability to trace negative externalities back to their sources and quantifying them (e.g. in terms of additional taxation and/or burdens for the causing parties), while also accepting the fact that uncertainties would make these processes highly challenging. Still, successfully internalizing the externalities through different taxing strategies has the potential to annul the competitiveness deficit of real sustainable firms –especially because it would also remove the unjust price differences (Nguyen et al. 2016).

Bangladesh is a good example in this respect. The country's coastal agriculture areas have been heavily affected by the negative impacts of climate change (a phenomenon that the country itself is not a significant contributor to); forcing people who have never even heard of global warming to make a losing bet between staying in their devastated homelands or moving to the cities to work in highly challenging blue collar jobs (McDonnell 2019).

Negative externalities concept is important for better understanding why Industrial Revolution's legacy and the concept of economic growth have different meanings for different people –a duality of total dominance and subjugation. At one side of this

duality, neoclassical economic approaches are located. They are openly criticized by a newer generation for allegedly defending certain grave assumptions, such as; (1) only the materials that are exchanged in a market are to be recognized, (2) consumption would create no waste (i.e. consumed objects would disappear in the calculation) and (3) non-economic goods such as water and air should be completely left out of the economic analysis (Centemeri 2009). In order to visualize the differences between the old and the new, Barca's (2011) comparison between the post-Industrial Revolution economic narratives (that are still dominating the discussion) and the much newer narratives developed by environmental historians can be analyzed;

Table 4 – Mainstream Narratives vs. Environmental Historians (Barca 2011)

Mainstream Economic Narratives	**Environmental Historians**
Increase in energy consumption is a sign of modernity and a sizeable accomplishment for humanity	Need for more energy came with social and environmental costs (mass health problems and the depletion of large biological entities)
Technology have freed people both from the limits of natural (Earth's cycles) and un-natural (non-growth based, old moral economy)	Transforming nature into capital has showed us that there are actually limits and costs associated with economic growth
Individual ownership of land and resources have removed the uncertainty and fuelled growth	Energy setups are initiated and/or controlled by certain social classes or groups that use it as a basis of control and future advantage
Energy consumption and private property are the two interrelated, positive backbones of modern capitalism	A perspective change is needed in order to create a new, sustainable and egalitarian global system
Right institutions and technologies had come together and elevated the European societies to prosperity	There is an uneven distribution of the energy-related costs and benefits. This highly unequal exchange creates long-lasting poverty
Industrial Revolution is the starting point of a sea change which improved the lives of everyone	Industrial Revolution had required large sums of capital and technical specialization -creating a new sector that shall regulate the economy

The concept of necessitated balance is an important part of the sustainability thought. This creates a legitimate concern regarding future economic growth; especially for individuals, communities, companies and countries that have not been able to "develop" before the essentiality of sustainability kicked in. To attain prosperity and assume a purpose in life, everyone needs a chance for growth and self-realization (Campagnolo 2018). However, the way growth has been conceptualized since the Industrial Revolution onwards is dangerous for all stakeholders.

Sustainable development concept is gaining momentum partly because of such concerns and dilemmas. This concept had been recognized for the first time in a United Nations conference in 1972 but its importance increased as a result of the famous Brundtland Report titled "Our Common Future" in 1987 and a global summit in 1992 (National Assembly for Wales 2014). With the mounting negative socioeconomic and environmental problems, slowly but emphatically, sustainable development is now leaving the realm of intellectual discussions and becoming mainstream; a core topic for ordinary people as well as for NGOs, states and companies. The main premise of the concept is rather straightforward; human-made structures should be arranged in such a way that there must be a long-term balance between environment, society and economy. Therefore, sustainability is not a way to attack growth but, instead, a way to change the widespread understanding of the economic growth patterns.

It is observed that different entities are thinking differently about how to apply the transformative sustainable development principles; even though they principally agree on the sustainable development's basic premise. These differences can be reduced to a simple comparison; weak sustainability vs. strong sustainability. Weak sustainability is a paradigm which defends that manufactured capital and natural capital are direct alternatives of each other and the value they shall create would not be different (Noël and O'Connor 1998). On the other hand, strong sustainability puts environment at a central and irreplaceable position. Pelenc and Ballet (2015) have a three-step rationale against the defenders of weak sustainability; (1) the quality difference (i.e. while the manufactured capital is highly reproducible and its loss would not be unrecoverable, natural capital is the opposite –its essentiality and rareness makes it an existential subject), (2) the incomplete transformation (i.e. natural capital is essential for creating manufactured capital and there is no way that the end product would substitute for the tangible biological and intangible social values of the natural capital) and (3) increased future problems (i.e. consumption of manufactured capital today shall create an even worse natural status quo for future generations).

While it has been discussed on numerous occasions (even though in a more limited fashion when compared to the rest of sustainability literature), strong sustainability is

still in need of a practical, operable framework (Neto et al. 2018). Nonetheless, with lines blurred and giant wheels of life are turning at an alarming pace, supporters of strong sustainability paradigm argues that their cautious approach towards natural capital brings additional long-term value (Dietz and Neumayer 2007). The notion of thinking beyond the constraints of "capital" (as nature can easily be conceptualized as a larger mechanism than such economic terms) and focusing less on human-centric views (for justifying the necessity of sustainability) are also highly important (Ang and Van Passel 2012). Last but not least, it must be noted that sustainable economic growth is highly dependent on mutual, concurrent success at social and environmental sides (Hediger 2006).

Manufactured capital is indispensable for economic activities and how the societies work. However, it comes with its own dangers and defects. Clearly, overproduction, pollution and waste are major environmental inefficiencies of the modern economic system (Emas 2015) and the moral results of focusing purely on economic growth should not be overlooked (Friedman 2006).

In line with this, the UN's 17 sustainable development goals (i.e. "2030 Agenda") takes into consideration economic, social and environmental aspects inter-relatedly (e.g. energy should not only be affordable but also sustainable for a deep-lasting impact on the current situation). Within the scope of "2030 Agenda", the UN Secretary-General Guterres has stressed how dire and urgent the global problems are and that everybody should collaborate to realize these sustainable development goals (UN 2018a). An overview table ("Table 5") is given below;

Table 5 – The United Nations Sustainable Development Goals (2018a)

1. No Poverty '783 million people live below the international poverty line of US$1.90 a day'	**7. Affordable & Clean Energy** '13% of the world lacks access to electricity. Energy is crucial for climate change'	**13. Climate Action** 'Global emissions of carbon dioxide (CO_2) have increased by almost 50 per cent since 1990'
2. Zero Hunger 'Globally, one in nine people in the world today (815 million) are undernourished'	**8. Decent Work & Economic Growth** '470 million jobs are needed globally for new workers between 2016 and 2030'	**14. Life Below Water** 'Levels of acidity have increased by 26 per cent since the start of the Industrial Revolution'
3. Good Health & Well-being 'Ensuring healthy lives and promoting the well-being at all ages is essential'	**9. Industries, Innovation, Infrastructure** 'Transport, irrigation, energy and information and communication technology are crucial'	**15. Life on Land** 'Forests are home to more than 80 per cent of all terrestrial species of animals, plants and insects'
4. Quality Education '617 million youth worldwide lack basic mathematics and literacy skills'	**10. Reduced Inequalities** 'Economic growth is not sufficient to reduce the poverty if it is not inclusive'	**16. Peace, Justice & Strong Institutions** 'Corruption, bribery, theft and tax evasion cost some US $1.26 trillion for developing countries per year'
5. Gender Equality '49 countries lack laws protecting women from domestic violence'	**11. Sustainable Cities & Communities** 'Urbanization pressures fresh water supplies, sewage, the living environment and public health'	**17. Partnership for the Goals** 'Agenda requires partnerships between governments, the private sector and civil society'
6. Clean Water & Sanitation '3 in 10 people lack access to drinking water and 6 in 10 people lack access to sanitation'	**12. Responsible Consumption & Production** '3 planets could be needed to keep up with our current lifestyles by 2050 and this is not sustainable'	

It is true that these goals feel more like a wish list rather than an action plan. They are also predominantly human-centric; thus, they are mostly applying an inside-out philosophy (i.e. starting from economy, then tying it to society and treating the environment occasionally as an outside topic). Four years on, the list is also seen more as rhetoric rather than as an actual action plan (Kroll 2019) but it is important for highlighting the global headlines related to the ongoing interrelated economic, social and environmental challenges.

2.3 Real Estate's Global Impact

Buildings are responsible for consuming 32% of the global energy resources, while also causing 25% of all the human-related CO_2 emissions each year (WRI 2016). Construction is among the core motivations behind extracting and using non-renewable minerals and fossil fuels that cause high environmental damage (Graham 2005) and possibly up to 30% of the building materials delivered to a construction site end up turning into waste (Osmani 2011). Yet, problems do not end when the construction phase is over. Only 20% of the CO_2 emissions occur because of the better-known building life cycle steps (production, transportation, construction, maintenance and demolishment), while the remaining vast majority of CO_2 emissions are a result of the long operational periods (UNEP SBCI 2009). Illumination, air-conditioning and other high energy-consuming devices and zones are among the main emission generators.

Then again, emissions are just one part of the equation. There are other problems such as waste, pollution (air, water, soil) and natural resource and area use. Be it a farm, a factory, a hotel, an office, a shopping center or a complex urban settlement, a substantial part of the environmental threats is coming from the buildings.

Problems are not only related to the nature. Research shows that the immediate built environment also has a huge impact on the psychological and physical wellbeing and healing processes (Huisman et al. 2012). Again at the socioeconomic side of the issue, it is seen that real estate has left the field of providing shelter and key utilities –essential goods for each person– and entered into the field of business development and financial speculation for increasingly high profits; a situation that is threatening both macro and micro level blocks of human civilization (Moore and Schindler

2015). At the slightest, periodical waves of optimism and/or moral hazards created by the real estate market players proved to be dangerous for the long-term stability as they tend to create bubbles that may later turn into disastrous banking busts (Herring and Wachter 1998). This is what had happened in the aftermath of the subprime mortgage crisis in the US. Unemployment doubled and a sizeable portion of the net worth of households had been lost (e.g. one in every four households lost three-fourths of their wealth; a phenomenon which concentrated mostly on low-income, low-education and minority households) (Christelis et al. 2015, Pfeffer et al. 2013).

Social and environmental harm that has been caused by market speculation and the built environment can reach to new heights, especially if the output is not utilizable. According to a recent study, even without taking into consideration the pipeline projects, China now has a world-leading residential vacancy rate of 22.4% that corresponds to more than 50 million empty units (Bloomberg 2018). This means that huge amounts of resources both in terms of building materials, manpower and capital have been inefficiently spent –while also causing environmental degradation. Similar problems are experienced all around the world with varying magnitudes; the number of finished but unsold residential units was recently recorded as 2.374 in London and one of the main explanations put forward was that an average house would cost a Londoner 14.5 years of its paycheck (Smyth 2018) –while at that time the same figures were around 187.000 residential units (BloombergHT 2018a) and 12.5 years (TUVİMER 2017) respectively for Istanbul. In this example, Istanbul has around 80 times more vacant residential stock than that of London's, regardless of the relative affordability being higher in the former. These figures show that long-term strategic planning is at least as important as pricing.

Yet, such anomalies are not exclusive to the housing sector. It is just one of the ways of portraying real estate related socioeconomic problems –like industrial production which is the traditional scapegoat for the overall environmental problems. In reality, other real estate sectors are also prone to generating similar problems.

2.4 Environmental Impacts of Shopping Centers

Shopping centers need a complete re-thinking. Form an environmental standpoint; (1) they expand the reach of urbanization to the disadvantage of nature, (2) huge

amounts of building materials and energy are required during their construction processes, while even more is needed during their long operational periods and (3) they also create substantial amounts of waste, pollution and CO_2 emissions throughout their building life cycles. It is neither sustainable nor feasible to keep them as traditional consumption hubs for any longer; more production-orientation and efficiency in area and resource use are desperately needed (Máté 2012).

According to İlhan and İlhan (2018), around 2016, the total global shopping center GLA had already been well above a billion m^2, while the average lettable area per project was approximately 20.305 m^2. In other words, only the leasable portion of the global shopping center stock (i.e. even without large customer circulation areas and other non-leasable portions that would roughly correspond to 30% of the total retail building area and the parking spaces that can sometimes be as large as the retail area itself) would cover the floor space of around 2.580 of Boeing's iconic Everett Factory, probably the largest factory building in the world.

In line with this, shopping centers also use sizeable amounts of land (some individual projects have land plots larger than 100.000 m^2). It is extremely important that such high levels of urban land use would be thoroughly planned in the most efficient, justifiable way (Beyard et al. 2006). In relation to the overall durability of buildings, once the urban land is inefficiently used, it shall almost certainly remain inefficient for a long period of time (Kono and Joshi 2019). It is projected that the nature's realm would continue to shrink in size as the global urban population is expected to be 6.7 billion people (i.e. 68% of the future global population) by 2050 (UN 2018b).

However, absolute sizes and urban sprawl are not the only issues here. Resources that shopping centers use and their final weight on other environmental problems are also as crucial. In order to put this into perspective, "Table 6" shows the impact of an average-size shopping center (i.e. 20.305 m^2 GLA) in terms of its CO_2 emissions via a base case calculation of major variables (concrete, steel, electricity, natural gas and private customer cars); as it is not possible to measure the full impact of all internal and external variables (e.g. the negative impacts of; all other building materials, operational supply chain items, delivery trucks, decrease and degradation of ground waters, lack of urban resilience features). Major variables alone would produce 138.034 tonnes of CO_2 emissions during the building life cycle of an average project.

More strikingly, there were already 50.839 shopping centers in the world by 2016 (İlhan and İlhan 2018); meaning that their combined base CO_2 emission must be higher than 7 billion tonnes. Returning to the dataset of Ritchie and Roser (2017), this translates into 20.4 full years of France's total emissions –almost matching the average building life cycle of a shopping center. Thus, the current stock is as harmful as one of the largest industrialized nations in terms of CO_2 emissions.

Table 6 – CO_2 Emissions via a Base Case Calculation of Major Variables (concrete, steel, electricity, natural gas and private customer cars)

1. OVERVIEW

GLA: 20.305 m2
Enclosed Parking: 800 cars
Minimum Land Required: 10.000 m2

Total Retail Building Area: 29.007 m2[a]
Total Parking Area: 14.000 m2[b]
Total Construction Area: 43.007 m2

2. RETAIL CONSTRUCTION

Total Retail Building Area: 29.007 m2

29.007 m2 x 0,380[c] = 11.023 m3 concrete
29.007 m2 x 0,034[d] = 986 tonnes of steel

3. PARKING CONSTRUCTION

Total Parking Area: 14.000 m2

14.000 m2 x 0,380[c] x 1,8[e] = 9.576 m3 concrete
14.000 m2 x 0,034[d] x 1,8[e] = 857 tonnes of steel

4. CO_2 EMISSIONS OF CONSTRUCTION

Concrete:
(11.023 m3 + 9.576 m3) x 2,41[f] x 10%[g] x 1[h] = 4.964 tonnes of CO_2
Not calculating the emission generated from the transportation, mixing and implementation of the concrete

Steel:
(986 tonnes + 857 tonnes) x 1,9[i] = 3.502 tonnes of CO_2
Not calculating the emission generated from the transportation and implementation of the concrete

TOTAL = 8.466 tonnes of CO_2

5. CO_2 EMISSIONS OF OPERATION
20 years of operation on average

Electricity:
185 million kWh x 0,000554[j] = 102.490 tonnes of CO_2

Natural Gas:
785.000 therms x 0,00548[j] = 4.302 tonnes of CO_2

Private Customer Cars (800 cars / day):
3.9 kg[k] x 800 cars x 365 days x 20 years = 22.776 tonnes of CO_2

TOTAL = 129.568 tonnes of CO_2

7. GRAND TOTAL OF CONCRETE, STEEL, ELECTRICITY, NATURAL GAS & PRIVATE CUSTOMER CARS
138.034 tonnes of CO_2 throughout the building life cycle

a) GLA is approximately 70% of the total retail building area
b) 17,5 m2 space is needed for each car
c) 1 m2 gross building area needs on average 0,38 m3 of concrete
d) 1 m2 gross building area needs on average 0,034 tons of steel
e) For underground parking, results must be multiplied by 1,8 for structural integrity
f) Each m3 of concrete weights approximately 2,41 tonnes
g) Cement is the main source of CO_2 in concrete. Cement makes up 10% of the mix
h) 1 tonne of cement creates 1 tonne of CO_2 emissions (NRMCA 2008)
i) 1 tonne of steel creates 1,9 tonnes of CO_2 emissions (Kundak, Lazic and Crnko 2009)
j) CO_2 emission data varies significantly as a result of the different energy mixes throughout the globe. Thus, these figures are representative. They are taken from Carbonfund.org Foundation's average references for the businesses in the US (0,00548 metric tons of CO_2 per 1 therm of natural gas and 0,000554 metric tons of CO_2 per 1 kWh electricity)
k) EU 2015 target is 130 grams per kilometers for an average car (i.e. 3,9 kilograms for a shopping trip of 15 kilometers and back)

This calculation does not include any base assumptions for pollution and waste; as they are project-specific and hard to measure. Still, waste management and recycling matter for shopping center sustainability and investors must consider five factors in this respect; (1) having the right corporate strategy, (2) developing a proper infrastructure ideally from the beginning, (3) incentivizing the management team, (4) raising awareness through education and (5) providing the financial resources (Baharum and Pitt 2010).

2.5 Socioeconomic Impacts of Shopping Centers

This chapter should be enriched with an analysis of the socioeconomic impacts of shopping centers. For some of their critics, they are “privatized public realms” where the human interaction is limited to certain pre-determined modes that deprive people of their freedom with baseless consumption (McGreevy 2016). It is clear that freedom is a powerful concept. It is unjust to evaluate the pros and cons of shopping centers exclusively through the subjective lens of freedom. Yet, there are more solid problems to reckon with.

Social and economic exclusion of certain individuals and groups of people is one of such topics. As most shopping center developers are naturally inclined to see their creations predominantly as business endeavors, (1) they tend to target certain market trends and demographic groups which leads to the sidelining of individuals with disabilities, older people and families with lower incomes and (2) large amounts capital and effort put into shopping centers leave traditional social and commercial areas less attractive and less frequented (Erkip and Özduru 2015). Thus, shopping centers can potentially create invisible barriers and/or secluded zones between and within different urban areas without even using any solid regulatory measures. Such barriers and secluded zones are created through intangible socioeconomic coding and the specific physical manifestations of the buildings themselves. Related to this, inclusivity (i.e. in opposition to divisions and gated communities) and the right to shape the urban context are on the forefront of recent academic discussions regarding the major problems of urbanization (Yan 2016).

Shopping centers have the power to relocate and change the traditional means and areas of commerce and socializing. Traditional commerce is mostly in the form of unorganized retail and just because of this, they are in a competitive deficit against the organized retailers that can use the advantage of their larger reach and capital, manpower, economies of scale, omni-channel supply chains and the means of technology and marketing. In many regional and national markets, organized retail is developing predominantly through the expansion of the shopping center business. For example, Turkey is one of such countries where the fast-paced growth of the shopping center business during the previous two decades had helped the national share of organized retail to increase to 33%, while the traditional retailers struggled

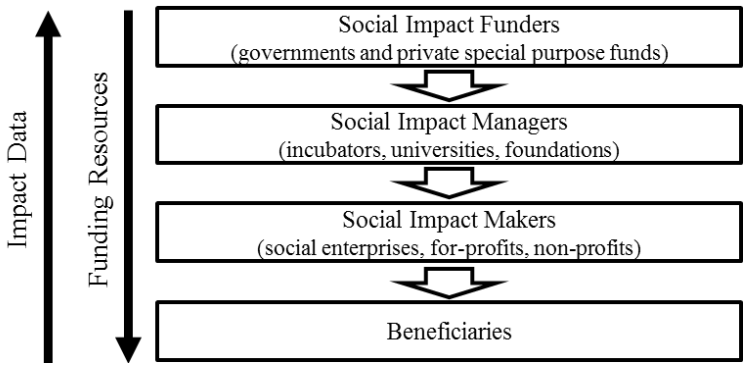
with their inherent shortcomings and their inability to use different supply and sales channels (KPMG 2018).

Further implications can be seen in a research conducted for the employment market in Jordan (yet another developing country) where; (1) the jobs created by shopping centers are criticized to be mostly low-skilled and low-paid which decrease the household incomes and (2) the shopping centers tend to create unemployment because of the forced closures of traditional businesses (Abu-Ghazalah and Abu-Ghanimeh 2012).

Lack of regulations could be seen by many as one of the core reasons behind the disruptive effects of shopping center investments. However, there is empirical data that challenges this instinctive argument. For example, the regulations put in place in the UK to limit and control the permits for new big-box retail units have not been successful because (1) most of the new permit decisions have been political rather than objective and (2) new regulations actually pushed larger retailers to create new small city-center concepts that would directly and mercilessly compete with small and local enterprises –forcing them out of the business even quicker (Sadun 2014). Thus, the negative socioeconomic impacts of shopping centers and organized retail cannot be controlled solely by passing new regulations; even if the regulators are the authorities of a developed country.

Instead of disengaging shopping centers from the larger urban context and trying to "make them better" solely via regulations, finding innovative ways to productively, transparently and sustainably integrate them into the socioeconomic system would be a better option. In this age, new waves of civil society initiatives, increasing powerbase of NGOs and the rise of technology-driven concepts such as E-Democracy are empowering people in a never-seen-before pace and fashion (Eroğlu 2006). Shopping centers can also be evaluated within this context. For example, investors can join to a social impact ecosystem (see "Figure 5"). Even though there are opposing views (Salls 2005), there is also a growing tendency that can be simplified as "business for good is good for business" (i.e. taking the comparison between profit and wealth maximization to a new level via introducing the concept of social capital and value).

Figure 5 – Social Impact Ecosystem (adapted from sopact.com 2019)



At this stage, it is clear that a shopping center does not only affect the retail sector, its neighboring businesses or the local employment market. It is true that the competitive conveniences offered by shopping centers together with their clean and secure built environments are strong features in a business sense. Yet, this building typology is also leaving its mark on the cities –both in terms of form and function. For so long, the paths of retail and urbanization have been intertwined and they are both trying to re-invent themselves in this transformative age (Al 2018). The stakes are high and neither retail nor urbanization can be left on its own anymore. Uncontrolled urbanization is counterproductive for socioeconomic sustainability – especially in the developing countries that experience magnified problems in the fields of immigration, social stability, health concerns, infrastructure resilience and water resources (Zurich Insurance 2015).

Humans are the only creatures who have the will and power to shape, change and even destroy their surroundings at such a large scale, while also trying to "own" these places and feel instinctively connected to them at the same time; as this relationship is an existential matter for them (İlhan and Kasap 2018). Relatedly, urban settings must serve both to the cultural and aesthetic ideals of their respective regions and to the practical functions which necessitated them in the first place.

From a basic standpoint, the well-conceived shopping centers manage to cover the functional part of this equation. However, successfully covering the unique cultural desires and aesthetics is a more complex topic. Shopping centers, alongside with other global physical manifestations of urbanization such as high-rise buildings, are mostly faced with opposition and criticism coming from urban dwellers; both for (1) their failure to comply with the regional cultures and for (2) mostly excluding the

will of the communities during the decision-making processes (UNESCO 2016). Thus, each shopping center should reflect a specific set of values and these values must be determined, designed and applied through an integrative process that also includes the communities as the core stakeholders of the end product. Building in a historical urban quarter and/or building something that is an alien competitor to the urban fabric should no longer be just a corporate decision.

Chapter 3

History and Evolution of Shopping Centers

Shopping center is a relatively new typology when compared to the vast history of social interactions, commerce and urbanization. Yet, its emergence and expansion has been unprecedented, fast and wide-ranging. Like the similar concepts before, shopping center is also created for covering the genuine needs of a specific period in human development. Understanding its birth and growth story is crucial for this research endeavor. It is not just four walls that flock retailers together. Mechanism behind this gigantic setup is actually way more complex. For decades, it has penetrated deep into the lives of individuals, businesses and communities. Now, in return, services, sharing economy and online retail are on the rise –all related to new technologies– and this evolution pushes shopping centers to radically change for adapting the new norms of urbanization, socializing and commerce (Cohen 2017).

Therefore, shopping centers are constantly in the making. Even though "rise and fall" stories gather a substantial amount of interest and awe these days, rather than being a single reverse u-curve, the interesting tale of shopping centers is actually comprised of numerous w-curves with tremendous spikes in both directions. Accordingly, this chapter deals with the following topics that form the backbone the evolution of shopping centers; (1) historical development of social and commercial hubs, (2) emergence of shopping centers and (3) an analysis of different shopping center generations throughout the decades.

3.1 Historical Development of Social and Commercial Hubs

First agricultural villages appeared thousands of years ago. These settlements would be the building blocks of more complex and larger dwellings later to be called cities. Even though social concepts such as "language, religion, stratification or the family" are actually older, cities have managed to become the main shapers of life, power and influence during the course of history (Davis 1955). As their power and reach increased, certain cities gradually became the urban magnets of much larger perimeters. This required complex rules and regulations and new types of social and commercial planning to cover the needs of growing, ever-changing (even chaotic) and more diverse communities (Adams 1981).

While socio-commercial hubs date back to older times (albeit in simpler forms), the first significant historical concept is the Greek Agora; a name that simultaneously refers to "assembly" and "market place" in line with its multi-functional purpose complete with public offices and private enterprises positioned next to each other (Lindenlauf 2014). The separation between the realms of public and private was not as clear back then. The definition of public space and things that are deemed as public would change numerous times afterwards. Roman Forums can be credited for changing the old building typology in terms of commerce (as purpose-built, well-defined, separate and enclosed buildings) but not for changing the overall setup of the urban hub (Zengel 2002). The first noteworthy change can be traced back to the era of Medieval Feudalism because of the rise of princes and a land-bound system. However, more dramatic changes would occur in the following centuries. Most importantly, it is seen that socio-commercial hubs are largely perceived as public spaces (or there has been a mass desire to make them public) in the historical context. This is why it would be valuable to look at the changing perceptions and roles of public spaces throughout the centuries. The table below ("Table 7"), which has been summarized from Vural and Yücel (2006), is useful in this respect;

Table 7 – The Role of Public Space through History (Vural and Yücel 2006)

Ancient Greece 12th Century BCE to 1st Century CE	**Medieval Feudalism** 9th Century CE to 15th Century CE	**Baroque** 17th Century CE
Agora was the public space both for politics, casual socializing between people of the same social strata and a place for commerce Public space acted as a world of 'freedom and stability', when compared to the privacy and enclosed nature of home	It was not possible to state a clear difference between public and private space as people were living mostly a communal life, where they were bound to the land for survival Even the seals of princes would be defined as public in this simple but stratified method of governance	The era had witnessed the relocation of tournaments, dances and theatres from public spaces to the highly private and guarded parks and halls of the palaces of the royalty Things that were public in the past had become private endeavors
Enlightenment 18th Century CE	**Industrial Revolution** 19th Century CE	**Modern Period** 20th Century CE
Cities had become larger and direct control of kingdoms was loosened A rich public life emerged once again around public parks, cafes and passages Going to theatre and opera had once again become a public endeavor	Factories attracted rural people to the cities and this created a serious infrastructure problem that was later verdantly solved by placing the newcomers in the city outskirts, where they developed their own social interactions City center came under the control of upper classes	Majority of the world's population started to live in urban areas for the first time in history Emergence of the planned daily lives (much less spontaneity) and individualism Consumption's role in the public space had grew rapidly and it started to reflect a person's identity

Public spaces had started as realms for free citizens' free interactions, before evolving into a princely communal structure in the era of Medieval Feudalism. This was followed by public activities turning into the private endeavors of the elite; only to be changed once again during the era of Enlightenment. Afterwards, Industrial Revolution led to the creation of a new social class and gave way to the uncontrolled growth of cities. Following up the table, it was not until the Modern Period that the majority of the global population started to live in the cities though. In this period, planned daily lives and individualism also became extremely important; paving the way for a new breed of socio-commercial hub which emerged as a private enterprise focusing on consumption. It was for the first time that such a large set of products and services would be offered by private enterprises at a wider scale. To this day, they are called shopping centers.

3.2 Emergence of Shopping Centers

American city centers were dominating the socio-commercial life in the US without much competition until the end of WWII but with the rise of suburbanization, most of the new public amenities and private investments started to go to the out-of-town establishments (Baker 2007). Influential real estate developer J.C. Nichols saw this trend some decades earlier with his open-air, Seville-inspired Country Club Plaza commercial complex in Kansas City, MO but such projects also increased their reach and importance with the latter urban expansion and suburbanization period (Zoschke 2011). This trend opened up the way for new possibilities. A private endeavor was now providing the core needs of its surrounding population.

The post-war era is characterized with the mass movement of American families out of the city centers and to the growing suburbs. With large investments in road networks, the rise of "family car concept", the increasing attractiveness of single family homes and a line of new communities created from scratch, suburban population started to grow four times faster than the general population and covering their needs is a challenge at this point of time; paving the way for the specifically designed building complexes in close proximity to the suburbs that commercialize and privatize the once public space (Cohen 1996).

Designer, architect, and urban planner Victor Gruen carried this concept one step further with his Southdale Center in Edina, Minnesota which was opened in 1956 as the first fully enclosed, climate-controlled shopping center in the US (Marshall 2015). With this conceptual shift from mimicking the old city centers towards being a unique building typology in its own right, shopping centers emerged as they are currently visualized in the public mind. Even though Gruen would partially regret the way his invention developed in the years that followed; the influential architect would rather successfully pinpoint the fundamental desires of the new suburban shoppers for convenience, abundance and accessibility; therefore, the real practical need behind the modern shopping center (Terrell 2015).

After the Southdale Center example, shopping centers took flight and increased their share in the US retail sales to 50% by 1987, while also representing 8% of the total workforce and 13% of the GDP via more than 30.000 projects (Feinberg and Meoli 1991). At this point, shopping centers were no longer an exclusively American thing as similar needs and business methods were also directing developers throughout the globe. First shopping center in Europe was opened as early as 1964 at a location close to Frankfurt, Germany. This event led the New York Times to state that "the regional shopping center came to Europe with a bang" but it was actually something larger and more complex than just a process of Americanization in Europe as it was more about a sharp transformation in urban fabrics (Logemann 2012).

By the 1990s, the trial and error period of 1960s was over in Western Europe. Its matured, stabilized and financially strong retail market had been bullishly exported to post-socialist Eastern European countries both with the support of large capital injections and the enlargement process of the European Union and the Western European retailers were accepted by the Eastern populations with an almost shocking pace and desire (Kunc and Krizan 2018).

The first shopping centers in Asia and Latin America also opened during 1960s (Ocean Terminal Center's opening in Hong Kong in 1966 and Plaza del Sol's opening in Mexico in 1969). The story of this new business model in these continents has been fairly similar to that of Europe (i.e. starting in the Western-aligned parts of the continent and then expanding from the 1990s onwards). There is a tendency to see globalization as an all-powerful facilitator which can transform the international

capital flows with long-term foreign direct investments but it is mostly targeting emerging markets that already have certain production and consumption capabilities (Collier 2007). The impact of foreign direct investments on the global expansion of the shopping center typology has also been fairly strong. In order to grasp the current size of the global shopping center market, the table below ("Table 8"), which is cited from İlhan and İlhan (2018), records the continental gross and average shopping center sizes, as well as the total number of projects around the year 2016;

Table 8 – Continental Shopping Center Sizes and Number of Projects (İlhan and İlhan 2018)

	Europe[1]	**Asia[1]**	**Africa[2]**	**Americas[1]**	**TOTAL**
GLA (million m^2)	163,5	137,1	28,4	703,3	1.032,3
Number of Shopping Centers (#)	7.484	2.129	2.234	38.992	50.839
Average Shopping Center GLA (m^2)	21.847	64.396	12.713	18.037	20.305

1. Cushman & Wakefield (2014); given as a sum of 2014 actual and 2016 forecast figures. Lower limit is 5.000 m^2 GLA
2. Except for South Africa Republic, complied from Sagaci Research (2015) data (no m^2 lower limits mentioned). South African Council of Shopping Centres (2016) data is used for South Africa Republic. Lower limit is 2.000 m^2

It is seen that the global shopping center market has reached to gigantic proportions. Its impact on sustainable development is already discussed in the previous chapter but there are also certain business-related problems. In a recent PwC and ULI annual joint report (2018) on the real estate trends in Europe for 2019, city center and out-of-town shopping centers have been ranked as 22nd and 24th out of 24 sub-sectors based on the opinions of the leading developers in the continent. Things have been going from bad to worse for shopping centers at this annual ranking for a number of years now as it can be seen below ("Table 9");

Table 9 – Ranking of Shopping Centers in Europe by the Leading Developers (PwC and ULI 2015, 2016, 2017, 2018)

Report Year	**Total # of Building Types**	**City Center Shopping Center**	**Out-of-town Shopping Center**
2016	20	11	14
2017	23	14	21
2018	23	19	23
2019	24	22	24

According to the same report, a maturation process is observed at the moment; as real estate developers are either looking for alternative investments (e.g. co-living and student housing) or focusing on renovating and/or improving their existing assets rather than building new shopping centers. On the other hand, this recent loss of ground-up development appetite actually helps new ideas to gain momentum. This sea change can lead to the rise of new shopping center setups in which the buildings are more integrated into their social and environmental surroundings, while also operating under newer, more innovative and more sustainable business methods.

3.3 Shopping Center Generations

Shopping centers have reshaped the retail space over and over again; to the point where the business is no longer exclusively about retail or monetary transactions. With how people identify success and a fulfilled life is also rapidly changing, they are now demanding unique experiences and highly-personalized lifestyles –without necessarily accepting ownership as an achievement or a status symbol (i.e. the rise of rentals, social media, sharing economy and subscription-based services) (Morgan 2019). This means that the path of behavioral and technological transformation shall possibly lead the market to a new era in which each individual would be a segment in his/her own right (Halligan 2012). This is in contrast to the old product dominant, mass market, supply side driven structures.

The relationship between shopping centers and the market forces is no longer a one-way act. There is some truth behind all the "dead mall craze" in the US (thanks to major conceptual shifts and the rise of online retail) but adaptation to the new normal would at least save the prime assets; while the already suffering assets shall continue to carry a big question mark around them (Machin 2017). Accordingly, changing needs are constantly pushing developers to optimize and improve their assets. This is also the reason why there are generational shifts in the shopping center business. Even though each asset generation is a product of a specific period in time, different generations tend to coexist because; (1) shopping centers are long-term investments and the investors would try to generate income from each asset as long as possible, (2) as large-scale and mostly static (i.e. because of legal barriers in zoning, inflexible building materials and/or high financial requirements) investments, it is neither easy nor low-cost to renovate and/or improve existing shopping centers and (3) it would

take time until new approaches would travel from one market to another and become prominent. There can even be a combination of old and new within the same shopping center, as it is case in the Mall of America, America's largest since 1992; where the visitors can find many entertainment options targeting a younger audience alongside with more traditional components targeting older generations –a rare survivor in a market where the rave expectation is that half of the shopping centers may go out of the business by 2023 (Rushe 2017).

It can be argued that there have been three unique shopping center generations since the first examples seen in the American suburbia. In a nutshell, early centers would have a line of shops facing the anchor tenants (e.g. hypermarkets, DIY stores and department stores) but the weight of fashion retail and service variety later grew especially with fast fashion retailers like Inditex Group and H&M; only to be recently challenged by the changing customer demands and the rise of online retail, which have since forced developers to focus more on leisure and technology (Ferman and İlhan 2018). All these changes have necessitated specific design and strategic approach evolutions. Naturally, some shopping centers would not be able to act on time, develop in the right direction or raise the necessary re-investment capital to cope up with the forces of chance. Increasing competition has not been helpful for many older assets either.

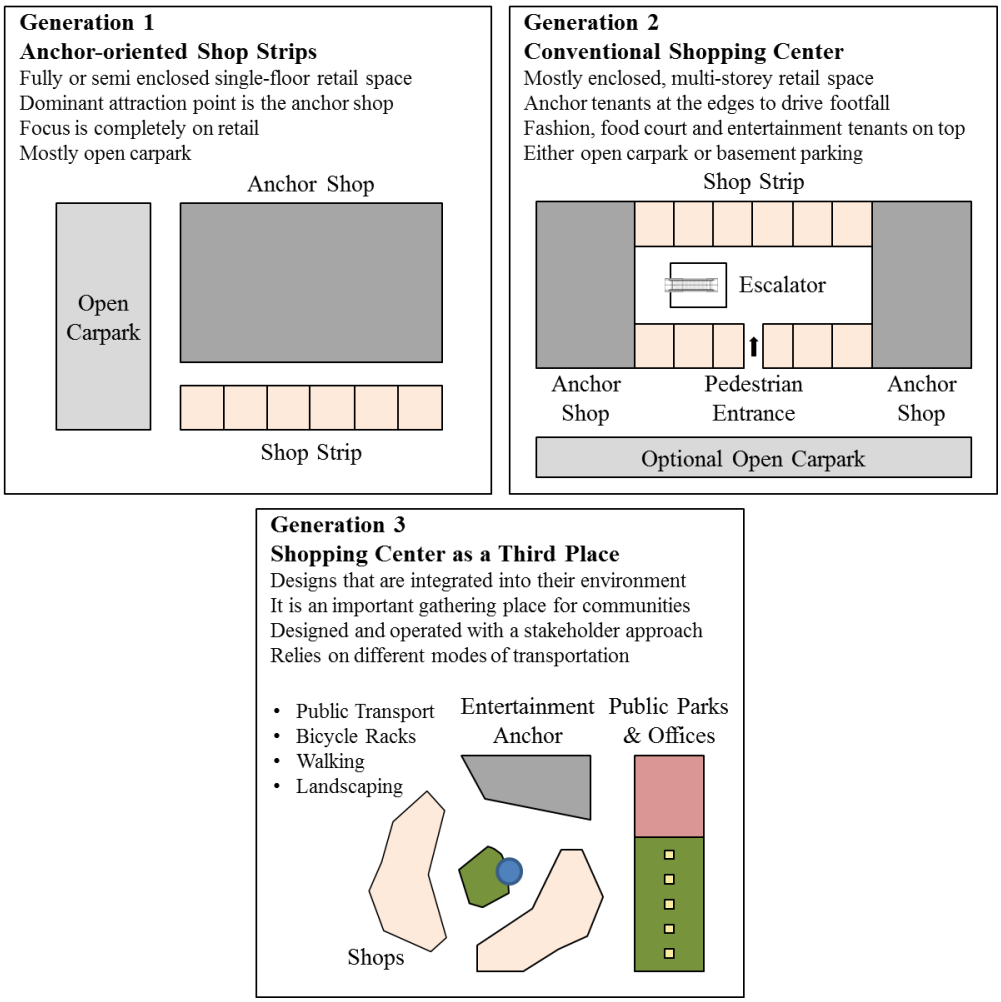
As shopping centers of our day tend to leave the idea of solely focusing on retail behind and try to be culture and community centers instead, they would potentially be able to (re)claim their positions as important third places in people's lives; first place being the home and the second place is work or school (Scharoun 2014). Yet, superficial changes would not be enough to clear this hurdle. Developers must be able to form deep bonds with their previously neglected stakeholders like society and nature. Only then, shopping centers can become an essential part of the modern, sustainable urban landscape.

However, there is not an all-powerful recipe for success. Each project should find a unique way to complete its transformation. Globalization has not been the easy process it was once widely seen as –with individuals and local know-how started to matter a lot more for cross-border success (Corstjens and Lal 2012). One size definitely does not fit all in the shopping center business. Each new location and new

micro-level target group would have different demands. Customers are no longer passive shoppers; as they increasingly expect to be well-informed and respected as a core stakeholder who can change how things are done. Moreover, this is an age in which people buy solar panels just because their neighbors have them and an increasing amount of people (even if some of them cannot completely understand the underlying mechanisms) are looking for more responsible and more sustainable projects, management and marketing practices (White et al. 2019).

Not so shockingly, among different asset generations, the most recent one is yet to be fully defined because; (1) the relevant forces of change are still very much active and (2) the implications and ramifications of the previous shopping center investments have been just becoming publicly visible. The overview below ("Figure 6") contains the simplified visualizations of the layouts of all these generations;

Figure 6 – Shopping Center Generations Explained Through Layouts



Strip mall (taking its name from the 1950s American highway culture), is (1) a socio-commercial landmark that is now older than half a century and (2) a testament to American car dependency and deep-rooted consumerism (Manning 2009). A standard strip mall is comprised of a line of shops with an open-air parking lot in the front. These shops would generally operate there alone. When the strip mall logic meets with an anchor (i.e. a larger magnet such a national retailer, an attraction or even certain public spaces), it creates this visibly transitional structure –which looks more like a traditional shopping center but not exactly there yet. This "Generation 1" setup (whether being semi- or fully-enclosed) is retail-dominant in its mostly single-floor simplicity. In Turkey, some of the early shopping centers of large grocery retailers (Migros and CarrefourSA) in the second half of 1990s reflect this approach.

Victor Gruen's creation, the fully enclosed, climate-controlled shopping center, is by and large the archetype of "Generation 2". People mostly have a version of the "Generation 2" layout in their minds as the conceptualization of the shopping center typology (i.e. enclosed, multi-floor, anchors at both ends, retail destination also with a food and entertainment offer). This has been the so-called winning formula of shopping center development –at least until recently. Gross sizes, road network centrality, branch and tenant mix complexity and standardization, alongside with the high degree of central managerial control are all identified as defining elements of these large conventional buildings (i.e. above 50.000 m^2 GLA) (Dawson 1983).

"Generation 3", on the other hand, is still an ongoing endeavor. These new buildings are designed to be "real places" that are; (1) enabling their users (both businesses and visitors) to interact with each other in an egalitarian, social manner, while (2) also creating a smooth connection to the nature. Since artificiality is one of the major criticisms directed towards the preceding generation (Tunç 2003), the commercial angle of this major shift is rather clear. However, there are more pressing reasons behind this change. While the US is discussing The Green New Deal (re-organizing the economy for becoming a socially and environmentally sustainable structure) and national de-carbonization (Sachs 2019) and the EU's new progressive sustainability regulations (aiming at a growth plan that also gives back to the stakeholders) also being at the bay (Harvey et al. 2019), it should not be expected that the shopping center business would insist on continuing its stoic stance either.

Chapter 4

Istanbul: Urbanization & Shopping Centers

During the years following the 24 January 1980 decisions, Turkey was dreaming of a fresh economic start (i.e. a new export-based era replacing the old import substitution strategy); which actually paved the way for an influx of global neoliberal tendencies (Armstrong 2015). These tendencies have perforated into and fundamentally changed all economic and social variables in Turkey; with foreign trade and free markets bringing numerous new products and processes (Şenses 2012). This change also created clashes between the old and the new –for example, the first confrontation between traditional neighborhood grocery stores and supermarket chains (that even became the subject of a popular theater play) and the arrival of more and larger international retail brands to Turkey (Evran 2005). With Istanbul being the main battleground, it is understandable that the first Turkish shopping center was opened in this city back in 1988 (Galleria Shopping Center). It was met with both awe and reluctance by the public and business circles at that time. After all, this was a time when even the largest industrial brands such as Arçelik were using small, local enterprises as their authorized dealers and servicemen throughout the country.

Back then, Istanbul (and Turkey in general) had been known for its traditional, unorganized retail industry (with its fragmented nature, colossal size and lack of commercial efficiency) and the country's transformation into organized retail is still pretty much an ongoing endeavor; that allegedly offers more efficiency, more affordability and healthy competition, better product and service quality, smaller informal economy, better management skills, more high-tech initiatives, more international investors and economies of scale (Sak 2005). Of course, when it comes to organized retail, there is also opposing literature from all around the world –e.g. Hamil and Priyadharshini (2014), Erkip and Özduru (2015) and McGreevy (2016). Yet, as an essential part of the organized retail supply, shopping centers needed time to mature before utilizing the advantages of favorable macroeconomic conditions and becoming one of the defining elements of Istanbul's urban fabric. Shopping centers' exponential growth in size, power and popularity is now among the hottest discussion topics together with the perceived risks which can threaten their future trajectory and success.

It is not a surprise that Istanbul, as the old imperial capital and the reigning economic and social heart of the country, is located at the center of virtually all major shifts. The city singlehandedly represents a quarter of Turkey's GDP (with Istanbul's per capita GDP being 70% above the national average), half of the entire national service industry, around 40% of all the tax collected and 38% of the Turkish industrial output (OECD 2008). However, Istanbul also has some major problems such as; urban sprawl, (hopefully temporary but still heavily-felt) economic slowdown, discontent among the skilled and affluent Istanbulites and out-migration (losing qualified people to cities like Izmir and to other countries, while less skilled people also increasingly going back to their towns in the Anatolian hinterland) (Osterlund 2019). Of course, as the host of the largest refugee population in the world (there are reportedly 3.6 million Syrian refugees in Turkey and half a million these people reside in Istanbul), tensions are also rising among the Turkish people all around the country with growing anti-immigration, xenophobic and nationalist tendencies (Yurdakul 2019).

Meanwhile, even with all of its ups and downs, Istanbul is still attracting the largest chunk of public and private real estate and infrastructure investments in Turkey. Yet, it is not possible to argue that these investments have been realized within the scope of a major strategic plan that takes into consideration all the necessary commercial, social and environmental concerns. Shopping centers are no exceptions in this respect –an astounding 37% of the entire national m^2 GLA supply is located in the city (JLL 2019).

Investing in the Istanbul commercial real estate market has always been a complex and turbulent love story that both local and international investors cannot stay away from for too long. Yet, Chapter 2 firmly establishes that such far-reaching decisions should not rest solely in the hands of commercial people. It is obvious that Istanbul shopping center market must be evaluated in more detail in order to build up a complete multi-factor sustainability model. Accordingly, this chapter focuses on; (1) the recent history of urbanization in Istanbul, (2) history of shopping centers in the city and (3) the macro outlook of the sub-market.

4.1. Recent History of Urbanization in Istanbul

Istanbul is a commercial and cultural junction, a too-big-to-fail anomaly and a city built on duality (e.g. its seaside beauty vs. its brutal and dangerous outskirts or its role as a cultural capital vs. its soulless concrete jungles) (Sudjic 2009). Up until 1950s, Istanbul remained as a compact city just comprised of the historical peninsula, Golden Horn, Üsküdar, Kadıköy and also scarcely the Bosporus coasts but with the then new multi-party rule in the country, it started to grow both in size and population to once again become the heart and mind of Turkey (even though the city would not be able to receive a global status similar to its imperial heydays before 1990s); but 1958's devaluation and economic devastation had quickly removed the government's support and left this gigantic urban growth in the hands of the informal Istanbul (with its practical minibuses, "gecekondu" settlements and illegal street vendors) (Korkmaz 2010). Later on, new regulations were issued against this growing informality but these had only remained modernist on the surface (i.e. heavily populist on the inside); as they mostly focused on pardoning the emerging "gecekondu" settlements through "fait accompli" policies (Tekeli 2009).

Immigration is a defining component of Istanbul's complex urban history. Doğan Kuban (2001) argues that immigration is dynamically transforming the historic city into something that is almost undefinable. Istanbul had a population of 860.000 in 1945 and 70% of its inhabitants were living within the 5-kilometer radius of the major centers of Eminönü and Karaköy but, by 1970, the number of urban dwelling zones had increased from 37 to 61, while the number of inhabitants had reached to 2.7 million (Arslan 1974). As previously stated, "gecekondu" also rose to prominence during these decades. Urban planning setups and capacities were not enough for covering the growing demands of the newcomers for housing and other urban amenities. Accordingly, "gecekondu", which was initially a neutral reference to the makeshift building materials and authentic construction features, had become an umbrella sociological term for a new breed of lifestyle that shows a unique mixture of urban and rural traits (Karaman 2003). When "gecekondu" settlements were pardoned and even rewarded with the right to convert their humble dwellings into much denser apartment buildings; both an unfair gain was generated for political purposes and an historical chance was missed for reclaiming the "gecekondu" areas

for better future planning (Tekeli 2009). The most apparent reasons behind the rise of "gecekondu" settlements in Istanbul, cited from Çakır (2011), are compiled in the table below ("Table 10");

Table 10 – Main Driving Forces of the "Gecekondu" Problem (Çakır 2011)

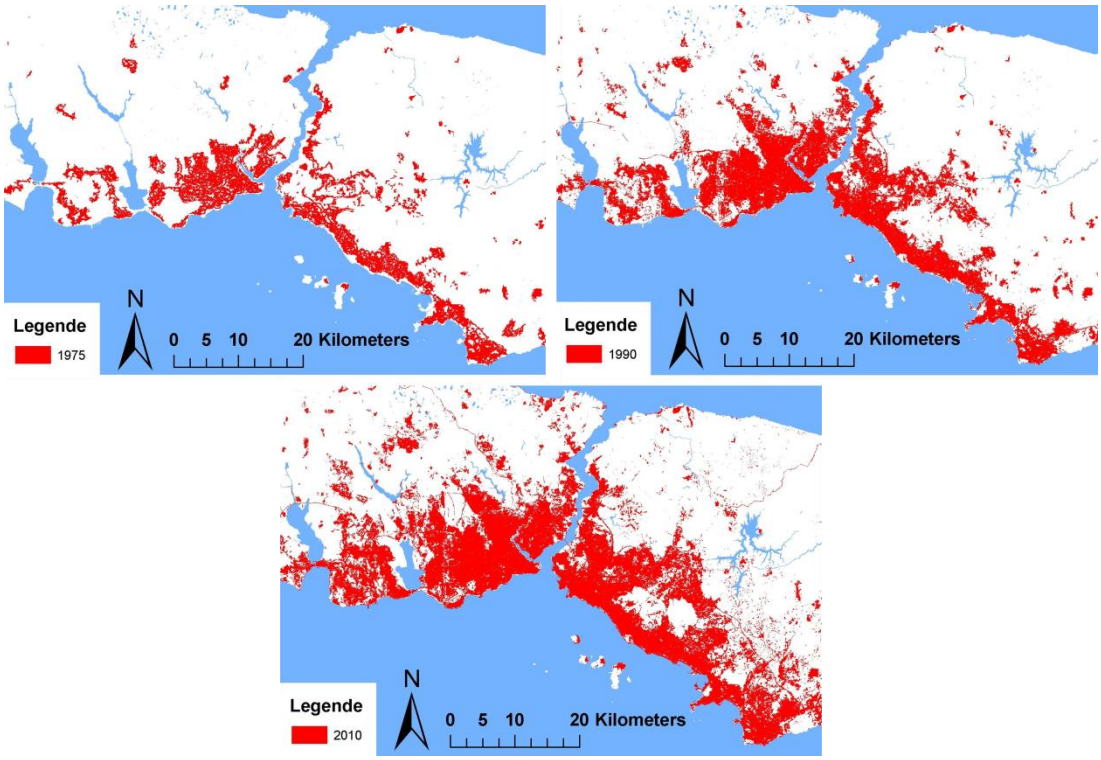
1. Fast-paced population growth
2. Mechanization of agriculture leading to less need for labor-intensive production
3. Unplanned nature of Turkish industrial development
4. Division of agricultural land, diminishing and inadequate outputs
5. Lack of a proper land reform
6. Being unable to utilize public lands for economic growth
7. The risk of natural disasters and the inability to take precautions
8. Lack of an integrative solution to the housing problem
9. Lack of rent regulations
10. Weak state of health, nutrition, education and transportation in rural areas
11. Employment chances being limited to public institutions and factories which were both concentrated in urban areas
12. Outdated urban planning approaches
13. Absence of institutions which are increasing the population's knowledge and culture in the rural areas made the opportunities in urban areas sought after
14. The unsolved political and social problems in the East and Southeast Turkey

From a Turkey-wide perspective, urban population had passed the rural population for the first time in 1985, as this was the decade in which the rate of urban population increase peaked at almost 5,5% (Işık 2005). 1980s also saw public investment in sizeable infrastructure projects in Istanbul once again (e.g. new highways and Fatih Sultan Mehmet Bridge). However, neither the informal socioeconomic system nor the government was behaving according to a coherent master plan. New data shows that this impulsive behavior is still alive and well today. Gölbaşı's (2014) study compares major global cities' urban planning traits and points out that Istanbul is lacking a core element of planning success and longevity; "internal consistency" (other city plans have scored an average consistency rating of 85%, while Istanbul lagged behind with 73%). Gölbaşı analyzes the hierarchy of plans (from the 1/100.000 environmental plan to 1/5.000 plans) and at what rate different plans are kept in historical and conceptual consistency for sustainable urban development. Gölbaşı thinks that Istanbul's recent growth towards north (encouraged by huge PPP infrastructure investments such as new highways, Yavuz Sultan Selim Bridge and the new Istanbul Airport) is among the main facilitators of this internal inconsistency.

In connection with this, urban sprawl is also a problem in Istanbul that one can easily observe in the lack of sufficient and continuous fringe belts (i.e. less dense, potentially spontaneous and ideally green recreational zones which act as a buffer between dense urban settlements); as either urbanization absorbed them (e.g. Levent factory zone becoming the city's CBD with offices and shopping centers) or they have not been taken care of properly (e.g. the historical area surrounding Istanbul's old city walls) (Hazar and Kubat 2015). This is both a social (i.e. the city is unable to provide decent urban value or social health and happiness) and an environmental hazard (i.e. over-use land and resources that also leads up to a proportional increase in waste, pollution and CO_2 emissions).

Yet, the problem does not end with the fringe belts. The same unplanned growth is visible in almost every corner and it has become such an inherent thing over the decades that many would just come to terms with it. The urban sprawl between 1975 and 2010 is visualized below via satellite data ("Figure 7") –showing the already threatening reach of Istanbul even before the effects of 2010s (e.g. the new large-scale infrastructure projects and an additional decade of real estate investments).

Figure 7 – Urban Development in Istanbul (DLR 2010)



Another revelation is that Istanbul (inevitably with its uncontrolled growth) and its neighbors (e.g. provinces of Kocaeli, Yalova and Sakarya) have converged to form one megacity –leaving the current municipal divisions impractical (Köroğlu 2013). Without a unity of mind and purpose, private investments are leading the recently urbanized areas towards a uniform style (without a cultural past, proper planning or a conceptual premise); realized as a repetition of buildings along the major routes.

Private sector must take responsibility for the current situation. Market players have continuously failed in answering the core urban needs because they do not have long-term strategic plans either. For example, this is alarmingly visible in the Istanbul housing market because saturation (especially in the middle-upper level housing) and deficit (in social and affordable housing) coexist in Istanbul (Purkis 2016). The over-simplified logic of developing middle-upper level flats for commanding higher prices (i.e. a larger profit margin for their developers) has become a stigma.

In this respect, it is also easier to understand why shopping centers' arrival and fast-paced expansion have followed the same path. There have not been pre-determined areas for concentrating the development of retail in the city. As a result of internal planning inconsistencies, preventing certain areas from later being converted into retail use (at the loss of public amenities) has not been possible either. Retail regulations (e.g. capacity and competition planning) are also introduced late and only partially. All these create a counterproductive ecosystem for all stakeholders.

4.2 Historical Development of Shopping Centers in Istanbul

It is easy to understand why the first two modern shopping centers of Istanbul and Turkey (Galleria and Atrium) had been planned as a part of the then new satellite urban developments in Ataköy. The area (constructed as ten neighborhoods between 1960 and 1990) is a successful and sustainable mass housing project thanks to its spacious settlement, pre-planned infrastructure, green areas, schools and retail amenities (TMH 2006). Needless to say, only another Western style building typology (i.e. shopping center in this case) could be suitable for this imported urban planning vision. Still, neither of these projects have turned out to be instant (or later sustainable) successes. Especially the developments in Galleria remained under the constant spotlight of newspapers ("Table 11");

Table 11 – Negative News on Galleria Shopping Center from Milliyet Archives

1989	*Tenants publicly complain about the center's weak performance*
1994	*Fame City entertainment acnhor closed*
1996	*Increasing competition forced the investors for a renovation process*
1997	*Printemps' Turkish subsidiary asked for bankruptcy*

Only five additional shopping centers opened in Istanbul between 1988 and 1997; Capitol and Akmerkez in 1993, Carousel in 1995, Carrefour İçerenköy in 1996 and Migros Beylikdüzü in 1997. Except for Carousel which is close to Galleria, these centers' targets are different regions and demographic groups in Istanbul. Actually, this is not a calculated move. The commercial real estate market back then just did not have the necessary depth and capital to develop any faster. In 1980s, Turkey's economic liberalization moved on without a strong regulatory base and this led to a series of crises in 1990s (also inflamed by external developments and, in 1999, by the massive Marmara earthquake); creating the colossal 2000-2001 crisis in which the highly destabilized public institutions could not cope up with bank insolvencies and the devastated real economy (Macovei 2009). Extremely high interest rates, overuse of national hard currency reserves and the IMF support package could only temporarily postpone the economic downfall of the country (Uygur 2001).

Then came the early general elections in 2002 with a social, political and economic sea change so massive that it moved heaven and earth. Business circles were quite happy with the country's new trajectory (e.g. Istanbul stock exchange's value had increased, bond interest rates decreased and Turkish Lira gained value) (Capital 2005). This investor appetite stayed visible until global shifts started to pressure the national economy. Still, this investment window was enough for a dramatic growth in the shopping center supply. Number of shopping centers in Istanbul had climbed from seven in 1997 to one-hundred and four in 2014, while the total GLA increased to 3.9 million m^2 (JLL 2015). This led to the risk of market saturation in certain sub-markets of the city. For example, Bakırköy district had eight centers with a total GLA of 368.000 m^2 at the end of 2014; which roughly translates into 1.661 m^2 of retail space for each thousand people living in Bakırköy (Istanbul average and Turkey average for the same period; 268 m^2 and 129 m^2 respectively) (JLL 2015). Most of the investments tend to flow to the hotspots in Istanbul; creating imbalance

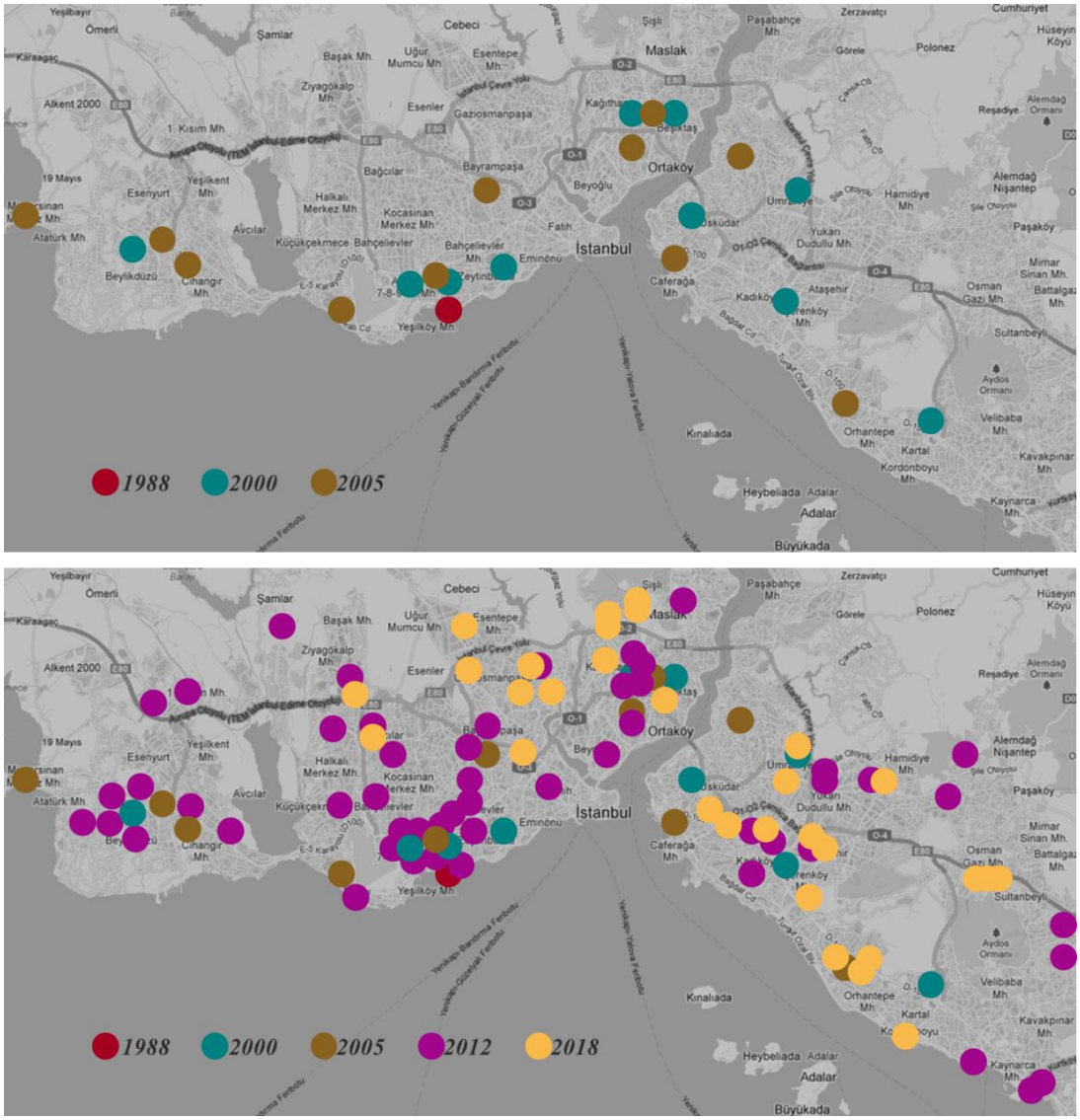
both within the city and from a countrywide angle. Bakırköy is not alone in this respect. A similar story has also unfolded at the Büyükdere central business district; with MetroCity Shopping Center being later joined by Kanyon, Sapphire, Zorlu Center, Özdilek, Cevahir, Trump Towers Mall and Astoria. Most of these shopping centers carry Western-oriented names but this does not change the fact that they are fighting for the same (affluent but limited) catchment area, which has not grown proportionally.

Shopping center supply in Istanbul has been increasing since then. As of year-end 2018, there were 123 shopping centers in Istanbul with 4.75 million m^2 GLA that correspond to 37% of the entire national supply (JLL 2019). This means that the GLA supply and the number of centers in the city have increased by 21% and 24% in a rather short span. Since 2014, Istanbul's total population growth was only 4% in those four years and even adding the informal economy on top cannot close such a substantial gap between the supply and demand sides. September 2018 Presidential Decree which puts a hold on the hard currency rents (i.e. all existing rents converted to Turkish Lira with fixed exchange rates and all future deals must be done in Turkish Lira; at least hypothetically until 13 October 2020) has also laid bare the market inefficiencies. This decision is a response to the economic turbulence of the preceding summer. Turkish Lira momentarily traded as the worst performing currency in the world for a while as it had lost 45% of its value at one point (Chu 2018). According to the Association of Shopping Center Investors (AYD), the industry has huge amounts of foreign currency loans (up to $15 billion –as long-term debts cannot be covered with Turkish Lira) and the Presidential Decree made the problematic business structures much more visible (BloombergHT 2018b). As a result, the majority of the default risk is now on the shoulders of shopping center investors. They are earning in Turkish Lira but they continue to pay their debts in foreign currencies. Their bold, uncalculated investment approach during the past two decades has finally created its own doomsday scenario. Lack of risk analyses and hedging mechanisms (both from investors, financiers, service providers and tenants) is leading the market to an abrupt halt.

Even if one shall look at the current situation only through a commercial lens, he/she would suggest that such a market growth is not sustainable. The ongoing financial

deadlock is just one part of the equation. Shopping center supply had been somewhat evenly distributed around the city up until 2005 but the following seven years witnessed a large growth. Almost every Istanbul neighborhood received its own shopping center. Later on, the years between 2012 and 2018 can be marked as a period of over-supply amid rising socioeconomic and environmental concerns; with both the historically less dense Asian Side and the secondary urban transformation zones in the European Side filling up with new shopping center investments (see “Figure 8”).

Figure 8 – Major Shopping Center Openings in Istanbul



4.3 Macro Outlook of the Istanbul Shopping Center Market

Finding the right location (both in terms of demographics and competition), figuring out the right concept, securing the investment budget and finally realizing (and then long-term operating) the shopping center project are the basic steps of the shopping center business. When laid down as such, these steps look straightforward enough. Yet, the spatial mechanisms behind commercial success are actually complex.

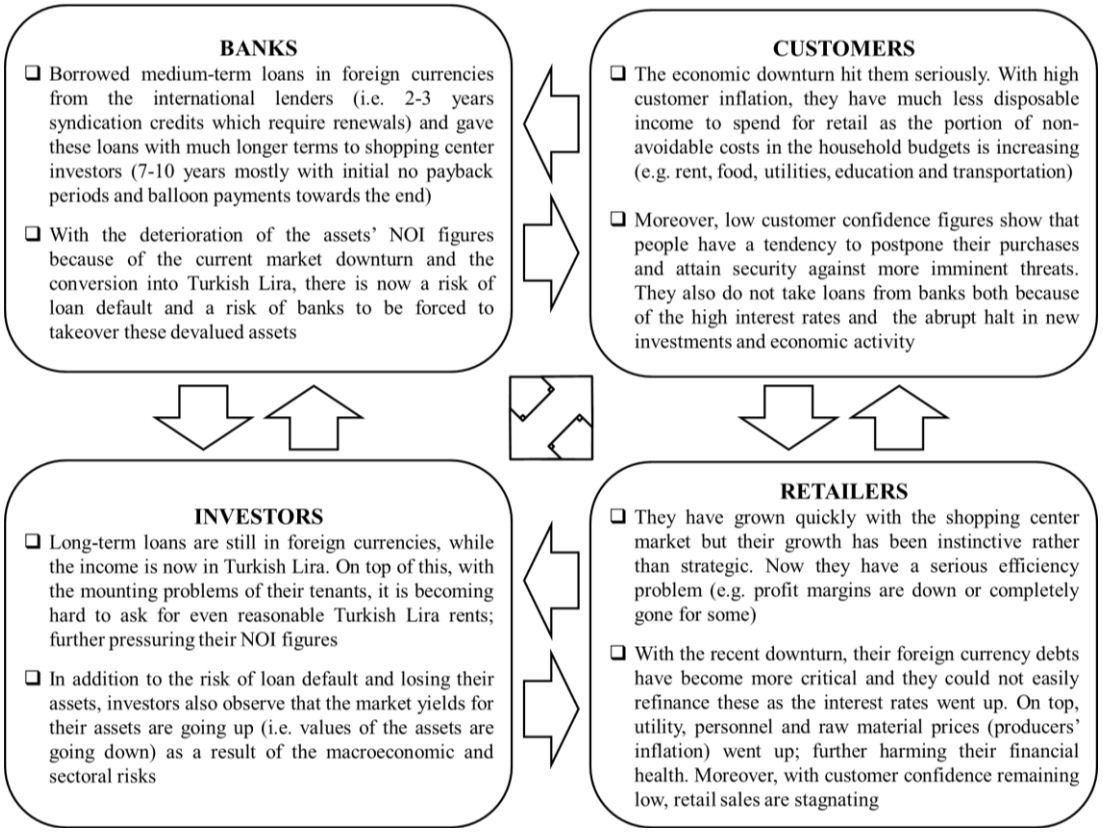
As the classics of this research topic, Lowry's gravity model (1964) and Huff's trading area model (1964) can both be used for looking at the issue from a spatial perspective. Lowry's work carries the non-spatial economic base analysis (i.e. relationship between the basic and non-basic industries) of Haig and McCrea (1928) one step further and develops a spatial model out of it. While it can be used to evaluate the outcomes of urban public decisions (e.g. urban transformation, taxing, land use and infrastructure investments), the model is also able to predict the future changes in a given urban area related to the correlation between the urban population (i.e. growth rates and basic employment patterns) and the aforementioned public decisions. Huff (1964), on the other hand, focuses on individual trading areas and the commercial investments in these areas. Huff's work states that; (1) every distribution center (i.e. shopping center) has a potential demand area that contains potential customers (i.e. catchment area) limited by the physical distances between different commercial investments and the differences between their commercial offers, (2) a demand area is not uniform as it is comprised of different zones with varying capacities and (3) the demand area is probably shared with other competitors.

Ultimately, there is a common message here; each action would create its own reaction in the urban context –be it a public policy or a private endeavor. A city shall only function properly through calculated, long-term planning. For example, investing in new highways ("action") would only bring temporary relief; as the new highways would create their own induced demand and traffic congestions shall soon continue ("reaction") (Schneider 2018). It is also the same for shopping centers. Expecting footfall and sales levels matching or exceeding the market averages with each additional project ("action") would most probably fail as each project can only target a limited trading area to gain a diminishing fraction of the existing market as a result of the relationship between its competitors, its own commercial offer and their

respective locations ("reaction"). A similar action-reaction mechanism is also observed in Istanbul. Without adequate regulations and a market-wide prudent merchant attitude, ground-up shopping center developments have been rampant for so many years. Yet, generating the necessary individual footfall and sales volume for each and every shopping center in the city is an almost impossible task.

In order to understand the post-September 2018 stagnation, one must have a deeper look at the status of different stakeholders in the Turkish shopping center ecosystem. Such a stagnation scenario can very well repeat in the future. The figure below ("Figure 9") is a visual representation in this respect;

Figure 9 – The Inter-connected Stagnation Scenario

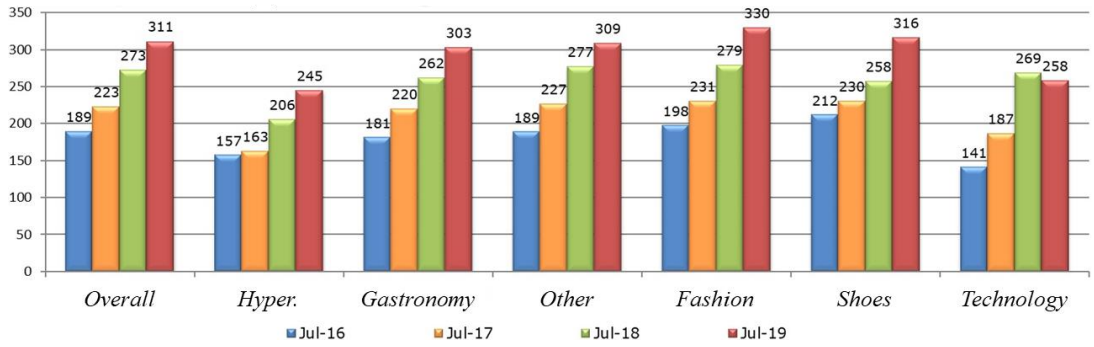


A renewed wave of deterioration in the market conditions may create a domino effect which can again paralyze the system. In such a case, each stakeholder shall again have similar inter-connected problems and risks; (1) banks must remain credible enough to re-finance their international loans and also hope for the wellbeing of shopping center investors for back payments, (2) investors should push the limits for earning enough income with their constantly decreasing Turkish Lira incomes so that

they can honor their debts, (3) retailers must focus on efficiency and financial health as they may face a drop in sales (connected to customer confidence) and a likewise serious hike in their unavoidable costs and (4) customers should be able to continue to spend at a sufficient rate. Therefore, being prepared for the upcoming threats is the key to long-term success. Yet, the uncontrolled urban sprawl and the risk of market saturation (i.e. high competition) have left Istanbul shopping centers at a tense spot.

There can still be certain purely commercial approaches that would endorse the current market status as long as the performances of the assets continue to be stable. It is true that per m^2 GLA sales performance is continuing to increase throughout the country. However, the overall (i.e. for all retail branches) annual shopping center Turkish Lira sales increase between July 2018 and July 2019 is recorded as 13% (see "Figure 10") (AYD 2019); which is below both the consumer and producer price indexes in the same period (16.7% and 21.7% respectively).

Figure 10 – m^2 GLA Sales Performance Data for July 2016-2019 (AYD 2019)



Evaluation should not only be based on commercial aspects. Recently, the allegation that 416 out of 493 post-disaster meeting zones in Istanbul (which were identified following the Marmara Earthquake) have been lost to urban developments such as shopping centers, high-rise buildings and housing projects led to popular criticism (Yurt 2018). Presidency opposed this allegation and stated that there are thousands of such zones in Istanbul (Independent Türkçe 2019). This would have been a serious downside for Istanbul's urban resilience. When a city grows, decision-makers must; (1) determine a strategic growth path, (2) have an operable landscape architecture in place, (3) push industrial zones to be greener, (4) demand all new developments and the urban infrastructure to be environmentally-conscious and recycle-friendly and (5) base everything on solid institutions for a happy urban society (Wang et al. 2018).

Chapter 5

Multi-Factor Model: Structure, Research & Results

Up to this point, this study has showed that; (1) the current global economic system requires a substantial reconsideration in all aspects in order to solve the associated social and environmental problems in a sustainable manner, (2) the built environment (including the global shopping center business) has an inescapable role in this sustainability enigma and (3) Istanbul's urban development and the city's sizeable shopping center market both require a new strategy.

Istanbul shopping center market is under pressure from short-term and long-term forces. This causes a drop in the investor appetite. However, the total investment volume of all Turkish shopping centers is already around $58 billion –with more than 500.000 people are currently employed by the industry (Dünya 2018). Additionally, more than one-third of the total national m^2 GLA is in Istanbul and there are some Istanbul sub-markets (e.g. Levent-Maslak CBD, Bakırköy) that are facing even more imminent commercial risks (e.g. market saturation) on top of the overall countrywide risks coming from; (1) inadequate regulations, (2) macroeconomic trends and (3) the overall efficiency problems in retail. The market can even be well beyond the critical point to re-evaluate its practices (e.g. supply chains, investments, loans, employment and services).

However, even if all of the commercial problems of the Istanbul shopping center market would be solved, this shall only cover one-third of the big picture. Social and environmental degradation is also at a critical level. Detailed literature review shows that both existing and future shopping centers should be thoroughly re-analyzed with an integrative approach and should be accordingly improved to attain optimum sustainability in various issues such as urban sprawl, natural capital and sociocultural structures (İlhan 2018).

There is still a possibility to design an operative and meaningful multi-factor model to be employed as a sustainability-based investment guide by all stakeholders. In order to succeed in this feat, this study is based on extensive primary and secondary data. It is designed as a differentiating addition to the existing literature (on the sustainability debate, global shopping center business and Istanbul).

The multi-factor model has been shaped by four major components; (1) an extensive literature review for determining the major commercial, social and environmental industry-related sub-factors and their underlying headlines (that are corresponding to the major pillars of sustainable development) in the global shopping center habitat, (2) an analytical hierarchy process (AHP) survey realized with the top decision-makers of the 84% (twenty-one companies replied out of twenty-five eligible ones) of the AYD members (i.e. which currently hold at least one self-developed Istanbul shopping center in their portfolio) which directly aims at understanding the private sector stance towards the issue, (3) the following structured face-to-face interviews with three sustainability expert panel participants for deepening the discussion and balancing the AYD decision-makers' predominantly commercial stance (that visibly contradicted with the findings of the literature review), and eventually (4) the creation of a practical, sustainability-based Project Checklist (that shall be used to score shopping centers) and a strategic model visualization for the research topic.

While AHP has been already used on numerous occasions for evaluating different sub-groups of the Turkish real estate sector, this is the first time that; (1) it is used on such a majority of the top decision-makers (2) of the Istanbul shopping center market (3) with a systematic sustainable development perspective in mind. Private sector stance's stark contrast with the findings of both the literature review and the expert panel has been a revelation in its own right. This has been speculated for so many years but, for the first time, it is quantifiably visible. Thus, rather than being an investment calculator for the private sector, this model acts as a wakeup call and an easy-to-use road-map for all stakeholders for evaluating the social, economic, and environmental impacts of both existing and future shopping centers in Istanbul.

This chapter contains; (1) an explanation of the model complete with all of its pillars, sub-factors and headlines, (2) structure, explanation and results of the AHP-based industry decision-makers survey, (3) structure, explanation and results of the face-to-face interviews conducted with the expert panel participants, (4) the components of the multi-factor model (i.e. Project Checklist and strategic visualization) and (5) this study's limitations and possible future research topics.

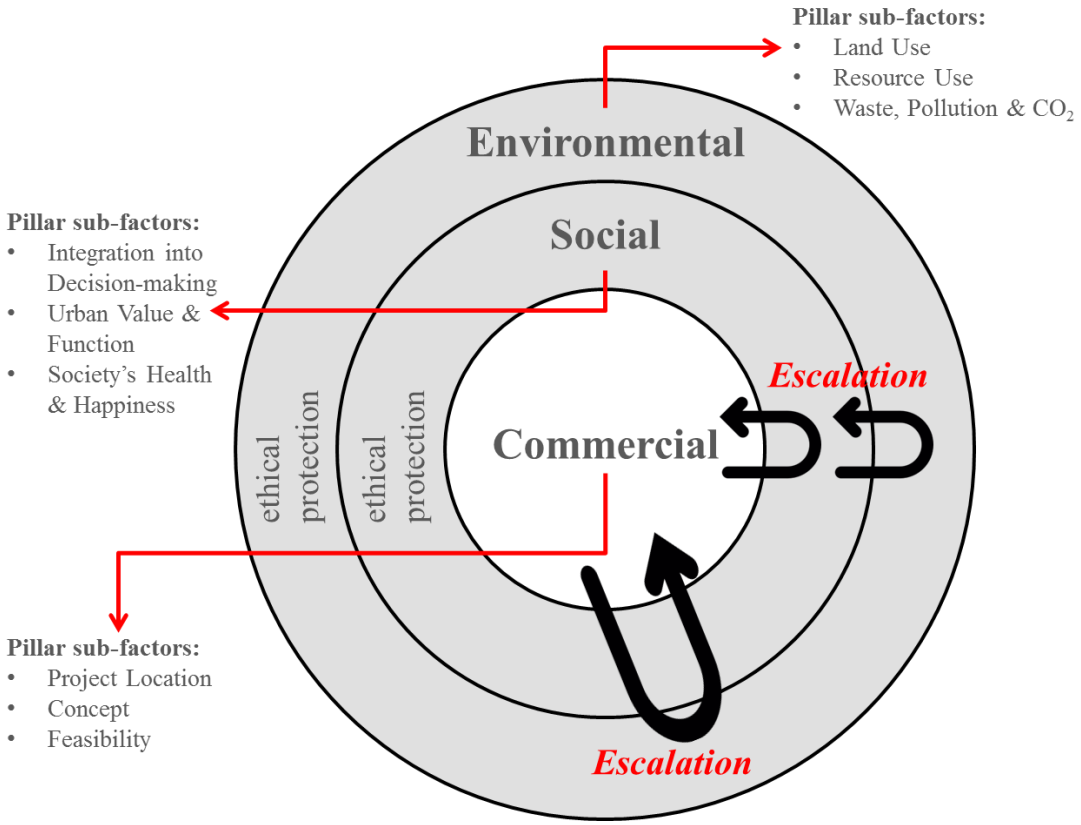
5.1 A Comprehensive Explanation of the Model

It is safe to say that most of the problems of the shopping center business are global and tend to emerge (albeit in different forms) in almost all local markets around the world. The business needs equitable cooperation for developing a more inclusive and strategic perspective for the long-term sustainability of its stakeholders. Istanbul is far from being an exception in this respect. Its speculative real estate market has already produced big-budget failures that also include some commercial projects (Töre 2015). Again, developing a shopping center should not be exclusively about the specific piece of land and/or the point of view of its prospective investors. A wider perspective is needed. The multi-factor model comes with three major pillars (each has three sub-factors of their own) and delivers this wide perspective.

Even though data gathering is a challenge in this field, this study still manages; (1) to report a line of valuable findings in terms of commercial, social and environmental aspects of its research topic and (2) to develop an independent model with the help of these findings. Of course, it is discouraging to see that private (i.e. investors, financiers, service providers and tenants) and public (i.e. municipalities, central government and other public offices) entities either do not have the relevant data (properly sorted) or they are not willing to share.

As stated in Chapter 1, the multi-factor model's visualization and basic premise are both based on the principles of sustainable development and the paradigm of strong sustainability. The action-reaction perspective given in Chapter 4 is also applicable here. Simply put, any misconduct in one of the three spheres can negatively impact other two and the cumulative impact can even hit back to the original misconduct sphere –represented with the multi-factor model's loop-back escalation arrows. Sustainability-related findings of Chapter 2 are also further elaborated in detail (see sub-sections "5.1.1" to "5.1.3"). This elaboration is resulted in the acknowledgement of the need for social and environmental ethical protection; after detecting certain alarming problems during the literature review process (which would later be fortified by the sustainability expert panel) amid the apparent commercial stance of the AYD survey participants. It would be valuable to show the abovementioned visualization once again (see "Figure 11"), before going into more details.

Figure 11 – Simple Visualization of the Study's Model



"Ethical protection" is an important concept that must be explained. This protection does not mean that, from now on, all of the commercial values shall be scrapped in favor of other pillars. The rationale is actually more appealing; (1) each building should be a successful manifestation of its desired utility so a shopping center must reflect all the optimal commercial qualities associated with the industry but, at the same time, (2) it should not act against Social and Environmental Pillars because of the mounting existential threats. Thus, a successful shopping center would definitely require simultaneously complying with all three pillars (and their sub-factors) at a satisfactory rate. Yet, since one of this study's main intentions has been to shift the focus from commercial predominance towards a more inclusive and egalitarian field, it is reasonable to highlight the enveloping importance of Social and Environmental Pillars through the act of ethical protection.

Using two different samples and two different research methods has become a necessity. This necessity creates an information gap. AYD decision-makers are competent at evaluating the commercial sub-factors (i.e. Project Location, Concept and Feasibility) but unable or unwilling to give Social and Environmental Pillars

reasonable credit and depth, while expert panel participants cannot pinpoint the details about commercial real estate development but they are able to give valuable insights (overwhelmingly in line with the preceding literature review findings) about Social and Environmental Pillars. Therefore, using the same research methodology and/or asking the same questions to AYD and expert panel participants would not bring the utmost value to the research endeavor. On that note, AYD participants are inclined towards much shorter, less subjective and more anonymous methods, while expert panel participants' real value can only become more apparent, if they answer open-ended questions in vivid, personal detail.

One of the turning points is the contradiction between AYD survey results and the literature review findings and expert panel results. Expert panel has even added new industry-specific ideas along the way. In retrospect, this narrative of co-existence of contradiction and harmony is also one of the reasons why the model has ethical protection for Social and Environmental Pillars.

With these in mind, it would be convenient to continue with the detailed explanations of the pillars, their sub-factors and the subsequent headlines. Paths of discovery and related sources are all given in the following pages. At the commercial side, sub-factors are Project Location, Concept and Feasibility. This is the well-known where, how, how much question sequence. Social Pillar, on the other hand, has Integration into Decision-making, Urban Value and Function and Society's Health and Happiness. It is focusing on seeing people as something more than customers. Finally, Environmental Pillar focuses on a decision (i.e. Land Use), this decision's short- and long-term necessities (i.e. Resource Use) and these necessities' hazardous outcomes (i.e. Waste, Pollution and CO_2). Nine sub-factors of the model contain a total of twenty-six underlying headlines that are enhancing this study's resilience and practicality. These are also the basis of the Project Checklist.

5.1.1 Commercial Pillar

This is the most obvious of the three pillars from an investor's perspective. As stated in Chapter 2, pure economic focus has its own defects and dangers in terms of sustainable development. Yet, without a sound commercial standing, no business endeavor can survive in the long-term. Thus, commercial offer is also a key element

of success for any such real estate development. Even though creating doable and operable large-scale projects is a colossal challenge in itself, the future shall bring even more hardships in the shape of Social and Environmental Pillars. All three pillars are highly inter-connected; just like all sub-factors below these pillars are inter-connected. Still, each pillar, sub-factor and underlying headline has to be put forward individually to have a better and deeper understanding of the research question in hand. To be more result-oriented, Commercial Pillar leaves out certain uncontrollable variables such as professional management and marketing. Investors would have to make their own estimations and evaluations in this respect.

Instead, Commercial Pillar focuses on the core elements of developing a shopping center; Project Location (headlines; catchment area demographics, competition, plot accessibility, micro-location traits), Concept (headlines; reflecting target customers' wants and needs, innovation, long-term flexible design, physical humane manifestation of the building) and Feasibility (headlines; cost side, income side, long-term trustworthiness and stability, availability of a sound exit strategy).

These three sub-factors are dependent on each other. For example, the prospective location can be ideal for the concept in mind but it can also be expensive; meaning that it would destroy the feasibility calculation. Location defines a project's sphere of influence, while concept defines a project's sources of influence. Feasibility comes last to indicate whether the project is financially doable or not. While its arrival at the final stage gives Feasibility an apparent level of importance, it would also not mean much without the physical manifestations of the business (i.e. location and concept).

5.1.1.1 Commercial Sub-factor – "Project Location"

"Location, location, location" is a quintessential part of the real estate jargon, which is also called the triple-word rule of successful real estate development. William Safire (2009) had conducted his own research on the source of this saying and found out that it was used for a Chicago real estate project's advertisement as early as 1926; indicating that the saying should already be commonplace among the real estate specialists by then. This is not a surprise as the potential attractiveness of a retail project has been calculated through either primarily based on its location (Fanning et al. 1995) or through a combination of variables that always have location as a key

element as the late Dr. Sivitanidou (2011) pointed out. In terms of Project location, based on literature review, one must focus on the following elements; (1) catchment area demographics, (2) existing and pipeline competition, (3) plot accessibility and (4) micro-location traits.

Huff's (1964) essential trading area model actually contains first three of these four specific headlines; stating that each commercial real estate project would have a limit to its sales potential. This limit would be dependent on the characteristics of a project's impact area that is based on; (1) the total demand and demand types within this area (e.g. consumption traits, demographics), (2) traits of different sub-zones within the total area, (3) the project's specific commercial offer, (4) its distance (to competitors, target customers and other POIs) and (5) the comparative commercial offer of its competitors.

Without selecting a prospective location first, evaluating the potential of an impact area is simply impossible. Therefore, location is the starting point of all shopping center development endeavors. Actually, it is the same for all urban developments as all urban goods and services would have certain central locations in each city (Brown 1974) and each public and private enterprise must go after creating these central locations in the most fitting places possible.

Leading shopping center developer J.C. Nichols (1945) also compiled some of the major determinants of location selection in an ULI address; (1) choosing the location based on research and know-how, (2) thoroughly analyzing the competitors and (3) developing a fitting project for the material and spiritual characteristics of the location (which can also stand the test of time). According to J.C. Nichols, it can be said that there are three key elements that define a successful location; catchment area, competition and accessibility (both in macro and micro respects).

In basic terms, catchment area covers any given location's surrounding area's current and potential outlook (i.e. number of inhabitants, total disposable income, education levels, house and car ownership ratios, official land and building values, socio-political affiliations, lifestyle and consumption traits). The current status and future potential of an area's demographics are crucial for determining its long-term retail demand (Davies 2013). Of course, surrounding area is a rather rough term. Business

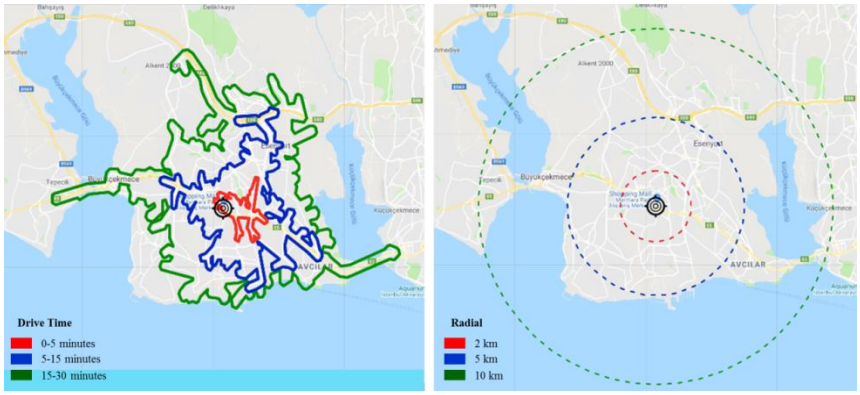
size and capability tend to play a crucial role in the maximum geographical reach of an entity (Jenkins and Campbell 1996); alongside with the aforementioned entity's approach towards merchandizing, the status of its competitors and the interest of different demographic groups towards different functions, structures and conditions (Sim 1984). Every retail outlet can absorb only a limited part of the larger (yet again limited) retail-relevant spending potential in a given region (TEGoVA 2014).

Figure 12 – Basic Calculation of Retail Demand Potential (TEGoVA 2014)

(# of Inhabitants in the catchment area)
X
(Average spending per inhabitant for specific products)
X
(Purchasing Power Index for the selected catchemnt area)
=
Demand Potential in the selected catchment area
for a specific product

There are certain ways to visualize the potential catchment areas of real estate and retail projects. Segal (1999) highlighted four major approaches; (1) radial study (i.e. analyzing the socioeconomic variables within an artificial radius), (2) gravity model (i.e. spatial analysis of the distribution of all other important locations and competitors to find a location's relative catchment power), (3) drive time analysis (i.e. a GIS calculating the reach of different vehicles to the given location under different parameters like traffic congestion) and (4) trend maps that collect customer data to analyze where they come from and how they spend. "Figure 13" shows basic examples for two of these approaches.

Figure 13 – Drive Time and Radial Catchment Area Approaches (Produced with Geographical Information Software)



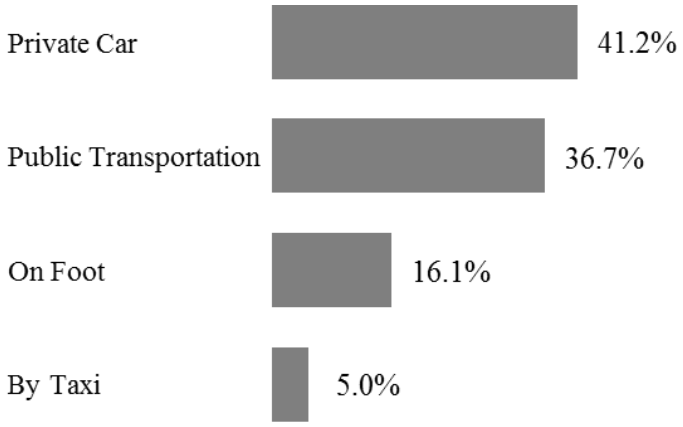
From a similar, traditional retail-based perspective, Brandao et al. (2014) argues that the identical brands within different shopping centers are direct competitors to each other and both of them are affected by the overall time and cost limitations of their potential customers (i.e. the time and cost of driving longer distances and the price range of other brands in shopping centers). While time, cost and availability of retail brands are definitely important, they would not be able to explain the full picture. In a recent ICSC study (2017), Canada-based Oxford Properties states that shopping centers would be social spots and improving them via offering more gastronomy and entertainment options are important (i.e. new reasons for customers to visit shopping centers). Thus, it is no longer only about the retail offer or comparing shopping centers with one another. Now, competition comes from all attractions (be it a retail destination, a social gathering spot or a food and entertainment area) and from the increasing reach of online retail (Ferman and İlhan 2018).

This more recent approach also suggests that the brand equity of a shopping center has become dependent on a much larger to-do list; especially in terms of getting ahead of the fierce competition. Future market leaders must be offering something more than shopping in order to survive the ongoing market correction, saturation and digitalization processes (Sanburn 2017). The current situation of Turkish brands is not helping in this respect. Top 100 most valuable Turkish brands only have a total brand value of $19.8 billion with most of them being non-retail operations (Brand Finance 2019), while the global Top 100 have an accumulated brand value of $2.33 trillion and include numerous retail giants (Badenhausen 2019). The Turkish shopping center industry needs creative and valuable brands to improve its outlook.

Another important advantage of a shopping center is its convenient accessibility; such as, (1) being accessible and easy-to-park for private cars, while not damaging the center's retail offer or its imminent surroundings (Asturias 2004), (2) being located next to public transportation (e.g. metro, tram, bus) for better, more utilized integration into the urban social life (Beiro et al. 2018) and (3) having the right setup for the visitors on foot (including the disabled citizens) (McClain 2000). Private cars are still an important source of customer footfall for shopping centers. According to the joint study of AYD and Akademetre (2017), around 41% of the Turkish customers come with their own private cars to the shopping centers (current leader

among all methods of transportation) and their percentage has been steadily increasing in line with the overall increase in national car ownership figures. Even tough car ownership has been traditionally seen as a symbol of affluence, research actually suggests that it is a dangerous type of dependence and a major infrastructural urban problem to be solved (Newman 1996).

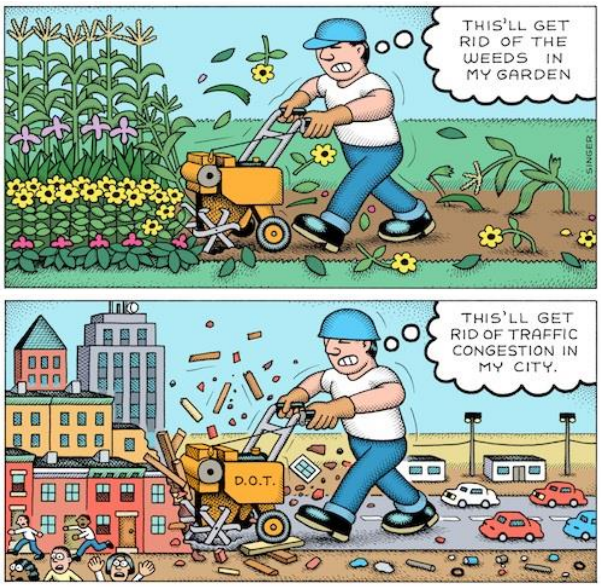
Figure 14 – Methods of Transportation of the Turkish Visitors (AYD and Akademetre 2017)



Micro-location is also an important determinant. How the individual plot is "created" during the initial zoning arrangements matters (i.e. its relation to and the relative value when compared to neighboring plots, overall neighborhood value and plot centrality, infrastructure quality and socio-commercial amenities) (Ünel and Yalpır 2014). More plot-specific micro-location traits are; (1) topography ("flat is better" as an average flat plot would require much less initial work), (2) shape (rectangular geometric shapes are better both for planning orderly and flexibly and for later construction costs), (3) existing man-made and natural amenities (e.g. roads structures, vegetation), (4) visibility (a layout that is both easy to be seen and makes it easy to see the surrounding areas), (5) construction area quality (not losing area to swamps or to poor-quality soil) and (6) zoning coefficient (how much can be built on the plot) (Yomralıoğlu 1992).

Building cleverly can also affect micro-location traits. For example, according to the level of service (LOS) perspective, the maximum comfortable distance for uncovered outdoor walking is around 120 meters (Smith and Butcher 2008) and the project developers must be aware of such details to maximize micro-location traits.

Figure 15 – Ridiculing the Public Investments in the Road Networks (Singer n.d.)



Excess is not good. Even the classic studies suggest that when traffic congestions go beyond a certain reasonable limit, customer frequency at a nearby shopping center can potentially decrease (American Society of Planning Officials 1954). Then again, with the environmental problems created by the overuse of private cars are becoming clearer; city planners all around the world started to develop bicycle and pedestrian-friendly routes –even though it is harder to change the transportation culture than changing the infrastructure itself (Milakis et al. 2017). In the end, change shall not come from colossal top-down plans but from a grassroots movement that would gradually take shape.

5.1.1.2 Commercial Sub-factor – "Concept"

Having the ideal catchment area potential and competition outlook are not enough for long-term commercial success. Concept is also crucial and, just like location, it is an umbrella term comprised of different headlines (i.e. customer wants and needs, innovation, long-term flexibility and humane design). Thousands of years ago, Roman architect Virtuvius highlighted three major architectural concept elements – structural strength and stability, concept's functionality and the overall aesthetics of the design– and for centuries Eastern philosophy stressed the importance of a building's harmony with its surroundings (both built and natural) and the overall experience it offers; ideals that the architectural world is finally revisiting after the

highly utility-focused, almost industrialized design processes of the last century (Coburn et al. 2017). Therefore, concept is about balance and harmony. It is the coexistence of elegance, purpose and durability.

A shopping center developer should be able to (1) understand both the current and timeless wants and needs of his/her target audience (Beyard et al. 2006), (2) blend certain innovative approaches (even beyond the traditional retail) into the product definition for generating differentiation and attractiveness (Rigby 2011, Weinswig 2017) and (3) design the project as flexible as possible for more use variety and for any future updates (i.e. helping the project to remain relevant for a much longer term) (Kronenburg 2007, McKinsey 2014). Until recently, last two points had not been under the radar of many developers. However, in this age of transformation, designing passive shopping centers exclusively focusing on buying and selling would not be enough –as shopping centers that manage to engage people in more things are the ones that would probably go further (Bird 2018).

Drucker's (1959) argument still remains relevant; long-term plans are not actually about some future decisions but about the future relevance of the present decisions. In this respect, innovation and flexibility are extremely important. Reinforced concrete is a flexible material during the initial construction phase but once it is in place and dry, it is almost impossible to change; only upfront planning can save a building in the long-term (Salama 2017). Yet, such planning is nowhere to be found in the majority of the existing shopping center stock –also not for some of the ongoing projects. This is a risk. When trends change and/or socioeconomic downturns take place, outdated projects may fail and then require highly challenging sea change approaches for conversion into different uses (Cockburn 2009); even though there are also works that praise shopping centers' adaptability over the years (Crawford 2002).

In an elaborate study (based on survey data) conducted to understand what makes a shopping center attractive for its visitors (i.e. solely dependent on the visitors' perceptions), Ortegón-Cortázar and Royo-Vela (2017) identify five independent variables and one dependent variable of interest; (1) the perceived quality of the project's physical environment, cleanliness and security, (2) its design and ecological aspects (i.e. allocation of space and integration into the nature), (3) its mobility and

accessibility (the freedom, ease and comfort of movement and orientation), (4) additional services and entertainment (e.g. gastronomy options, cinemas, areas to relax and their perceived commercial value), (5) ability to offer variety, quality, and status (availability of a good selection of brands and products alongside with more upscale options) and (6) the visitors' intentions and likelihood to visit the center utilized as the dependent variable. For independent variables 1, 2 and 5, the authors have managed to form clearer positive correlations, while for independent variables 3 and 4, correlations are more indirect. Still, all five independent variables are deemed as relevant and important in the end.

While the environmental approach is a fresh addition by Ortegón-Cortázar and Royo-Vela (2017), earlier analyses also ended up with similar independent variables; only with certain wording and/or contextual differences –such as Stoltman et al. (1991), who also included driving distance (i.e. a location variable that is actually out of the imminent realm of concept) in a mix that contains the likes of; (1) assortment, amenities, atmosphere and economics under "importance dimensions", (2) further assortment and atmosphere functions alongside with facilities, conveniences and socializing under "desirability" and (3) shopping frequency, shopping impulses, shopping mechanics such as browsing, comparing and searching and the time saving potential under "shopping orientations/tendencies". Stoltman et al. (1991) use strikingly similar words and phrases while explaining all these factors that had been the subject of their own unique survey.

Each developer needs to create an environment (with both tangible and intangible merits) that does not only feel clean and secure but also connected to its environment, spacious, easy-to-navigate and liberating, while also successfully gathering an ample supply of retail, gastronomy and entertainment functions under its roof. Yet, it must also be stated that concept is not something about the personal taste of a developer. Research suggests that, in terms of shopping centers, people value different things in different countries (Gudonaviciene and Alijosiene 2013). The same thing is also said for different generations of people (e.g. millennials in the US brought traditional shopping centers to the brink of the abyss but Generation Z has a revived, albeit modified, interest in the shopping centers) (Holman 2019). Therefore, time, location and target audience matter a lot during the conceptual

design process. Without a suitable concept, even the best prospective location would fail to deliver; either today or in the near future when trends shift. This is why Concept is placed as a crucial commercial sub-factor in this study. It is a real challenge to deliver the wants and needs, while also doing it innovatively and flexibly.

One must not forget that traditional shopping (e.g. brick and mortar retail experience led by shopping centers) is seen as a part of the people's cultural and leisure-based activities and mostly cherished for the availability of personal touch (Molenaar 2016). Online retailers are also trying to mimic those elements and even opening traditional shops to magnify their market penetration (Li 2014).

Things may become more complicated for shopping centers in the near future. Nonetheless, it is clear that shopping means more than just "shopping" and –with the rapid shifts in demand– shopping centers would have to be much more than just an assortment of retail shops. They should be able to simultaneously offer prime form and function and this is why they desperately need original, sustainable and flexible concepts for their longevity.

5.1.1.3 Commercial Sub-factor – "Feasibility"

While some reports and academic studies tend to define the entire commercial analysis process of a prospective shopping center as "feasibility" (e.g. Floyd and Allen 2002, Rabianski et al. 2009), the term is used in a firmer manner in this study. It is defined as the analysis of a prospective project's financials (headlines; cost side, income side, long-term trustworthiness and stability, sound exit strategy). As a real estate rule of thumb, getting the top (additional) value out of a project plot is extremely crucial (Smith 1980). Commercial real estates are much larger investments when compared to many other building types and their return-on-investment (ROI) percentages can vary significantly during their long operational periods (Plazzi et al. 2010, Maverick 2019). This means that investors require rigid calculations before making any decisions. Especially when one thinks about how retail closures and the rise of online retail have destroyed the ROI outlook of shopping centers in the US (real estate investment trusts going from 8.5% plus to 0,6% minus returns in just one year; mostly fueled by the drop in the shopping center business) (Alster 2017).

Stability is a major issue here. It means a lot for the financial world to see stable commercial real estate markets because (1) such real estate classes are generally owned by larger, impactful groups (which also happen to bring together many different investor profiles) that tend (2) to use sizeable bank loans (a major exposure for the financial world), while investing in an inherently illiquid instrument that heavily relies on stability and predictability (European Central Bank 2007).

Plot, financing, construction and consultancy are the four main cost items in a standard feasibility model (Ferman and İlhan 2018). The cumulative amount of all four of these items is then checked against the prospective net operating income (NOI) of the project to come up with a reference return-on-investment (ROI) percentage figure. It is not a surprise that NOI is mostly dependent on performance items such as footfall, gross sales, sales per m^2 GLA and occupancy rates and these items should be evaluated thoroughly for future continuity and development (Hofman 2016). Generally, cost and income sides find occasional optimum spots in between a specific real estate market's hot and cold periods (i.e. cycles) and these periods would probably continue to occur regardless of the levels of securitization, transparency and professionalism in the market (Zhu 2002).

Table 12 – Basic Shopping Center Feasibility Model (Ferman and İlhan 2018)

VAT included - all in €

COST SIDE (initial investment)					
Plot-Related Cost	**82.000.000**				
Acquisition Price	**80.000.000**				
Related Fees & Taxes	**2.000.000**				
Construction Cost	**160.000.000**	**Financing Cost**	**9.500.000**	**Consultancy Cost**	**7.783.500**
Shell & Core	**125.000.000**	**Upfront Fee**	**500.000**	**Development Fee**	**2.500.000**
_Retail Part	*95.000.000*	**Interest During Construction**	**4.500.000**	**Concept Design**	**1.000.000**
_Underground Parking Part	*30.000.000*	**Lost Interest on Equity**	**4.000.000**	**Leasing Fee**	**1.138.500**
Contingency & Soil Works	**3.000.000**	**Related Fees & Taxes**	**500.000**	**Management Fee**	**145.000**
Infrastructure Works	**2.000.000**			**Marketing Expenses**	**2.000.000**
Planning & Site Supervision	**12.500.000**			**Financial Brokerage**	**1.000.000**
Extra Tenant Decorations	**12.500.000**				
Related Fees & Taxes	**5.000.000**				

INCOME SIDE (first full year)	
GLA (m2)	**55.000**
Average rent (€/m2/month)	**23**
Gross Potential Income	**15.180.000**
_Non-paid Rent & Vacancies	*-455.400*
_Insurance	*-180.000*
_Maintenance	*-180.000*
_Service Fees	*-575.000*
NOI	**13.789.600**

INVESTMENT BUDGET	**259.283.500**
CAPITALIZATION RATE	**5,3%**

Each of the cost and income elements in a standard feasibility model has the power to cancel a project (e.g. not enough income to cover investment costs or unfeasible financing costs etc.). Yet, cancelling certain projects is a business necessity; as focusing on pet projects through bypassing the standard evaluation processes create serious risks (Kendrick 2015). Of course, weight of risks may also increase as a result of other socio-political tendencies. For example, real estate has a dominant role in Islamic finance as it is a perfectly-fitting investment and/or collateral item (as a solid, periodically income generating, long-term value-increase potential asset) but this dominance can harm local economies disproportionally during the crisis times; especially if real estate speculation is a part of the actual downfall (Zarrouk 2014).

Exit strategy is another crucial element. An investor must formulate an exit strategy before the actual investment and this strategy should be clear and realistic, while also fitting to the initial investment objectives (Hoover 2004). In shopping centers, exit strategies mostly depend on the macroeconomic outlook and long-term trust –since they are the polar opposites of hot money flows. Each market has its own equity risk premium and systemic risk factors to be considered. Equity risk premium can be seen as an additional buffer to bring a risk-free investment and a somewhat risky portfolio to a break-even point (Duarte and Rosa 2015).

Naturally, there is not a single global price mechanism for shopping centers. In the end, the term "feasible shopping center" would mean radically different things in different parts of the world and/or within different timeframes. Accordingly, feasibility is about reasonably forecasting the future so it would be more meaningful to remain somewhat conservative at the base data, future trends and the sources of discontinuity (Poorvu 2003). Nonetheless, a financial no-go should be the end of a prospective project. If emotions or moral hazards get in the way and produce unsustainable figures or generate virtually unsellable assets, all stakeholders would be negatively affected.

After all, access to adequate and reasonable financial resources is a major issue especially in developing countries such as Turkey (Kalmış 2002). Therefore, the financial potential of a large-scale real estate project is not something to be taken lightly or emotionally in Turkey's case. Both regional and global political and macroeconomic risks tend to negatively affect the real estate sector in the country

(Dalkılıç and Aşkın 2018). Importance of trustworthiness and stability becomes much more apparent when one thinks that plot, financing, construction and consultancy costs of an average-sized shopping center can be easily more than $100 million –especially in speculative urban land markets like Istanbul. A full return on investment is a long-term, illiquid process in the shopping center world and radical shifts (in politics, economy and/or society) can deeply harm the market.

Thus, the true value of a prospective location and a concept can only be evaluated by looking at the results of a detailed feasibility study. It is also true that an investor shall not be able to attain honestly positive numbers in a feasibility study without a high-potential location and a fitting concept in hand. However, only a proper combination of Project Location, Concept and Feasibility would lead to sustainable commercial success for a shopping center investment.

5.1.2 Social Pillar

A standard business management study would probably start and end with the evaluation of Commercial Pillar. However, the sustainable development approach directs this study to give equal weight to the all components. This is a unique element and the value of the Social Pillar (alongside with that of the Environmental Pillar) shall be further fortified during the face-to-face interviews conducted with the experts of the field (see "Section 5.3"). Still, both pillars and their sub-factors must be explained in detail, before going ahead with the primary research endeavors.

Society is important. Even though it has been at the target of numerous thinkers for so many decades (with discussions centered on things like welfare state and even "the end of society"), society turned out to be much more resilient than expected (Dean 2010). It is true that things can go worse (e.g. through radicalism and hate speech) and the mere existence of rights, education and institutions may not save the day because the core element here is social justice (Chambers and Kopstein 2001).

Recalling Chapter 2, it can be said that the current economic system and the pace of urban development put a serious pressure on societies and the feeling of justice. It is also visible that many decision-makers still underestimate these negative impacts (see "Section 5.2"). The core design of the existing economic institutions is strongly connected to the allocation of political power among the elite and the political setup,

in return, is a major determinant of the chances and limitations experienced by different members of societies (Pereira and Teles 2011). Built environment also acts as a means of physical segregation and socioeconomic polarization within the urban context (i.e. the concentration of people in different zones of the city based on their income and/or ethnicity) and existing research regarding twelve European capitals sadly supports this stance (Kurvinen 2018).

Thus, developing a shopping center (both an economic and an urban spatial decision that also involves public officials) is not something that would only affect the future of its investors. It would also affect the fates of the nearby community members and the society in general. Society sits in the middle of Commercial and Environmental Pillars in the mult-factor model and consequently acts as crucial passing point between the natural and man-made realms –affecting and getting affected by both. Moreover, individuals' interactions with the shopping center market are no longer solely marked by a passive, one-sided supply-demand and/or provider-customer relationship. Shopping is no longer limited to retail transactions but it is full of new, experimental ideas to lure people in (Sanburn 2017).

Just like all other pillars, Social Pillar also have three sub-factors; (1) Integration into Decision-making, (2) Urban Value and Function and (3) Society's Health and Happiness. As the following pages show, empowering people is a crucial element of sustainability. Likewise, long-term merits of a building, both in terms of form and function, are also crucial within the urban context. Last but not the least, the degree of health and happiness generated from a building is also becoming more important as the society's collective awareness has been on the rise amid depleting physical and psychological health.

5.1.2.1 Social Sub-factor – "Integration into Decision-Making"

There are different ways of involving the communities in the urban decision-making processes. In order to determine the right way, both the current community strength and the long-term communal cooperation potential (i.e. this sub-factor's headlines) should be thoroughly evaluated. Is there a sense of community? Is it resilient and open to dialogue? Such question must be used alongside with the demographic data of the related community to create a tailor-made social platform.

Especially in the public context, this involvement can be either more limited to petitions and redress (mechanisms that enable people to list complaints and follow them up) or it can be much more inclusive through citizen governance (i.e. having people representatives, joint bodies like forums or long-term partnerships) or asset transfer (i.e. having the community as the manager and/or owner of the urban development) in other cases (Pratchett et al. 2009). There is also a debate regarding the success of urban planning when it is almost completely left to the hands of a specialized, limited group of people; with the supporters of the participation perspective arguing that better results can only be reached with community involvement in decision-making (Ramasubramanian 1999). Implementing any of these approaches to the investment context is complicated and highly debatable. However, this should not prevent anyone from thinking. It is clear that cities are the hotbeds of both major problems and great opportunities and that they need fresher approaches to develop a new governance model to continue shaping the humanity's path (Jegou and Bonneau 2015). Sustainable development offers a promising road-map approach for uplifting the communities –also through the acts of empowerment.

For example, since it is also expected grow in Turkey in the following years (Vural and Doğan 2019), crowdfunding can be seen as a way of involving non-investor individuals to attain small shares in much larger private investments –thus, becoming the masters of their own fate. It is sad to see that the Capital Markets Board of Turkey (SPK) prevented real estate crowdfunding endeavors in their draft communique (SPK 2019). Actually, there are even ethnic crowdfunding groups such as "Buy the Block" in the US that enable people (African Americans in this case) to become minority shareholders of large-scale real estate investments (Hill 2017). It is true that, in its simplest form, crowdfunding just lets its modest participants to attain big-investor-caliber ROIs and not necessarily a strong voice in the decision-making processes. On the other hand, such new approaches can become more realistic social empowerment tools in the near future.

The case of shopping centers (as private enterprises with public-like traits) is more challenging than most of other building types. It is hard to position society within this context as something more than a cumulated group of potential customers. From a critical perspective, shopping centers are accused of endorsing religion-like

consumption that intentionally hides the actual social inequalities and offering people a physical-spiritual manifestation of how an idealized life should be (without actually providing the ideal iteself) (Miles 1998).

Yet, while shopping centers are criticized for seeing people as customers, social scientists have also mostly failed to understand the complexity of social structures. Society is not a monolithic structure that is organized as a strict hierarchical pyramid but it is actually comprised of fairly different small groups (based on social strata and/or geographic locations) and this leads up to a more complex, polylithic structure (Wingfield 1963). This can be the reason why, for example, different touristic regions in China perform differently in terms of benefiting local communities when identical centralized, top-down, non-integrative public tourism management practices are applied across the board (Li 2006).

In China, some communities went along better with the plans that they do not take part in, while other communities are almost completely left out of the new ecosystem created (i.e. one size does not fit all). Accordingly, theory and practice suggest a different path for the rest of us than the one that China takes. Community is a strong force that can bring the hidden potential out within the urban context (be it a neighborhood or a larger region); they only need; (1) selection and training for local leadership-spokesmanship, (2) the ability to make strategic planning and (3) building a local network (Dreier 1996).

It is a challenge to integrate local communities into the world of shopping centers but it is also equally valuable for everyone –if it can be done properly. Increasingly negative impacts of the current business models require thinking deeper about this new possibility. After all, inhabitants of the core catchment area of a shopping center are indispensable stakeholders of that asset and, at best, only a few of such investments can survive without being embraced by their core catchment areas. Any addition or alteration to the urban context that does not take into consideration the existing social structures, buildings and public amenities (that have been slowly shaped for centuries) would cause socially unlikable, psychologically challenging and uncomfortable results (Salingaros 2014).

To make it clear, the target here is not to build a Utopia. After all, there is a decision-making triangle that is comprised of politicians, specialists and the society and each party has a different perspective on how things should be; with their perspectives still being somehow connected to each other (Burckhardt 1972). Accordingly, the target here is to define a reasonable and operable middle ground for a more active and solution-minded social participation to decision-making processes –leading to more socially utilizable and desirable results. Of course, as a leading (occasionally even dominating) commercial building type, shopping centers should not be left out. The proposed middle ground must also apply to the shopping center market for making things that are currently incomprehensible and problematic much clearer.

Cooperating with communities would be helpful for shopping center projects as their investors would then be able to understand; (1) how to reflect the deep-rooted urban requirements in their new buildings (i.e. integrating the socio-cultural manifestations of the existing built environment into their commercial and conceptual plans), (2) how to shape their immediate environment more healthily (e.g. via semi-open concepts, sustainability measures, education, green spaces and parks) and (3) how to gain more from the available workforce and their disposable income (e.g. creating new job opportunities and developing the commercial concepts that would attract people the most).

Cooperation can be indirect, direct, informal or formal. Regardless of the depth and degree of cooperation, it would be a positive step forward. It is true that economic prosperity is at the core of a stable, peaceful urban living but –rather than the old commercial ways –people must strive for attaining prosperity through more integrative approaches and by increasing the quality of life (Lerner 2015). Both cooperation and community-building are creating synergies (i.e. achieving more with less cost and effort) (Steward 2015).

An ULI Report (2004) has the necessary steps for healthily integrating communities (once the community is defined and local leadership-spokesmanship is put in place) that are highlighted in “Table 13”;

Table 13 – ULI Community Catalyst Report: Implementation Plan (2004)

Build in certainty, clarity, and predictability
Set short- and long-term goals and establish milestones
Do not set the community's sights too low
Energize the long-term vision with short-term successes
Establish priorities
Learn from what other communities have done
Keep the plan flexible enough to capture opportunity
Create a sustainable planning and implementation process

Numerous cities all around the world, including Istanbul, face multi-faceted urban stress and no shopping center investor can position itself outside of this context. Rather than imposing their predominantly commercial perspectives, trying to learn from people and building for the people would create results that have more longevity and acceptability.

5.1.2.2 Social Sub-factor – "Urban Value and Function"

Form and function are the two interrelated and defining elements of the urban fabric. Throughout the history, urban areas have not been only seen as places for shelter and security but also hold other wide-ranging meanings for people such as religion, intellectualism, culture and aesthetic (İlhan and Kasap 2018). Therefore, even though many specialists tend to assign superior value to function (over form), when people casually ask for utility, ability and practicality (i.e. function), they actually ask for these in such specific ways that shall enable them to live their lives according to certain deep-rooted intangible requirements and taste elements (i.e. form) – beauty as a function (DESK 2016). Even though varying degrees of coexistence can be accepted (as some function or form elements can be more important in this or that use), both needs must be present simultaneously in all buildings (i.e. internal harmony) and urban areas (i.e. wider harmony). Charity fountains in Turkish cities, for example, have clear functions (i.e. providing water to the neighborhood) but their forms are shaped by the traditional calligraphy and pattern design and they are the embodiments of the underlying intangible cultural traits (Özkafa 2010).

Urbanization is not a short-term endeavor and the relevant strategic plans must be able to outline structures that would create, capture and share value for the stakeholders through an open system (allowing cities to evolve and change) –against the downsides of accepting cities as blank slates that leads to the destruction and erasure of the past for more profit (Sassen 2018). In the Turkish context, this blank slate approach is visible in the urban transformation and mass housing projects. The country has different geographical, historical and cultural layers and textures that have led to unique settlements and building types but, currently, a uniform style is gaining predominance; whose negative impacts are multiplied because of the confusion of authority, lack of longevity and consistency of zoning plans, socio-political behaviors, expansionary approaches and the private desire to earn more (Sınmaz and Özdemir 2016).

Shopping centers are also a part of these large mechanisms. The lack of harmony between numerous shopping centers and their respective urban fabrics are visible (Özaydın 2009). Symbolism is a major issue. Symbols reflect; (1) sophisticated understandings about certain concepts and (2) the artistic manifestations of a specific worldview that has numerous layers and degrees (Bala 2016). While the previous example, charity fountain, shows strong correlations with the historical urban fabric, shopping centers, on the other hand, struggle in this department as they are the end-products of an exported symbolism. One should not forget that shopping centers had emerged in the American suburbia in a specific period of time and later expanded their global reach. Their entire history in Turkey and Istanbul is barely more than 30 years and their supply peaked only after mid-2000s.

Additionally, rather than being all-inclusive, Turkish shopping centers are exclusively designed for their target audience (driven by city politics and private capital) and this exclusivity should be questioned and transformed in terms of design and planning practices (Uzun et al. 2017). Istanbul's status as a global city makes everything even more confusing. It can be said that the power and reach of global capital have been determining the dynamics of urban developments in this interconnected world –with global capital pushing for global cities as predominantly standardized structures that are altering or even replacing the local fabrics (Aysev and Akpınar 2011).

Istanbul is also witnessing this struggle between the old and new that has led to a mostly eclectic habitat, where ambiguity rises as a defining socio-cultural element (Mutlu 2012). Strikingly, Istanbul's shopping centers fuel the urban ambiguity not only by clashing with the old but also by clashing between themselves. As a result, over-supply, lack of strategic planning and inadequate regulations pose serious long-term risks for the market (Metin 2008). Interestingly, retail parks, conventional centers, neighborhood centers and leisure centers which are belonging to different building generations and commercial approaches stand virtually next to each other in this eclectic metropolis. Moreover, shopping centers' use of artificial illumination, practical escalators and air-conditioned enclosed environments distanced from the outside dust and dirt are also increasingly embraced by other major public complexes such as, airports, museums, hospitals, schools, sports halls and the places of worship –commercializing, standardizing and sterilizing the public space (Ciravoğlu 2011).

A city is not only a settlement but also a place where humanity's values on society, culture and morals are shaped by the urban realities (Çalı 2014). Within the urban context, more culture also means more humanity (Duxbury et al. 2016). Urban value and function are among the crucial tangible and intangible elements of this process. It is clear that we need a fresh approach. Completely embracing what is purely local and old would not necessarily create the ultimate results either. Yet, deep-rooted symbolism (in both form and function) should be seriously taken into consideration and all stakeholders must work for developing certain structures that shall carry these symbols to the future via integrating them into the impending urban fabric. A healthy integration would; (1) limit the negative effects of the instinctive individual urban productions that lead to eclecticism and (2) help cities like Istanbul to develop a unique way of urban planning and architecture that are not fighting either with the urban roots or with the global trends.

5.1.2.3 Social Sub-factor – "Society's Health and Happiness"

In large-scale investments (that bring many public and private sector specialists, entities and firms together in a rather complex business structure) such as shopping centers, certain issues can be overlooked along the way. Sadly, social and individual health and happiness (and how these are all connected to human relationships) has been one of those issues (Mental Health Foundation 2016). In his seminal work

"Architecture of Happiness", de Botton (2008) talks about the horror Le Corbusier felt when he had realized that urban over-population was destroying Europe's centuries-old urban settlements and how he then offered to demolish most of central Paris to build identical high-rise buildings that would offer egalitarian spaces to each household and how he envisaged that the cleared out areas shall be used for public parks and amenities (a perfect tradeoff from a systematic, theoretical and a top-down perspective). Shocked by the honestly misguided intent behind these plans, de Botton (2008) points out the inhumane nature of flocking people in thousands into concrete towers that lack individuality, freedom, security and aesthetics and how such neighborhoods that would be inevitably built later in suburbs all around world (to answer the over-population problem) are leading to disastrous results in terms of peace of mind, health and safety of their inhabitants and the rest of the population.

This example makes some of the recent global opinion shifts more understandable. For example, more countries and institutions have started to use certain happiness measurements (rather than the traditional GDP-based prosperity approaches); as more happiness (based on a much more productive, healthier and longer live) is believed to create more benefits in social and economic spheres (Valapour 2018). Of course, it is not enough for intangible aspects such as happiness and social health (that are heavily tied to physical surroundings) to just look good on paper. Society's health and happiness in the built environment should be taken more seriously.

In the modern urban context, majority of people's lives take place indoors (e.g. 90% of the US citizens' lives) and badly planned and/or managed buildings (i.e. there is an umbrella term called "sick building syndrome") can threaten the social health and happiness –knowing this, contemporary designs put wellness to the forefront by, (1) increasing the air quality (e.g. better ventilation leads to improved cognitive abilities and keeps people secured from the organic chemicals in the air), (2) bringing in more natural light (i.e. saving energy, while improving the lives of the users through connecting them back to their natural cycles), (3) designing for living an active life (e.g. encourage using the stairs and walking), (4) bringing the outdoors inside (i.e. creating environmentally-integrated buildings with more horizontal and vertical green spaces) and (5) building for resilience (i.e. balancing the negative impacts of both natural and manmade hazards) for true sustainability (Howard 2017).

Today, sustainable building certificates are also increasingly emphasizing these elements. For example, WELL certificate is specifically designed for this purpose. According to the WELL Building Standard-Certification Guidebook (2019), light, air and water quality parameters should be checked alongside with other amenities in buildings such as; (1) the availability of better nutrition variety, (2) encouragement of a physically-active life, (3) better comfort in terms of user ergonomics, building acoustics, indoor smell and temperature and (4) a special attention to people's sustained mental health. LEED certificate also has some similar features. In a recent LEED introductory booklet by the U.S. Green Building Council (USGBC) (2018), the quality of indoor air, availability of potable water and better use of natural light and acoustics are highlighted as major scoring factors.

Another certificate, BREEAM, is also active in this field. According to the certificate guideline (2016); visual qualities, indoor air quality, comfortable temperature, reasonable acoustic setup, improved and safe accessibility, taking care of potential hazards, providing privacy and water quality are important scoring factors. Like other certifications, BREEAM also regularly faces criticism (for its methodology, scope and relevance) but its recent cooperation and joint guidance efforts with WELL show its commitment to improve health and wellbeing in our built environment (Armstrong 2018).

Another fresh approach comes from the Living Building Challenge. This institute is embracing a wider approach towards sustainability rather than just focusing on reducing the negative economic, social and environmental effects of the buildings – like all other certifications do. Instead, it is aiming at a built environment that would give back more than it takes (from the communities and nature) and make its inhabitants healthily connected to nature and their surroundings. Rather than being a standard, methodical assessment model, Living Building Challenge positions itself as a game-changer and a vision-provider (e.g. positioning beauty, a subjective topic, as one of the core elements of sustainable buildings).

As seen in the table ("Table 14) below, the certificate standards booklet (2016) has a line of selected headers to elaborate on;

Table 14 – Living Building Challenge 3.1 Standards Overview (2016)

Item Name	Item Explanation
1. Place	***people reconnecting to their heritage and nature***
1.1 Limits to Growth	*"projects may only be built on greyfields or brownfields"*
1.2 Urban Agriculture	*"integrate opportunities for agriculture appropriate to its scale and density"*
1.3 Habitat Exchange	*creating a natural habitat somewhere else that is equal in size to the building project*
1.4 Car Free Living	*"creation of walkable, pedestrian oriented communities"*
2. Net Positive Water	***only use captured precipitation or capture from closed-loop water systems or recycle and reuse water***
3. Net Positive Energy	***105% "of the project's energy needs must be supplied by on-site renewable energy on a net annual basis"***
4. Health & Happiness	***"a nourishing, highly productive and healthy built environment"***
4.1 Civilized Environment	*"operable windows that provide access to fresh air and daylight"*
4.2 Healthy Interior Environment	*promoting indoor air quality through abiding international standards*
4.3 Biophilic Environment	*"include elements that nurture the innate human/nature connection"*
5. Materials	***"a materials economy that is non-toxic, ecologically restorative, transparent, and socially equitable"***
5.1 Red List	*certain materials and chemicals are banned from the built environment*
5.2 Embodied Carbon Footprint	*projects must offset all their construction-related carbon footprint*
5.3 Responsible Industry	*choosing sustainable materials throughout the process*
5.4 Living Economy Sourcing	*supporting "a regional economy rooted in sustainable practices, products, and services"*
5.5 Net Positive Waste	*"strive to reduce or eliminate the production of waste during design, construction, operation, and end of life"*
6. Equity	***"to make the world work for 100% of humanity… without ecological offense or the disadvantage of anyone"***
6.1 Human Scale & Humane Places	*human scale which brings out "out the best in humanity and promotes culture and interaction"*
6.2 Universal Access to Nature & Place	*all natural areas and means of transportation must be equally accessible to all members of the public*
6.3 Equitable Investment	*"for every dollar of total project cost, the development must set aside and donate half a cent or more to a charity"*
6.4 JUST Organizations	*"transparent disclosure of the business practices of the major organizations involved"*
7. Beauty	***"the need for beauty as a precursor to caring enough to preserve, conserve, and serve the greater good"***
7.1 Beauty & Spirit	*public art and design features for "human delight and the celebration of culture, spirit, and place"*
7.2 Inspiration & Education	*educate and uplift communities through documenting and sharing project data*

5.1.3 Environmental Pillar

Environmental responsibility is mistakenly evaluated as a purely political issue and even sidelined in education, while it is actually a global value that is sought after by the majority of the world's population regardless of their political stance (Nijhuis 2011). The world is about to go through a fourth Industrial Revolution; so the people must be proactive about this sea change (they were kept out of the equation in the previous three so-called revolutionary phases) because the current environmental problems are direct results of those past economic activities (Swanborough 2017). People must be ready but, in order to be truly ready, they must be properly educated.

A detailed overview of the current environmental problems is available in Chapter 2. Environmental Pillar is also a crucial element in the multi-factor model –so crucial that it is positioned as the all-encompassing outermost circle. For a planet-wide, sustainable coexistence of natural and manmade realms, a new path that would serve society and environment simultaneously must be followed; while not ruling out the need for economic growth and prosperity (Hediger 2006). Of course, this is easier said than done because history does not have an account of a reasonable national

program that managed to increase social welfare and economic capacity without harming the environment (posing a serious question about the integrated approach of sustainable development) and, for success, one should identify the case-specific points in our economic growth curves (i.e. the point where using more natural capital no longer brings enough added value in return –a case of diminishing returns) and focus on non-material wealth (Costanza et al. 2012, Miteva 2019). If a successful sustainable development track record is sought after for the environment, three core governance elements must be addressed; (1) a strategic stakeholder approach (i.e. right people, right time, right place), (2) a need to manage trade-offs and competing interests (e.g. everyone to be fed without further harming the natural capital) and (3) a workable way to make this complex process accountable (Patterson 2015).

This task is monumental but unavoidable. On top of the philosophical responsibility to sustain this planet for its own sake (e.g. humanity is currently causing species to go extinct hundred to thousand times faster than the natural rate), sustaining the ecosystems are also crucial for survival; as these provide clean water, fertile land, pure air and reasonable climate (Chivian and Bernstein 2010). Being well-informed is ideally followed up by acting responsibly and strategically. Accordingly, this sub-chapter would be a useful tool for understanding the basics of environmental sustainability through the lens of the shopping center business. Environmental Pillar has the following sub-factors; (1) Land Use (i.e. the initial decision to develop a shopping center which would be the starting point of all other environmental concerns, while also being a risky move in its own right for the already fragile urban-nature areal balance), (2) Resource Use (i.e. the impact of resources used during extracting, processing, transporting and implementing) for the entire building life cycle of a shopping center and (3) the environmental impact of the building (i.e. Pollution, Waste and CO_2). There is a linear pattern; decision, action and reaction – integrated but independent steps.

5.1.3.1 Environmental Sub-factor – "Land Use"

While majority of the human population is concentrated in a statistically limited portion of the world's landmass (Liberatore 2016), research suggests that more than half of the available ice-free land of the planet has been directly changed through human action with serious consequences for the environmental balance (Hooke and

Martin-Duque 2012). The negative impacts of deforestation and land clearance for agricultural, industrial and urban growth can be seen everywhere. For example, between the years 2000 and 2010, the tropic countries alone had lost 7 million (net) hectares of forest annually; with big business agriculture accounts for 40%, local agriculture for 33%, infrastructure for 10%, urban expansion for another 10% and, finally, mining activities for 7% (FAO 2016). While the share of urbanization may look minimal when compared to agriculture, urbanization (especially in places other than the developed world) is actually powerful enough to occupy the much needed agricultural land (Naab et al. 2013) and it is one of the catalyzers of the increasing global food demand (which can potentially be 59% to 98% higher than it is today by the year 2050) (Elferink and Schierhorn 2016).

Historically, urban settlements have been built on fertile lands and it is believed that more urban agriculture (i.e. cities producing their own food) is needed for offsetting the heavy agricultural demand at other parts of the world (Pearson and Hodgkin 2010). This can be a much needed addition. In the end, urban land use cause environmental degradation by; (1) polluting the water reserves, (2) occupying agricultural land and all other public amenities, (3) increasing the air pollution and (4) disorienting the ecological balance (e.g. dividing, disturbing or demolishing natural habitats) (Irwin and Geoghegan 2001).

Amid the ongoing urban sprawl, urbanization should be subject to reasonable and applicable planning regulations for offsetting the burden on the already weakened ecological systems; as it is not perfectly possible to make up for the lost natural capital and land (Cengiz 2013). In this respect, shopping centers' perception as the archetypal symbols of urbanization (and often times that of urban sprawl) should be also re-evaluated. Shopping centers, other associated real estate projects (e.g. low-rise offices and strip malls) and the car-centric, congestion-generating infrastructure that these buildings need are increasingly criticized for using the precious land solely for corporate profit and clearly against public good (CIRE 2003). While assigning uses during land planning, public authorities have been historically inclined towards creating more commercial areas (at the disadvantage of other crucial urban functions and nature) for more tax revenues but this practice has become more costly because of its economic, social and environmental burden (Özduru and Guldmann 2013).

Figure 16 – Optimized Land Use for a Sustainable Urban Life (Tachieva 2010)

Therefore, it is no surprise to see that Tachieva's (2010) approach towards repairing the urban sprawl has so many parts dedicated to re-designing both the surroundings of shopping centers (from car-centric and distant buildings into pedestrian-friendly, accessible buildings) and the shopping centers themselves (a shift from single-purpose commercial areas to multi-purpose town centers with public dominance). Looking at the inefficient urbanization in American suburbia, Tachieva (2010) decided to; (1) keep the existing urban reach as a maximum, (2) fill the empty lands in between buildings with other sustainable functions and (3) change and/or improve the functions of certain archetypical buildings such as shopping centers. At "Figure 16", it is seen that empty lots and the excessive carparks on the left are removed and replaced with more functions (all in a walking distance to one another) and more greenery on the right for a more complete, sustainable town experience. Dull-looking shopping center also becomes the socio-commercial heart of this new town vision. This is the upside of limiting Greenfield developments (within the context of opening nature's realm that has not been a part of urbanization for land development). Another upside becomes available in case the Brownfield developments (i.e. urban areas that are already a part of the built environment) can be optimized –less area, less resources but more amenities. Brownfield development is closely connected to the concept of urban regeneration and they are both seen as integral parts of the sustainable development cause within the urban context (Mehdipour and Nia 2013).

5.1.3.2 Environmental Sub-factor – "Resource Use"

One of the most important environmental concerns of this age is the excessive resource use. The world has limited resources. Even until 1960s, many countries had been traditionally living in line with their natural resources but the recent findings suggest that around 75% of the global population now lives in countries that use much more than they have (Jowit 2008). High requirements of the current economic system lead to; (1) over-extraction of resources (regardless of their renewability), (2) decrease in nature's realm, (3) drop in environmental quality and (4) threats regarding the health and wellbeing of all species –including humans (OECD 2015).

There are five distinct stages of resource use; (1) extraction, (2) processing, (3) transportation, (4) use and (5) disposal. Each stage hampers the environmental balance in its own way –through both short- and long-term negative impacts. They can be divided into two general steps (as per their specific headlines; during initial development and construction and during operation and disposal).

Extracting resources has both primary impacts (i.e. local ecological and social harm) and secondary impacts (e.g. large-scale harm caused by moving populations, altered local economies and infrastructural development) that are caused by the inability and/or unwillingness of the economic actors (UN Environment Programme 2016). For example, iron ore is central for construction (because of reinforced concrete). Mining for iron ore have local impacts such as; (1) the physical disturbance caused by large mining areas and sites for waste dumping and (2) the risk of soil, water and air contamination (Hudson et al. 1999). Yet, just like the ongoing large-scale mining operations in the Amazon, iron ore extraction also have secondary impacts like deforestation for transportation routes, diminishing the climate control abilities of the forests and threatening the biodiversity on a global scale (Sonter et al. 2017).

Processing, on the other hand, is the stage that another chunk of the environmental harm takes place. Huge amounts of energy (mostly generated from fossil fuels) are used to create market-ready products. Again proceeding with the same example, 71% of the necessary energy for converting iron ore into market-ready steel comes from coal mines (1.6 billion tonnes of this primary fossil fuel had been used by the global steel industry in 2017 alone as it takes 770 kilograms of coal to produce one tonne of

steel) and heat levels up to 1700°C are needed for steel production (World Coal Association n.d.). Going back to Chapter 2, producing 1 tonne of steel creates approximately 1.9 tonnes of CO_2 emissions (Kundak et al. 2009). Since global steel production surpassed 1.8 billion tonnes in 2018 (World Steel Association 2019), the annual CO_2 emissions (which are caused only by producing steel) is now 3.4 billion tonnes. It is a serious amount in the wider context of the global temperature increases (1.7°C –plus or minus 0.4°C– for each trillion tonnes of carbon) that affect the chances of planetary survival (Concordia University 2016).

On the other hand, high CO_2 generating means of transportation continue to grow exponentially and this unsustainable outlook demands a de-carbonization process (Banister et al. 2011). Grams of CO_2 produced by carrying 1 tonne of goods for 1 kilometer are; (1) 470 for planes, (2) 59 for trucks, (3) 21 for diesel trains and (4) 10 for ships (World Shipping Council n.d.). For constructing a large building such as a shopping center, a combination of these vehicles is needed. For example, steel would have to be shipped from overseas to ports and then carried to the construction site by trucks. Thus, there is a cumulative environmental risk. Efficient, safe and sustainable means of transporting people (from all social strata) and goods must be found (while even the simplest updates require challenging planning processes) because of the overarching environmental impacts of globalization, urbanization and digitalization (Smith et al. 2017).

During the construction phase and beyond, more local (i.e. gathered from the close vicinity of the site) and greener (i.e. recyclable and low-emission) materials should be used for sustainability (Tatar 2013). This is not only true for transportation but also for the actual use of end-products. Remembering Jean-Baptiste Say's popular idea regarding how supply creates its own demand, it is not outrageous to think that the ever-increasing hordes of urban dwellers would have more means and easier access to consumption; leading to a massively increased energy demand. It is estimated that the respective demand for oil and gas would increase by 22% and 66% in the following three decades (Clemente 2019).

However, even when one decides to look at casual issues, he/she would find similar end-product problems. For example, shopping center toilets regularly consume huge amounts of toilet paper and tissues. Large volumes of fiber are needed for covering

the need for toilet papers (obtained by cutting down and processing trees) and consumer demand for the recycled alternatives is strikingly low (e.g. 2% even in a developed country such as the US) (Kaufman 2009). A similar problem can also be seen at the side of shopping bags that each shopping center still uses almost limitlessly. While the current discussion is mostly stuck at the type of bags (i.e. individual merits and dangers of plastic, paper and reusable types of shopping bags); everyone must focus more on encouraging the people and businesses to reuse and recycle their bags (Thompson 2017). Even the smallest improvements would help.

In hindsight, focusing once more on private cars (within the context of shopping center commutes) would be useful at this stage. In Chapter 2, private cars' fossil fuel related environmental impacts have been analyzed (22.776 tonnes of CO_2 only for the visitor commutes during one average shopping center's building life cycle). It is actually more striking when it is realized that producing a new car creates CO_2 emissions similar to the total CO_2 emissions of that car's entire operational period (Berners-Lee and Clark 2010). Thus, for the doubled environmental impact (i.e. the hazardous periods of production and use), humanity must also double down its sustainability efforts.

Disposal is the final stage. As demonstrated in Chapter 2, waste is among the most urgent problems of the global economic system and even the members of the developed world are not performing at a reasonable rate when it comes to environmentally-friendly waste management. At the side of construction waste (that is generated both during the initial construction phase and after demolishing a building at the end of its building life cycle), there is no unified and complete approach towards disposal either; leading to natural degradation (through toxic components that cause contamination), high energy consumption, inefficient and dangerous use of disposal areas and even illegal dumping (Marzouk and Azab 2014).

However, waste is a serious topic for shopping centers as it is also related to the consumption style choices. Shopping centers' wastefulness (in design and business practices) actually scare off the better informed customers especially in developed markets; which is leading to a conceptual transformation in the decades-old industry (Cohen 2017).

5.1.3.3 Environmental Sub-factor: "Waste, Pollution & CO_2"

The UK published the new (October 2019) version of its EU-mandated air pollution report and it seems that the country is falling behind its goals; as nitrogen dioxide levels in numerous constituencies have continued to remain above legal limits (ClientEarth 2019). Yet, many European countries are at least trying to improve their conditions. On the other hand, the topic is not as visible in Asia, even though it is the continent that experiences the most profound negative impacts of air pollution (Hicks 2018). However, be it Europe, Asia or somewhere else, municipalities all around the world continue to collect more than 2.1 billion tonnes of rubbish every year (from an endless stream of residential, commercial and industrial sources); with just 16% being recycled properly and another 46% reasonably dumped (McGrath 2019). This is just another massive environmental problem but still not as massive as the climate change. Greenland lost a similar amount ice to melting but, different than a year-long process, just in a single day in June 2019; which has carried this specific ice sheet melting season dangerously above historical averages (Miller 2019). One must not forget that these are all taking place as many large industries are trying to minimize and/or sterilize their role in the environmental degradation (e.g. the $4 trillion global plastic industry is allegedly trying to transfer the environmental blame to end-users by criticizing their weak recycling habits) (Lerner 2019). If this is a blame game, pragmatic approaches can be blamed too –like the Texan authorities who gave a free environmental pass to the petrochemical firms for temporarily not complying with the rules in the aftermath of natural disasters (Houston Chronicle 2019).

Nonetheless, we see that man-made actions can pose serious risks for a sustainable future –and much of these actions take place indoors. Indoors are provided by the built environment. Even though the appetite for green buildings is increasing and a two-thirds of a related survey's global participants are expecting at least 30% green buildings in their future real estate portfolios (Dodge 2018), the existing building stock continues to be the single most environmentally hazardous thing in the world and in order to become sustainable, the future investments must be realized as net-zero energy buildings (Post 2019).

Actually, the elements of Waste, Pollution and CO_2 have been previously discussed (see "Chapter 2"). Yet, it is visible through this tour d'horizon that they deserve their

own sub-factor. Each of them is an individual, correlated and highly hazardous output of the economic system. They are the end results of a degradation cycle; in which Land Use acts as the initiator, while Resource Use later comes into the picture and acts as the action and/or input. At the time of the founding fathers of the modern economic system, from Adam Smith to Keynes, the world was still mostly untouched but, many years later, constant strive for economic growth has brought the planet to this day; where the economy started to push it to its limits (Rockström 2017).

Positive traits of shopping centers that are generally used by real estate developers (e.g. being a platform for social gathering, employment and efficient trade) are not sufficiently delivered in a sizeable portion of the shopping center stock and, instead, shopping centers tend to; (1) cover large surface areas that affect soil and water resources, (2) add a burden on the energy and transportation infrastructure and (3) support the consumerism mantra that is causing further environmental problems (Blough 2009).

Relatedly, Steven Vogel's philosophical study can be mentioned at this stage. Vogel sees a possible future without nature (i.e. the end of it, moving to a fully artificial world) in his "thinking like a mall" approach, while his critical mental standing is also countered with a post-human world rather than a post-nature world (Niazi 2017). However, the evil shopping center rhetoric cannot be a problem-solver in its own right. Beyond this building typology, fully erasing or solely reigning nature cannot help anyone for the current existential problems. Buildings must give back more than they take from societies and nature; (1) as "minimizing the damages" approach is not properly solving the pressing problems and (2) as looking at more innovative theories like biomimicry is more beneficial in the long run (Crook 2019).

More than a decade ago, a Norwegian shopping center made the headlines when it started to offer carbon footprint offset cards (i.e. CERs) to its visitors for covering their personal environmental responsibilities (Acher 2008). What about tens of thousands of shopping centers all around the world? The amount needed to be offset is way more than all such cards combined. As pointed out earlier, CO_2 is not the only concern. For example, shopping centers consume large amounts of fossil fuel; which are, beyond CO_2, also full of other pollutants such as mercury, sulfur dioxide, carbon monoxide, nitrogen oxide and soot (Denchak 2018). These dangers and economic

reasons combine to direct developers to install green solutions like solar panels in a quest for more sustainable shopping centers (Shanes 2019).

5.2 AYD Decision-makers Face-to-face Survey

In the Turkish real estate sector, publicly-available and coherent secondary data is scarce and both public and private actors are unwilling share their know-how. However, this study's model has a unique feature. For the first time in the Turkish commercial real estate literature, top decision-makers (comprised of the chairmen of the board, board members, CEOs, general managers and business development directors) of the Istanbul shopping center market are involved (via utilizing the merits of the analytical hierarchy process model).

The participants represent twenty-one out of twenty-five AYD members which have at least one self-developed Istanbul shopping center in their portfolio. As the leading institutionalized voices, they control 43% of the entire Istanbul market in terms of m^2 GLA as of this study's completion. In this sub-chapter, (1) a short description of the AHP technique and the reasons why it fits to this research endeavor, (2) an explanation of the specific AHP survey structure and (3) a detailed evaluation of the survey results are put forward.

5.2.1 A Short Description of the AHP Technique

This technique is attributed to the late Thomas L. Saaty of the University of Pittsburgh. Since then, it has been worked on and improved by numerous researches. At its core, AHP is a multi-criteria decision analysis tool. It is based on constructing decision matrices that shall enable pair-wise comparison (i.e. comparing all elements in a research endeavor in pairs) that are then used to assign different weights (i.e. graded in a 1-9 scale, where 1 means that both elements in a pair have "equal importance" and 9 means that one element has "extreme importance" when compared to another) to all related elements to see which of these have relative priority (Saaty 2008).

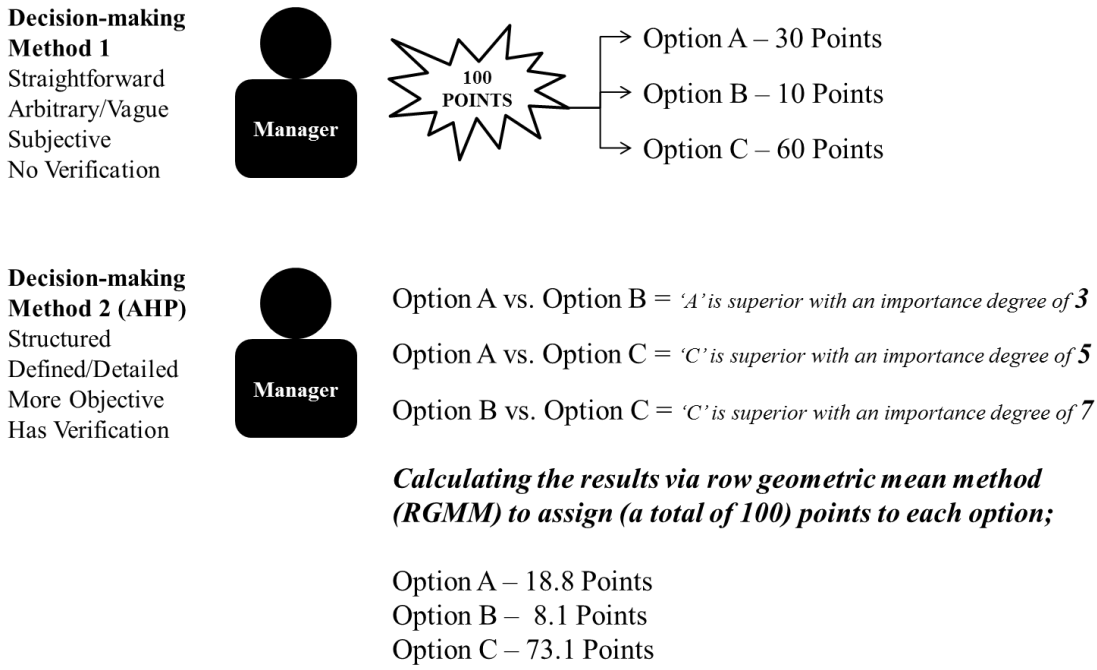
Table 15 – Scoring System in AHP (Saaty 2008)

Intensity of Importance	Definition	Explanation
1	Equal importance	Two activities contribute equally to the objective
2	Weak or slight	
3	Moderate importance	Experience and judgement slightly favour one activity over another
4	Moderate plus	
5	Strong importance	Experience and judgement strongly favour one activity over another
6	Strong plus	
7	Very strong or demonstrated importance	An activity is favoured very strongly over another; its dominance demonstrated in practice
8	Very, very strong	
9	Extreme importance	The evidence favouring one activity over another is of the highest possible order of affirmation
Reciprocals of above	If activity *i* has one of the above non-zero numbers assigned to it when compared with activity *j*, then *j* has the reciprocal value when compared with *i*	A reasonable assumption
1.1 - 1.9	If the activities are very close	May be difficult to assign the best value but when compared with other contrasting activities the size of the small numbers would not be too noticeable, yet they can still indicate the relative importance of the activities

Even though consistency can become a problem especially when the number of criteria ("n") increases, Saaty decided to stick with a maximum consistency acceptance ratio of 0.1 (Alonso and Lamata 2006). This study also uses Saaty's ratio because in each sustainability pillar, there are just three sub-factors that almost completely limit the exposure to these consistency problems.

Since AHP is based on pair-wise comparison, it can be used for further refining and re-verifying the results. If a researcher decides to leave his/her respondent with three options and 100 points to distribute, his/her findings would still be valuable. Yet, pair-wise comparison has an extra step for locating and correcting the respondent inconsistencies (i.e. acting as a backup test for conflicting answers).

Figure 17 –Straightforward Decision-making vs. AHP-backed Decision-making



AHP is an important part of the modern decision theory and, thus, it can also be used by organizations and business researchers –as there is a genuine need for objective and quantifiable measures which shall replace the arbitrary motivations that tend to dominate the real life decision-making processes (Vargas 2010). AHP can also create organized and simplified results from large and complex data (Karthikeyan et al. 2016).

There is already national and international research that focuses on applying AHP in the real estate field. Among many, some examples are; (1) Gutiérrez-Bucheli et al. (2016) use it for selecting a plot for a real estate project in Valledupar City, Colombia, (2) Ball and Srinivasan (1994) apply it to the selection process of the best house to buy, (3) Yalpır (2014) uses it for developing a GIS-backed real estate valuation setup for Selçuklu, Konya in Turkey, (4) Ünlükara and Berköz (2016) apply AHP for shopping center location selection in Istanbul, (5) Çetin et al. (2014) and Tezcan et al. (2011) both focus on construction project location selection, (6) Kömürlü et al. (2013) use AHP to understand the marketing strategies of Istanbul residential developers based on buyer preferences and (7) Polat et al. (2016) look at urban renewal project selection processes in Turkey.

Real estate valuation has always been a chaotic and subjective process that begs for more clarity and objectivity (Ünel and Yalpır 2014). Thus, the abovementioned articles are all trying to provide an improved industry outlook. This study is also aiming at the same thing.

5.2.2 Explanation of the AHP Survey Structure

This specific AHP structure is constructed in Microsoft Excel based on Goepel's (2013) work on transforming AHP into a standardized method of multi-criteria decision-making for companies. Goepel's (2018) latest template is applied in all twenty-one cases for calculating and distributing the weights of the relevant sustainability pillars and their sub-factors. Saaty's linear setup (with his consistency acceptance ratio of 0.1) is used for all participants. There is an individual Microsoft Excel sheet for each participant; later to be combined to attain the final results. Face-to-face interview is the selected method; with interviews taking place between February and May 2019.

Principally, participants are allowed to modify their previous answers as they please until a consistency acceptance ratio equal to or below the 0.1 mark can be found. The same information pamphlet regarding the pillars, their sub-factors and the underlying headlines (see "Figure 18") are used in all individual surveys. The same pair-wise comparison questions have been asked in the exact same order to all AYD participants (i.e. pair-wise comparison of commercial sub-factors, social sub-factors, environmental sub-factors and the major pillars).

For each participant, a sub-factor's final weight is calculated via multiplying its individual score (that it has received in comparison to other two sub-factors in the same pillar group) with its pillar's score (that is received in comparison to other two major pillars). With all twenty-one surveys in hand, the average stance of AYD participants (regarding the multi-factor model variables) is determined via arithmetic mean method. The data set is much more identifiable thanks to the AHP model; as it has the power to convert the empirical comparisons of the survey participants into orderly numerical values which are more suitable for extended analyses (Vargas 2010).

Figure 18 – Description Page for the Model's Pillars and Sub-factors

Title of the PhD Thesis;

A Practical Multiple Factor Index Model for Shopping Center Investment Decisions in Istanbul

This thesis is based on two doctrines;

Sustainable Development perspective which aims to establish an integrated, reasonable coexistence between commercial, social and environmental aspects that shape our world.

Paradigm of Strong Sustainability which puts environment -and natural capital- at the heart of its structure as the most crucial and irreplaceable layer above social and commercial layers.

Through this tailor-made **analytical hierarchy process model (AHP)**, a pair-wise comparison structure that enables more precise and quantifiable weighted decisions, views of the top decision-makers of AYD members that have at least one self-developed Istanbul shopping center in their portfolio would be learned and studied for the first time.

Please take a look at the explanations of different components of the research model (major pillars and their sub-factors) that are provided to you below. Please also examine the documents titled, "Scoring System in AHP", "Survey Setup and Flow Chart" and "Sample Calculation for the Final Sub-factor Scores" before initiating the pair-wise comparison. If you have doubts, please consult to the researcher.

Commercial Pillar

No building should fail in its core purpose. This purpose is defined as offering the right combination of project location, concept and feasibility for the shopping centers; in order to sustain their position as a socio-commercial platform in the long run

Project Location

Analyzing the catchment area demographics and lifestyle traits

Analyzing the competition (existing and pipeline entities)

Evaluating the plot accessibility (public and private transportation)

Evaluating the micro-location traits (e.g. plot shape, visibility and in-plot accessibility)

Concept

Reflecting target customers' wants and needs in the commercial concept

Innovation (for differentiation from competition and increased attractiveness for visitors)

Long-term flexible design (ability to respond smoothly to the socio-commercial changes)

Physical humane manifestation of the building (earthly, vivid approach towards design)

Feasibility

Attaining optimized cost (plot, financing, construction, services)

Attaining optimized income (NOI)

Long-term trustworthiness and stability of the sector and overall markets

Availability of a sound exit strategy in the calculable future

Social Pillar

Urbanization should serve specific social and individual needs and ideals that demand constant harmony between form and function. Communities must be active in the decision-making processes not only for improving the urban form and function but also for generating healthy and happy living grounds for themselves

Integration into Decision-Making

Community strength (before making decisions, communities must attain integrity and purpose)

Community's long-term cooperation potential as a major stakeholder of the project in hand

Urban Value and Function

Internal harmony of form and function (a combination of purpose and local aesthetics)

Suitability within the evolving urban fabric (no alien, directly-imported objects)

Society's Health and Happiness

Amenities and approaches for improving the physical wellbeing

Amenities and approaches for improving the psychological wellbeing

Environmental Pillar

All human interactions are a part of a larger surrounding; the environment. For the whole building life cycle, focusing on urban-nature balance, the natural capital, all living organisms and natural formations are important for a sustainable future.

Land Use

Focusing on Brownfield developments rather than the Greenfield developments

Utilizing the land in an optimum manner (no waste/degradation)

Resource Use

Sustainable planning and execution during initial development and construction

Sustainable planning and execution during operation and disposal

Waste, Pollution & CO_2

Sustainable waste management for preserving the environment

Supporting beyond plot borders to offset potential on-site damages

Offsetting project-related water, air and soil pollution at all stages

Offsetting project-related CO_2 emissions at all stages

Table 16 – Survey Setup and Flow Used for all Participants

criteria **1**	*criteria* **2**	*choose* **1 or 2**	*magnitude* **1 to 9**
Commercial Pillar Question Order			
Project Location	Concept		
Project Location	Feasibility		
Concept	Feasibility		
Social Pillar Question Order			
Integration into Decision-making	Urban Value & Function		
Integration into Decision-making	Society's Health & Happiness		
Urban Value & Function	Society's Health & Happiness		
Environmental Pillar Question Order			
Land Use	Resource Use		
Land Use	Waste, Pollution & CO_2		
Resource Use	Waste, Pollution & CO_2		
Comparing the Major Pillars			
Commercial Pillar	Social Pillar		
Commercial Pillar	Environmental Pillar		
Social Pillar	Environmental Pillar		

In addition to the weights in AHP (see “Table 15”), the PhD thesis explanation page (see “Figure 18”), a printout of the survey setup and flow (see “Table 16”) and a sample calculation (see “Figure 19”) are also provided to the participants. In an additional verbal statement, the research objective is summarized as “understanding the investor mindset in the Istanbul shopping center market through the lens of sustainable development”. It has also been made clear that it is completely normal to observe a sequence or correlativity between certain sub-factors (e.g. an action-reaction relationship in which one sub-factor follows another).

It is also necessary to point out the fact that, upon the repeated requests by the participants, specific scores of individual decision-makers are not to be provided in the final version of this study. Instead, all readers would be able to see the average scores that are compiled through the individual inputs of twenty-one participants.

Figure 19 – Sample Calculation for the Final Sub-factor Scores

STAGE 1

*Through selections and magnitude points, the participant determined the distribution of 100% among the **social pillar sub-factors** as follows;*

Social Pillar Question Order		*choose 1 or 2*	*magnitude 1 to 9*
Integration into Decision-making	Urban Value & Function	1	1
Integration into Decision-making	Society's Health & Happiness	2	3
Urban Value & Function	Society's Health & Happiness	2	3

RGMM:

Integration into Decision-making – 20,0%
Urban Value & Function – 20,0%
Society's Health & Happiness – 60,0%

STAGE 2

*Through selections and magnitude points, the participant determined the distribution of 100% among the **major pillars** as follows;*

Comparing the Major Pillars		*choose 1 or 2*	*magnitude 1 to 9*
Commercial Pillar	Social Pillar	1	7
Commercial Pillar	Environmental Pillar	1	5
Social Pillar	Environmental Pillar	2	3

RGMM:

Commercial Pillar – 73,1%
Social Pillar – 8,1%
Environmental Pillar – 18,8%

STAGE 3

CALCULATING THE FINAL SCORE:

Integration into Decision-making 20,0% X 8,1% = **1,6%**
Urban Value & Function – 20,0% X 8,1% = **1,6%**
Society's Health & Happiness – 60,0% X 8,1% = **4,9%**

5.2.3 Survey Results

The vision here is to understand what top commercial decision-makers are thinking about the Istanbul shopping center market –within the framework of sustainability. This has never been done before in an academic and quantifiable fashion. In the end, AYD survey has become a serious revelation regarding the problems at the commercial side. Participants' highly commercial stance is in apparent contradiction with the outlook provided by the preceding literature review process. That outlook is more about a long-term balance (between commercial, social and environmental aspects) that has actively involved all stakeholders. Therefore, the need for an additional primary research endeavor (an expert panel in this case) to give this study a re-think option and more depth would have been the right thing to do.

Industry decision-makers predominantly favored the Commercial Pillar with 58.1%. This pillar was followed up by Social and Environmental Pillars (with merely 22.8% and 19.1% respectively). It should be noted that the percentages are rounded up. In this respect, the AYD survey showed the need for; (1) establishing a proper stakeholder structure that also represents society and environment and (2) having a new development checklist (i.e. Project Checklist) to be followed by all related parties for focusing more on sustainable and integrative projects.

It can also be argued that a different result would be the actual breaking news. After all, these men and women are steering their companies in the turbulent waters of Istanbul's commercial real estate market and their sole focus has been on creating commercially successful projects. Thinking about potential negative externalities has not been high on their agenda; as their superiors, shareholders and peers would rather focus on the financial side of the deal –not necessarily as a part of an evil plan but because such sustainability-based thoughts have not been properly valued among the business circles.

While it is true that ethical concerns are now stronger, there is still a long way to go before they finally penetrate business circles in a meaningful way. Public demand and sound policy-making are crucial for this next step and even in strong legislations like that of the EU, more speed, enthusiasm and scale are needed to raise the bar for improved sustainability (Bruyninckx 2019).

Table 17 – AYD Participant Companies and Their Portfolios

	AHP Survey Participants					
#	Date	Company	Assets	m^2 GLA	Executive	Position
1	2/13/2019	**TSKB REIT**	Pendorya	30,500	Hüseyin Tiken	General Manager
2	2/14/2019	**Orjin Group**	İstinyePark	87,000	Hakan Kurt	General Coordinator
3	2/18/2019	**Zorlu Real Estate**	Zorlu Center	73,000	Didem Aydın	General Manager
4	2/21/2019	**Artaş Group**	Vadistanbul, ArmoniPark, Arenapark, Carousel	204,000	Aydın Ayçenk	Tema Istanbul General Manager
5	2/22/2019	**Akiş REIT**	Akbatı, Akasya	145,500	Gökşin Durusoy	General Manager
6	2/26/2019	**Sur Yapı**	Axis Kağıthane, Metrogarden, Axis İstanbul	115,000	Münir Köndel	Deputy General Manager
7	2/28/2019	**Doğan Holding**	Trump	42,500	Bülent Kural	Trump Towers General Manager
8	3/5/2019	**Tepe Emlak**	Tepe Nautilus	52,500	Hayal Olcay	General Manager
9	3/5/2019	**Akmerkez REIT**	Akmerkez	33,200	Murat Kayman	General Manager
10	3/5/2019	**Metal Yapı**	Aqua Florya	50,000	Mert Durdağ	Deputy General Manager
11	3/7/2019	**Tahincioğlu**	Palladium Ataşehir	40,000	Elif Germirli	Member of the Board
12	3/8/2019	**MAYA**	Anatolium Marmara	60,000	Fuat Atalay	CEO
13	3/12/2019	**Canpark Holding**	Canpark	40,000	Cem Gür	Chairman
14	3/15/2019	**Emaar**	Emaar Square	150,000	Feyzi Tecellioğlu	CEO
15	3/20/2019	**VIA DMC**	Via/Port Asia, Via/Port Marina	145,000	Ogün Turanlı	General Manager
16	3/27/2019	**3S Kale**	Kale Outlet Center	28,000	Sema Gürün	Chairman
17	5/8/2019	**Multi Turkey**	Forum Istanbul, Marmara Forum	310,000	Pınar Yalçınkaya	CEO
18	5/9/2019	**IS REIT**	Kanyon	40,000	Gülfem Tandoğan	Head of Sales & Marketing
19	5/10/2019	**Nurol REIT**	Oasis Designer Outlet	29,000	Sena Ersoy	Project Development Director
20	5/14/2019	**Rönesans**	Piazza, Hilltown, Kozzy, Optimum, Maltepe Park	253,500	Murat Özgümüş	Member of the Board
21	5/17/2019	**ECE Türkiye**	Marmara Park	100,000	Stefan Zeiselmaier	CEO
			Total m^2 GLA	**2,028,700**		

Table 18 – AYD Survey's Final Weights for Pillars and Sub-factors

Criteria	**Weight**
COMMERCIAL PILLAR	**58,1%**
Project Location	*21,6%*
Concept	*7,0%*
Feasibility	*29,4%*
SOCIAL PILLAR	**22,8%**
Integration into Decision-making	*3,7%*
Urban Value & Function	*9,4%*
Society's Health & Happiness	*9,6%*
ENVIRONMENTAL PILLAR	**19,1%**
Land Use	*6,1%*
Resource Use	*6,5%*
Waste, Pollution & CO_2	*6,5%*
TOTAL	**100,0%**

The survey results are gripping. Out of all the social and environmental sub-factors, only Urban Value & Function (9.4%) alongside with Society's Health & Happiness (9.6%) have better scores than the least-favored sub-factor of the Commercial Pillar, Concept (7.0%). Even though existing literature upholds the headlines that are under this study's Concept sub-factor (i.e. wants and needs, long-term flexibility, humane design, innovation for differentiation and attractiveness), AYD participants oppose the idea that these can make up for the potential commercial downsides that shall be caused by a weak project location or bad finances. Thus, the most dominant driving forces of the participants are Project Location and Feasibility (21.6% and 29.4% respectively). For that matter, Feasibility singlehandedly weights stronger than the individual total scores of Social and Environmental Pillars; with Project Location also finishing a hair short of it. These two sub-factors add up to more than half of the total score –the clear priorities in the eyes of AYD participants.

On the other hand, the overall least-favored sub-factor is Integration into Decision-making (3.7%); showing the clear distant stance of the AYD participants towards having a more interactive stakeholder structure. The participants are eager to create spaces that would offer health and happiness to the society; as this sub-factor is the highest rated among the non-commercial ones. However, the participants do not support the idea that the main targets of such creations (i.e. individuals and communities) should also be included in the decision-making processes. A similar comment can also be made for the Urban Value & Function sub-factor. The AYD participants value superior city planning principles that would improve both form and function in the built environment but they want to continue to decide how such principles would be determined and applied.

The situation here is not black and white. AYD participants are aware of the fact that they should give people the necessary elements and amenities for a better life –at least so that the investors can reach their commercial targets. The problem is that they are; (1) not ready to reasonably share their powers with other stakeholders and (2) not ready to establish a larger framework that would require them to consider non-commercial aspects in an equal manner. A similar narrative also unfolds at the side of environment. It cannot be argued that the AYD participants are actively looking for ways to degrade the environment. Even though the Environmental Pillar

(and consequently its sub-factors) is apparently sidelined in the survey results as the least favored major pillar, the overwhelming, long-standing importance attributed to commercial success would be the one to blame once again. Of course, this does not change the fact that Environmental Pillar's sub-factors (only after Integration into Decision-making) are actually the overall least favorite ones. Not surprisingly, since land development is one of the AYD participants' core businesses, they have a tendency to see Land Use (6.1%) as slightly less crucial when compared to other two sub-factors. Environmental Pillar's weak survey performance is an important revelation in its own right and can open up new research fields in the near future.

During the informal intervals of these face-to-face meetings, the survey participants have tried not to identify themselves as a cause of social and environmental degradation but they have still shared their honest thoughts –limiting the risk of survey bias. AYD participants have professional obligations. Spending corporate resources on environmental causes is arguably creating an ethical dilemma for the private decision-makers between maximizing the shareholder value and supporting the sustainability cause; as forming a solid correlation between increased corporate responsibility and financial success can be challenging in some cases (Salls 2005). Constructive and responsible intervention of public regulatory bodies may help in this respect; so does a potential sea change regarding how businesses perceive their impact and how they are going to shape their future trajectories in a more sustainable way (Schuler et al. 2018).

In the light of these findings, it is reasonable to argue that the commercial decision-makers in the Istanbul shopping center market; (1) believe in a top-down approach (i.e. even though they may be willing to improve people's lives, they do not want to share their decision-making powers with the society), (2) understandably look at the research topic through a business lens, (3) are not willing to identify their business practices as potential hazards and correlatively (4) having difficulty to harmoniously deliver the extra effort needed for being more sustainable.

On a positive note, with the commercial side's stance becoming quantifiable and visible for the first time, processes would probably start to change for the better. Keeping a distance and being pure evil are two radically different stances. AYD survey results are not proofs of such pure evil. Instead, they plainly show how

dangerous it can be to have a large distance between the business world and other crucial stakeholders. The importance of society and environment should increase in this debate.

5.3 Expert Panel

While most of the AYD decision-makers have verbally stressed the importance of social and environmental sub-factors for their businbess, as a weighted average, they overwhelmingly chose commercial sub-factors over these with 58.1% (Social and Environmental Pillars getting only 22.8% and 19.1% respectively). This should not come as a big surprise; as the main driving force of the global economy has been "creating value in a corporate sense". Corporate values can be dangerously hollow and generic; potentially hiding the real business motivations (Lencioni 2002). This does not mean that the status quo must be accepted as it is. With the current environmental and social trajectory of the world, finding alternative ways is becoming a necessity. This is an existential matter for humanity and an ethical duty towards nature. Therefore, this study would not go in the direction of AYD survey results –especially when such a move is not supported by the findings of the preceding literature review.

An expert panel has been formed in the immediate aftermath of the AYD survey results. This panel is comprised of three experts specialized in different aspects of sustainability to re-evaluate the predominantly commercial stance of the AYD participants. The research method used here can be summarized as structured individual face-to-face interviews in which each participant answered the same two predetermined open-ended questions in the same order. Expert panel participants have delicately countered the private sector views with constructive, integrative approaches; (1) by stressing the social and environmental impacts of shopping centers and (2) laying out different ways and means to minimize these (mostly negative) impacts. The cumulative input is in line with the literature review findings and the further elaboration (by the panelists) has even brought certain issues and solutions under the spotlight which have not been visible previously. This is another contribution of this study to the ongoing debate. Nonetheless, it is always a major decision to create an additional primary research layer; especially when it is known to require a different approach (i.e. structured interviews, qualitative, more insights)

and the results would not be directly combinable with the preceding research layer (which is based on AHP, multi-criteria ratio, fewer insights). In the end, both data sets, through their own individual merits, have been successfully utilized side-to-side for a wider, more complete understanding.

This sub-chapter contains the following sections; (1) an overview of the face-to-face interview structure, (2) basic information about the expert panel participants and (3) the results generated from the qualitative data collected.

5.3.1 Interview Structure

Qualitative research naturally involves interpreting the social world and it focuses on the meanings of things rather than the precise frequencies or volumes like the quantitative research –traits that are reflected in the structured interview method; (1) exchanging question variability for answer variability, (2) creating more answer compatibility and (3) preserving interviewer neutrality (Cooper and Schindler 2011). Unstructured interviews can be tempting because of the maneuverability they provide to their researchers. However, structured interviews (i.e. same questions asked in the same order and manner) standardize the entire setup, eliminate bias and bring the much-needed clarity (Bohnet 2016). After looking at structured interviews, Campion et al. (1997) additionally suggested that such interviews must; (1) limit elaboration, (2) focus on question quality, (3) either have a longer dialogue session or more questions to cover the research field and (4) painstakingly preserve the interview's focus on the predetermined questions (i.e. no diversions). With these arguments in mind, it is time to continue with this study's structured face-to-face interview structure which contains two open-ended questions for its three expert panel participants;

1. ***Could you please describe the social and environmental impacts of shopping centers in Istanbul?***
2. ***Could you please describe your suggestions regarding these impacts?***

Questions are intentionally neutral towards the otherwise controversial subject. The main idea here is to generate a free flow of ideas within the strict boundaries of the two pre-determined questions. With valuable qualitative data finally collected after three individual sessions, it has become clear that most of the individual comments

have been either overlapping or supporting one another –opening up the way for compiling the major themes in a single table. It is true that each expert demonstrates some unique traits and angles but not necessarily enough for analyzing the results in an individual fashion.

The interview structure aims at a balance between rigidity and flexibility. Being more formal would have limited the free-flow of important personal opinions and being less formal would have jeopardized the otherwise solid setup. Essentially, "ideas" are gathered, organized and analyzed through this additional primary research layer. From Descartes to Locke and beyond, "ideas" have managed to take a monumental role in the quest for enlightenment. Their role is also the same in this study.

5.3.2 Expert Panel Participants

More depth is generated by reaching out to three experts in different fields of sustainable urban planning and sustainable design. They all have leading roles in numerous sustainability projects and platforms (in Istanbul and elsewhere) that aim to establish better social structures and environmental responsibility. The panelists can be seen below;

Table 19 – Expert Panel Members

Participating Expert	Profession	Affiliation	Nature
1. Faruk Göksu	Urban Planner	Kentsel Strateji, TAK, Vizyon Atölyesi, Atölye Muğla	Private, NGO, University
2. Prof. Dr. Murat Güvenç	Urban Planner	Kadir Has University Istanbul Studies Center, TESEV, İlhan Tekeli Foundation	NGO, University
3. Assoc. Prof. Dr. Duygu Erten	Construction Engineer	TURKECO, ÇEDBİK, USGBC, Medipol University	Private, NGO, University

When faced with the abovementioned open-ended questions, the participants have actually focused on generating a wholesome meaning of the past, present and future of the Istanbul shopping center market through their own expertise. A line of viable common themes are put forward during this unique process. Faruk Göksu, is the co-founder of a line of NGOs (e.g. Kentsel Strateji and its affiliates) and social initiatives that work in the fields of urbanization, transformation, design, reconciliation, zoning rights and communities. The second participant is Prof. Dr. Murat Güvenç. Mr. Güvenç is at the board of Turkish Economic and Social Studies

Foundation (TESEV), which focuses on Turkey's democratization, governance, international relations, social inequalities, integration policies and sustainable development. Mr. Güvenç is also leading Kadir Has University's Istanbul Studies Center (ISC) which is a forum mainly working on socio-economic, political, and cultural processes in Istanbul. He is also active at Ilhan Tekeli Urban Culture Foundation. The third and final participant, Assoc. Prof. Dr. Duygu Erten, is a contributor to USGBC and to the Environment-friendly Green Buildings Foundation (ÇEDBİK –creator of the first ever Turkish green building certificate). She is also leading TURKECO, one of the largest green building consultancy firms in Turkey, and continuing her research at Istanbul Medipol University since 2015.

5.3.3 Results of the Expert Panel

One of the panel's immediate results (that is predominantly presented by its two urban planner participants) is the re-assurance of the importance of independent, high quality and consistent urban planning. This has been already laid out during the decoding process of the literature review findings –one of the many consistencies to be found between the literature review process and the expert panel results. According to these two experts, the lack of high quality planning in Istanbul is continuously fueling the already alarming urban sprawl situation (which has created complex and interwoven commercial, social and environmental challenges for the city). Their individual elaborations are partially different in approach but still visibly similar in principle; as one of them preferred a micro approach (i.e. separately evaluating each shopping center and its surrounding area), while the other preferred a macro one (i.e. shopping centers' role within the larger urban planning challenges of the city) but still ended up with overlapping conclusions and future suggestions.

To be clear, urban planning has not dominated the entire panel discussion. Shopping centers' responsibilities towards the communities (both as social platforms and educational and employment hubs) and their roles within the broader retail world (as the physical connection point between the end-users and the retailers' complex supply chain structures) have also been among the highly discussed topics. Uncontrolled expansion of the Istanbul shopping center market (with its wide-reaching implications and ramifications at all three interwoven spheres of sustainable development) is also placed among the top. According to the panel participants'

cumulative comments, this dire market situation has led to; (1) a line of far-reaching commercial problems (both for shopping centers and small enterprises in the shape of; market saturation, cannibalization and the sidelining of traditional retailers and socio-commercial areas), (2) social problems caused by the preceding commercial problems (e.g. degradation in social egalitarianism and the employment markets), (3) a further set of social problems rooted in the shopping center typology (e.g. invisible social barriers, insufficient public spaces and constrained social lives), (4) a sizeable burden on both the built (e.g. overload on infrastructure as manifested in acute traffic congestions) and natural (e.g. eroded urban-nature balance and the loss of natural capital) environments and (5) unsustainable center designs and management practices both at the environmental (e.g. high resource use and waste, pollution and CO_2 levels) and social (e.g. grey and introvert designs that do not go well with the human nature and social interactions).

One of the major expectations of the panel participants from the shopping centers is to see them becoming more proactive, society-based and sustainable platforms that would be able to simultaneously and positively impact the nature, communities and retail business schemes. Expert panel findings show that this feat can be achieved through improved planning and management practices, new education programs, social initiatives and amenities, closer (communal) employment relations and better retail world cooperation. Retailers are criticized as being the “bottleneck” that prevents most of the sustainability-based actions. It is hinted that shopping centers have a rare chance to re-invent themselves and all stakeholders would benefit from a more inclusive perspective.

Shopping centers can even channel the retailers (that have their own shortcomings) and the overall urban status quo (short-term decisions and neglect by almost all social strata) towards a more sustainable direction in the long-term. None of these are easy to achieve but Istanbul, just like many other global metropoles, is in an alarming need of change. After all, the key to prosperity in an urban setting is to establish a cooperation and integration platform that would go beyond social and cultural differences (Husebø and Johannessen 2018).

Table 20 – Expert Panel Results Overview

Approaches
• Micro focus: analyzing the relationship of each shopping center with its close surroundings separately can be an option. Most centers try to cover some of the basic social needs (as semi-public spaces) but they lack the necessary planning and management traits • Macro focus: shopping centers are modern extensions of Istanbul's long history of unregulated urban development / urban sprawl • Macro focus: shopping centers cannot substantially change much on their own before the larger retail world becomes more sustainable. Customers are also increasingly demanding this
Negative Impacts
• Shopping centers are cannibalizing both each other and other small enterprises (high, uncontrolled and unjust competition) • High levels of land use (further harming the urban-nature balance) • Extra burden on the infrastructure and on the quality of life • Bolstering up more subpar planning in the city • Failing in giving back to the communities • Some centers have unsustainable designs and management practices (e.g. energy consumption) but a sizeable portion of the harm actually comes from individual retailers
Suggestions
• Giving social and/or vocational education to the communities • Trying to build the workforce from the surrounding communities • Improving center designs and their management practices for better sustainability • Creating special funds (reserving a pre-determined portion of the project income) to address the unique local problems (direct impact) • Imposing a development tax for limiting the speculative oversupply • Solve the planning problem: better city-wide and long-term planning and a stronger, consistent application of it are needed in Istanbul • Solve the bottleneck effect: sustainability reform is needed at the retailers' side because shopping centers are platforms and their total impact is limited within the larger picture

5.4 Project Checklist for the Model

Through secondary data gathering and analysis processes, this study has been able to put forward; (1) a detailed account of sustainable development principles and the burgeoning strong sustainability paradigm (also in relation to the real estate industry in general and to the world of shopping centers in specific), (2) a structured overview of the history and evolution of shopping centers throughout the years (which included sections regarding the historical roots of social and commercial hubs, alongside with the emergence and rise of shopping centers and their typological transformations), (3) a look at the relationship between Istanbul's perplexing quest of urbanization and its colossal shopping center market (which included an overview of

Istanbul's 20th century urbanization, the growth of its shopping center market in the latter parts of that century and a macro-outlook of this market's current status) and (4) a universal, industry-specific list of the factors that are indispensable for any shopping center project in terms of sustainable development (grouped under three pillars –commercial, social and environmental– with three sub-factors for each of them that, in return, contained twenty-six industry-specific checklist headlines).

First three of these feats can be seen in further detail in Chapters 2, 3 and 4. Up to this point, the last feat has only been visually represented in its entirety in Chapter 5's "Explanation Page for the Model's Pillars and Sub-factors". The same chapter's pillar and sub-factor explanation segments already constructed the much needed larger framework –thoroughly complete with the previously-mentioned twenty-six checklist headlines.

At Project Checklist (see "Table 21"), each sub-factor has equal (i.e. four) maximum points for a potential total of thirty-six points for all three pillars combined. Some sub-factors have four headlines (i.e. one point each), while the others have two (i.e. two points each). Headlines are determined through literature review. In principle, qualified majority approach is used for the "checklist pass grade". While different entities have different thresholds (even unanimous decisions are needed in some instances), the EU's post-2014 model that eliminates the practice of weighted voting and introduces a threshold of representing at least 65% of the total population for approval (Van der Jagt 2019) can be a suitable reference for this study. Just like the EU, this multi factor model is also comprised of diverse but interconnected elements. Accordingly, Project Checklist does not have a weighted average structure –as each and every one of the twenty-six headlines that make up the sub-factors which are, in return, linked to the major pillars of sustainable development are equally important. If this study would have been exclusively about the commercial side of the equation, AYD surveys results could have been directly applied (as a reference weighted business calculation sheet). Instead, the Project Checklist for the multi-factor model is focusing on; upholding all three pillars of sustainable development, giving them equal weight and importance, expecting a final cumulative score that would pass as a qualified majority (also without principally failing in any of the pillars) and operating as an open source medium for all stakeholders of this research topic.

Table 21 – Project Checklist

Name of the Project, Investor, Service Provider and Opening Date:			
Tier 3 *(up to 30.000 m^2 GLA)*, Tier 2 (*30.000-60.000 m^2 GLA)*, Tier 1 *(+60.000 m^2 GLA)*			
Commercial Pillar			
Project Location	**-1**	**0**	**1**
Catchment Area Demographics	Bad	Average	Good
Competition (Existing and Future)	High	Average	Low
Plot Accessibility	Bad	Average	Good
Micro-location Traits	Bad	Average	Good
Concept	**-1**	**0**	**1**
Reflecting Target Customers' Wants and Needs	Bad	Average	Good
Innovation (for Differentiation and Attractiveness)	Bad	Average	Good
Long-term Flexible Design	Bad	Average	Good
Physical Humane Manifestation of the Building	Bad	Average	Good
Feasibility	**-1**	**0**	**1**
Cost Side (Plot, Financing, Construction, Services)	High	Average	Low
Income Side (NOI)	Low	Average	High
Long-term Trustworthiness and Stability	Low	Average	High
Availability of a Sound Exit Strategy	Low	Average	High
Sub-total ( ) / 12 - minimum 8			
Social Pillar			
Integration into Decision-Making	**-2**	**0**	**2**
Current Community Strength	Low	Average	High
Long-term Cooperation Potential	Low	Average	High
Urban Value and Function	**-2**	**0**	**2**
Internal Harmony of Form and Function	Bad	Average	Good
Suitability within the Evolving Urban Fabric	Bad	Average	Good
Society's Health and Happiness	**-2**	**0**	**2**
Physical Amenities and Approaches	Bad	Average	Good
Psychological Amenities and Approaches	Bad	Average	Good
Sub-total ( ) / 12 - minimum 8			
Environmental Pillar			
Land Use	**-2**	**0**	**2**
Brownfield vs. Greenfield Development	Greenfield	Partial	Brownfield
Land Utilized in an Optimum Manner	No	Average	Yes
Resource Use	**-2**	**0**	**2**
During Initial Development and Construction	Bad	Average	Good
During Operation and Disposal	Bad	Average	Good
Waste, Pollution & CO_2	**-1**	**0**	**1**
Sustainable Waste Management	Bad	Average	Good
Support Beyond Plot Borders	Not Done	Partial	Done
Offsetting Water, Air and Soil Pollution	Bad	Average	Good
Offsetting CO_2 Emissions	Bad	Average	Good
Sub-total ( ) / 12 - minimum 8			
Total = ( ) / 36 - minimum 24			

65% threshold is just a hair short of the principle of two-thirds majority; which is arithmetically perfect for the Project Checklist. This means that a project must simultaneously; (1) score at least twenty-four out of thirty-six total points and (2) score at least eight out of twelve points for each sub-factor. Securing such a qualified majority is more challenging than it initially seems; as negative implementations actually come with negative points and only the above-average practices are honored with positive points –an ethos that is borrowed by the Living Building Challenge. This understanding shall direct the commercial stakeholders to a new course of "striving for a net positive impact" rather than to a much more traditional "minimizing the negative impacts" course.

Project Checklist starts with two rows of identification; (1) basic information (i.e. name, companies involved and opening date) and (2) size. In the latter, a researcher would have three tiers to choose from; with the gross leasable area (GLA) ranges are established in accordance with the major size clusters observed in the Istanbul shopping center market. Actually, the well-known retail motto "size matters" has been visibly transforming as the rise of online retail continues and many experts are now focusing more on "efficient sizes" (mostly synonymous with reduced floor space) rather than absolute sizes (Brickner 2019). Yet, this does not change the fact that a large shopping center would definitely bring more complex prerequisites and actions regarding all of the major pillars (e.g. it is undoubtedly harder for a super-regional asset to comply with "Land Utilized in an Optimum Manner" headline). Therefore, size continues to matter in this multi factor model.

It is also important to point out that this study's two primary research endeavors are still invaluable –for different reasons. AYD survey is a strong addition, not just because it is the first time that top shopping center experts in the country come together but also because it shows the multi-faceted shortcomings of a purely commercial approach. The outcome of the AYD survey actually proves that there is an urgent need for a more integrative and expanded approach. Expert panel, on the other hand, is important because; (1) its results have a strong correlation with the earlier literature review findings and, thus, act as a soft cross-check mechanism in this respect and (2) the panel participants have managed to put forward certain comments that either expanded or further strengthened the existing literature. Thus,

while AYD survey has, in a sense, validated this study's research purpose, the expert panel, on the other hand, fortified and expanded its content and model structure.

Project Checklist is the actual practical result of this research endeavor. It elevates this study from just presenting a theoretical framework with some additional survey data into a virgin field of purposeful possibilities. In this new field, this checklist can act as the starting point of a sea change in understanding, analyzing, developing, permitting, managing, partnering, utilizing and experiencing shopping centers. It is expected that a fair amount of key stakeholders (both individuals and legal entities) shall be able to make use of this checklist with the support of the definitions given in Section 5.1.

5.5 Limitations and Future Research

This study (through its multi-factor model) has generated a new perspective and a set of road-map principles for a more sustainable shopping center market. After facing its fair share of limitations along the way, a line of high-potential future research topics and chances of further improvement have also been identified. It would be reasonable to point these out before concluding Chapter 5.

Simultaneously having the AYD survey (AHP, multi-criteria ratio, fewer insights) and the expert panel (structured interviews, qualitative, more insights) has already pushed this study to its limits. Reaching out to other stakeholders can be a natural next step for future researchers. A diverse sample can bring additional value and depth to the research topic; even though there are serious barriers in terms of covering all of the related parties (e.g. lack of desire, lack of compatibility). At the commercial side, on top of the private decision-makers already surveyed in this study, financiers, service providers and tenants can also be considered by future researchers. Outside of the commercial realm, public sector (i.e. municipalities, central government and other public offices) would definitely be a top priority. A similar comment can also be made for the NGOs. They must be more proactive about such research endeavors in the future; as it is currently a challenge to secure NGO involvement (e.g. most of the top organizations cannot be reached at all for the expert panel). At the other end, case studies can also be conducted with specific

communities (especially the ones that have been affected by the shopping center phenomenon). This can lead the way for more in-depth analyses.

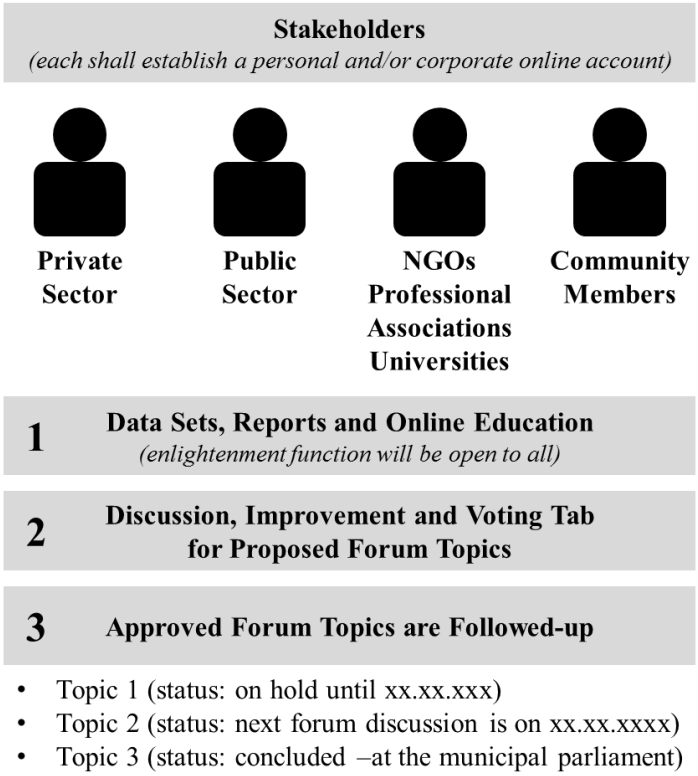
Another improvement can come in the shape of depth and scale of survey and interview questions; especially for the commercial side of the equation since the basic stance of the industry is already presented in this study. It awaits further elaboration. It has not been possible to go any deeper with the AYD participants; as they happen to have their own reservations and worries regarding such academic surveys. The academic dialogue environment with the private sector (and also with the public sector for that matter) must be widely improved. More cooperation would bring value to both parties.

Spatial data, on the other hand, is also a crucial but currently missing element. Not because this study has failed to locate and collect the available spatial data and construct a model accordingly but because the ways and means to gather such data are not currently accessible for the research community. Both private and public sectors either do not have the relevant data themselves (at least not in a structural way) or they are not willing to share what they have. Therefore, developing solid location-based solutions and on-map visualizations are not possible at this stage.

A similar challenge is also valid for the project-specific data. Both at commercial (e.g. basic performance indicators such as rent levels, room cost, footfall and sales figures), social (e.g. recorded project-specific community data) and environmental (e.g. a project's measurable impact on the urban-nature balance) sides, project-specific data cannot be tracked down. Such data would add another layer to this research and create a chance to fine-tune it through cross-checking and case studies. Identifying commercial and financial inputs (that shall be reflected in the project development practices, design stages and management) would also be a valuable addition. Beyond what the mainstream green building certificates offer (e.g. LEED, BREEAM), being able to identify (together with an action-reaction angle and a guidebook) the specific inputs for the market would create a chance to connect the theoretical and practical worlds. For example, Concept sub-factor in the model has a headline named "long-term flexible design" and this study has already constructed the basic premise of this headline. Therefore, the next step would be to identify what is necessary –in a standardized and reproducible manner– to make it a reality.

Since it is mostly a subjective trait, the impact of management practices in terms of sustainable development principles is also left out of the scope of this study. This professional practice set includes both operational and marketing-related topics. It is logical to assume that responsible managers would keep their assets in pristine condition throughout longer operational periods (i.e. potentially less need for materials and less environmental hazards) and they would also try to direct their marketing dollars towards more community-related activities. Yet, this assumption can be the topic of a completely new research endeavor.

Figure 20 – Digital Stakeholder Realm Draft Proposal



Working on the ways and means of establishing a new urban sustainability platform would be this study's proposal as its main future research topic and a step forward for all of the stakeholders of the shopping center phenomenon. Ideally, this platform would operate on cloud and, consequently, would not require offices, inefficient physical meetings or large bureaucracies. It can be developed as a "digital council" that shall include all stakeholders and all the necessary data for open, integrative discussions and for strategic decision-making processes. Such an improvement may have the power to change Istanbul's trajectory altogether. Whether a real person or a legal entity, each participant would create its own online account –to be verified by

the system administrator. The first layer would be an open source enlightenment platform with the necessary data sets, reports and education modules. The second layer shall work as a topic filter led by the stakeholders themselves. Here, entities can discuss, improve and vote on different proposed topics. Once a forum topic is approved, it would go to the third layer. In this follow-up section, real action would be taken in cooperation with governing bodies such as municipal parliaments. Project Checklist can also become an integral part of this new “digital council” with its practical and all-inclusive approach.

Chapter 6

Conclusion

From its first page onward, this study has pointed out the fact that Istanbul shopping center market is in a dire need of change because of its mounting commercial (e.g. market saturation, new competitors, socioeconomic and political shifts), social (e.g. inequality, discrimination, unemployment, loss of urban form and function, diminishing health and happiness) and environmental (e.g. urban sprawl, degrading urban-nature balance, depleting natural resources, waste, pollution and CO_2) challenges. Clearly, there are certain studies in existence that partially focus on some of these challenges but a wholesome approach cannot be tracked down during the literature review phase. In order to construct a detailed approach, embracing the principles of sustainable development is of utmost importance; as these principles have the potential to create a new, integrative stakeholder perspective and to offer a correlated combination of new social, environmental and economic targets for a just and sustainable coexistence.

Accordingly, the core target of this study has been to develop a practical multiple factor index model for shopping center investment decisions in Istanbul (both for existing and pipeline projects) that would ultimately be based on the principles of sustainable development and the paradigm of strong sustainability (i.e. a burgeoning perspective that positions environment at the forefront of the discussion as the all-encompassing outermost circle that breathes life into social and commercial realms –its respective, dependent inner circles).

It is clear that Istanbul is not the only city (not even the only one in Turkey) that faces such problems. These problems are universal. Around 2016, the global supply has already been above a billion square meters of gross leasable area (İlhan and İlhan 2018). Therefore, the effort that is put forward in this study can help the researchers focusing on shopping centers and sustainability. Istanbul shopping center market is specifically chosen because; (1) it is a part of the largest and most cosmopolitan city in the country, and (2) its challenges have been continuously discussed in numerous mediums without solid practical results and without the involvement of top decision-makers and experts –indicating a hollow spot in the existing literature.

After the core research topic of this study is introduced (through a detailed overview) in Chapter 1, the focus shifts to an extensive exploratory research process for better understanding the past, present and future of sustainable development principles in Chapter 2. This chapter also strengthens the relationship between the (commercial) real estate industry and the forces of sustainability. Chapter 3's premise, on the other hand, is to elaborate on the history and evolution of shopping centers (starting with the earliest socio-commercial hubs and then touching on many different historical and conceptual phases). Chapter 4 is about Istanbul –a megacity that apparently has endless problems and opportunities. Here, the city's complex urbanization record and its vast shopping center market are evaluated. With well over a hundred shopping centers, Istanbul shopping center market is demanding and complex in terms of commercial, social and environmental aspects.

Chapter 5 includes; (1) a detailed explanation of the multi-factor model of this study (which has been developed as a result of an extensive literature review process that eventually led to the identification and explanation of the nine industry-related sub-factors that are placed under the major pillars of sustainability; complete with a total of twenty-six checklist headlines), (2) explanation and decoding of two genuine primary research endeavors that separately opened up the way for crucial revelations and possibilities for the research topic (i.e. the AHP-based quantitative commercial decision-makers survey and the structured interviews realized with the sustainability expert panel participants), (3) the formulation and exposition of the Project Checklist (a new and practical assessment medium that can be used by all stakeholders for both existing and pipeline shopping center projects) that is the major end product of this study and (4) the academic limitations and the potential future research topics –in which the lack of available data and low levels of inter-stakeholder dialogue have appeared as central topics.

The main premise of this study is that developing a shopping center, regardless of the commercial situation in a given market, should not be exclusively about the specific piece of land and/or the point of view of its prospective investors. The results of this study's first primary research endeavor (an industry-wide survey applied face-to-face to the top decision-makers of the participating AYD member companies with at least one self-developed Istanbul shopping center) have been an obvious confirmation in

this respect. Twenty-one of the twenty-five suitable AYD member companies have participated in the survey which is based on Saaty's (2008) AHP model (complete with his linear method and 0.1 consistency acceptance ratio) and realized through Goepel's (2018) AHP template. When the final results are put forward, it is seen that the participating decision-makers favor the Commercial Pillar (comprised of Project Location, Concept and Feasibility sub-factors) with 58.1%. This dominant pillar was followed up by the other two; Social and Environmental Pillars with just 22.8% and 19.1% of the total vote respectively. This outcome is in stark contrast with the findings of the literature review process –especially apparent in the negative response towards community integration and in the sidelining of environmental concerns. Project Location and Feasibility sub-factors alone have commanded a disproportional vote of 51%; directly incapacitating any chance of a more reasonable and equitable distribution. Even individually, they are positioned higher than entire sustainability pillars. This is an invaluable finding regarding the current private sector sentiments. It is also showing that a more proactive approach is necessary.

With these heavily one-sided results leading to the next primary research setup; an expert panel comprised of three participants working on various sustainability causes. This panel is designed as a tool to make a better sense of the situation. Through structured face-to-face interviews that contain two open-ended questions (i.e. "could you please describe the social and environmental impacts of shopping centers in Istanbul?" and "could you please describe your suggestions regarding these impacts?"), original qualitative data has been successfully gathered and analyzed. Expert panel results have constructively countered the private sector views; as its participants stressed the social and environmental impacts of shopping centers and the ways and means to reform the market forces. Panel participants' ideas include; (1) creating social and/or vocational education schemes for the communities, (2) trying to build the shopping center workforce from the members of these communities, (3) improving the conceptual design and management practices for seamless sustainability, (4) nurturing a sense of community, (5) creating community funds (i.e. reserving a portion of the project income to address the unique local problems) for a more direct impact, (6) elaborating on a possible development tax scheme for strategically limiting the speculative oversupply on a larger scale, (7) solving the inherent problems of urban planning for a city-wide and long-lasting

improvement and (8) reforming the unsustainable business practices of the retailers that currently act as an industry-wide bottleneck. This new data set is strongly in line with the literature review findings. Therefore, it can also be seen as a cross-check mechanism. This backing has led to the assignment of ethical protection to Social and Environmental Pillars to further stress their importance and vulnerability; even though the multi-factor model is anyhow operating with the principles of qualified majority (both for scoring the individual pillars and for the total checklist scores).

In an important feat, AYD survey results have demonstrated the wide-ranging risks surrounding the current one-sided and commerce-dominated system, while the literature review findings and the expert panel results are, instead, showing the importance of a solid stakeholder environment and of an integrative approach towards sustainable development. Early on in this study, the multi-factor model is visualized in a very similar fashion to the strong sustainability's stance (i.e. environment as the outermost circle that encompasses society and commercial life respectively). Later, the model has also managed to improve the strong sustainability paradigm in three ways; (1) inclusion of the loop-back escalation arrows (i.e. any misconduct in one of the sustainability spheres can create a new chain reaction by negatively impacting one or both of the other spheres), (2) identification of the crucial industry-specific sub-factors for each sustainability pillar (i.e. three sub-factors for each pillar; complete with their own checklist headlines) and (3) the implementation of ethical protection for the spheres of environment and society.

Remembering Cambridge Dictionary's definition of sustainability is important; "the quality of being able to continue over a period of time". It is short but striking enough. This definition simultaneously has quality, ability and durability in it. These important elements are mostly overlooked throughout the globe; with Istanbul's complex urban development path and its saturating shopping center market not being exceptions. Even though cultures, history, geography and the economic situations can differ, everybody is feeling the negative impacts that have made sustainable development a cross-border necessity. In this respect, this study's self-developed Project Checklist and model visualization are important additions to the ongoing debate. It is based on primary and secondary data and it is a new, practical option for all the stakeholders. It includes twenty-six sustainability headlines under a total of

nine sub-factors that, in return, make up the specific contents of the major pillars of sustainable development (i.e. Commercial, Social and Environmental Pillars).

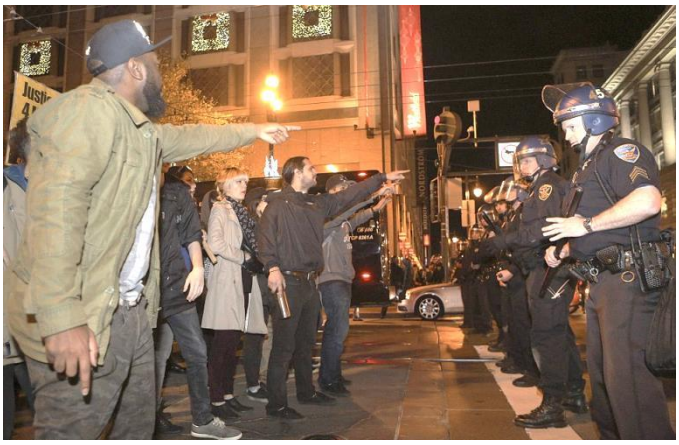
Yet, regardless of how hard one would try, perfection is an unattainable feat. This study also has its limitations. For example, (1) certain stakeholders are left out of the primary research structure because of scientific and operational complexity and (2) accessing to sufficient and multi-faceted data has been an almost impossible task. This brings to mind a quote from Shakespeare's Richard II, "as if this flesh, which walls about our life, were brass impregnable"… This study's findings and its multi-factor model are also not impregnable. However, they have managed to open an alternate path that is much broader, practical and multi-faceted.

It is important to remember a valid concern; does the world need these new shopping centers one after another –scattered around the globe like the industrially- and intentionally-repetitive soup cans of Warhol? Warhol tried to use the banality of the mass-produced nature of those soup cans as a mirror for the society's deep and problematic consumerism (Beetham 2015). It must be understood that sustainability is no longer an intellectual dream. Instead, it is an operable truth. It is not a sudden, destructive revamping but a gradual evolution for the better that anyhow requires a sustained pace. It is not a set of constraints for the global population but just a way for people to leave their artificial comforts behind –to be lighter and free. Social and environmental challenges are real. This debate should be taken out of the realm of extremism for more reliable, reasonable results. People must rise up to see beyond those Mannerist artists who are constantly playing with proportions.

Figure 21 – "Campbell's Soup Cans" by Andy Warhol (1962)

Beyond everything said and done about shopping centers, one thing is certain. They are everywhere and they have the potential to be much better –not only in a commercial sense but also in a social and environmental manner. It would be a huge loss of resources, if they would just be buried as the demonized physical manifestations of consumerism. This demonization is at the heart of many social uprisings all around the world. A more fruitful way would be to reinvent the shopping center typology as a superior platform that also serves the public and preserves the environment.

Figure 22 – Protestors and Police in front of a Shopping Center in the US (Reuters 2014)



This study (and especially its multi-factor model complete with an improved and case-specific visualization of the paradigm of strong sustainability and with a practical Project Checklist that enables all stakeholders to take part in the evaluation processes of shopping centers) proves that everything can change for the better. Commercial success alone is no longer enough. Even with the best-case practices at location selection (i.e. evaluating the catchment area, competition structure, plot accessibility and the micro-location traits), concept development (i.e. creating innovative and humane designs that can reflect –and flexibly adapt to– target customers' ever-changing wants and needs) and feasibility optimization (i.e. forming a profitable balance between the cost and income sides, while checking the long-term market stability and exit strategy probability) steps, it is just one of the interwoven elements that can only lead to true sustainability when all of the components are in their rightful places together.

Another crucial element to consider is the Social Pillar. Literature review suggests that integrating the society into the decision-making processes (i.e. abandoning the deep-rooted top-down, investor-dominant approach) constitutes one of the crucial sub-factors; even though, rather strikingly, AYD survey results show that stakeholder integration is currently at the bottom of the private sector agenda. Urban Value and Function is another important social sub-factor. Every city has its own unique combination of form and function that touches its dwellers deeply. Research shows that aweless shopping center designs tend to act as barriers that disintegrate the urban harmony; creating a concrete jungle, a land of urban sprawl and a place where the local culture silently disappears and leaves the stage to the highly standardized forces of globalization. Society's Health and Happiness (both physical and psychological) comes as another important determinant. In this respect, concerns such as "sick building syndrome" are also worth mentioning and Istanbul shopping center market also has its fair share of such urban social risks. Potential improvements must be identified through sustainable building certificates and project-specific sustainability campaigns –working on the long-term wellbeing of the visitors both through better planning and management practices.

People are not the sole concern here. As strong sustainability approach demands, this study gives its utmost attention to environment. The loss and degradation of natural lands and capital were not major concerns during the early days of economic theories, industrialization and rapid urbanization but they have gradually evolved into colossal problems. Shopping centers are also a part of this problem. This study demonstrates that their combined "base case" global environmental impact (i.e. only calculating the CO_2 emissions coming from the more apparent variables such as concrete, steel, electricity, natural gas and private customer cars) almost matches that of France (a large, developed nation).

One must not forget that it all starts with the initial decision of building yet another shopping center. The risks that entail this critical decision are initially analyzed in the first sub-factor of the Environmental Pillar, Land Use. This sub-factor also focuses on; (1) the urban expansion perspective (through a debate on Brownfield and Greenfield land developments) and (2) the optimum land use. Another sub-factor, Resource Use, comes into the picture once the investment decision has been made. It

encompasses all of the negative effects associated with the resource extraction, processing, transportation and implementation processes throughout the entire building life cycle of a shopping center. These are regularly overlooked while calculating the environmental footprint of real estate projects. In the multi-factor model, these effects are divided into two; (1) those that occur during the initial development and construction phases and (2) the remaining majority that occur during the operation and disposal periods. It should be noted that it is not only about the loss of natural capital but also about the natural hazards that follow. The final sub-factor, Waste, Pollution & CO_2, takes a look at this problem. In this respect, the multi-factor model expects shopping centers to; (1) offset their own air, water and soil pollution alongside with their CO_2 emissions, (2) pursue sustainable waste management techniques and (3) support the environment beyond their plot borders for helping the nature to heal and regenerate.

This study, after all, brings bits and pieces of information and procedures together (that would otherwise be scattered around in different manuals, studies and meeting rooms). Additionally, rather than swimming in a sea of complexity and technicality, it works on creating a reference document that can be easily understood and utilized by all stakeholders of this research topic. Clearly, this does not mean that commercial know-how has all of a sudden become worthless –as every building is principally obliged to deliver according to its own tangible and intangible reasons of existence. On the contrary, commercial know-how still has an important place in the Project Checklist and in the multi-factor model's structure as the innermost circle. Yet, this study has not been about creating an investment calculator. Instead, its is an evaluative, integrative and easy-to-use model that would be simultaneously based on commercial, social and environmental elements.

The journey of shopping centers is not all about negativity. Their relatable functional aspects and operable business premise are apparent. Moreover, the shopping center typology is not stoic at all. Just like humanity, it is also constantly going through evolutionary phases. It is the time for the next phase. Early reflections of this new age are already visible at some new generation shopping centers but the overall market is not on board yet. In the near future, with the support of a growing bottom-up movement, this new phase shall transform customers into true stakeholders,

communities into major partners and environment into the central element of sustainable progress. The current lack of unity has its roots in the secrecy and complexity of the past. Practical and easily-accessible ways and means of creating truly sustainable shopping centers must be at the disposal of all stakeholders. Scattered, incomplete –or even twisted– knowledge is only as good as it can be. This study's multi-factor model (complete with its visual structure and Project Checklist) offers a new alternative in this respect.

There is no time left for a watered-down approach –and definitely no time left for straight out greenwashing. The world is changing much faster than some of the most cherished theories and practices out there can reasonably catch up on. It should also be noted that a big chunk of this rapid change is currently inclined towards the negative direction for the shopping center business. Naturally, this is not only limited to the shopping centers in Istanbul or somewhere else around the world. Yet, it is also clear that these gigantic socio-commercial building have a substantial role in the unfolding global events. In this respect, those that completely pledge themselves to the sustainability cause would create a win-win scenario for all the parties involved.

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