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Analysing value-adding factors influencing the future viability of shopping centers

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Chapter One

Introduction

1.1 Research background

Digitalization has brought many changes to society that also have an impact on business. One of the changes is the impact of e-commerce on brick-and-mortar retail, especially on shopping centers (Zhang, 2021). The aim of this dissertation is to analyze the factors that influence the success of shopping centers in Germany in order to enable proactive management for retail agglomerations. One of the most important indicators for the success of a center is the performance rating of the tenants, which is published in the ecostra Shopping Center Performance Report. This rating is based on a comparison of the rent to sales ratio of stores in different centers and has been collected annually for around 400 German shopping centers since 2011. The database presented here examines systemic and non-systemic factors such as the macro location, micro location, building center structure and sector mix to identify the positive or negative development potential of shopping centers. It also analyses the impact of COVID-19 pandemic on centers and identifies implications for action.

1.2 Research problem

Studies in Germany, Europe, and the USA have explored the impact of various factors on shopping centers, primarily from the customer's perspective (Chebat, 2019). However, it is crucial to consider tenants'

evaluation and the influence of factors like the COVID-19 pandemic and e-commerce. Factors such as societal dynamics, product complexity, market cycles, and demographic changes impact stationary retail and the real estate industry. Digitization is removing the link between customers and stationary shopping, leading to a disruptive process of concentration and declining acceptance of shopping offers in medium-sized cities and vacant shopping centers (Li, 2018). A tenant survey has been conducted since 2011 by consulting firm ecostra to evaluate shopping center performance. The new aggregated data basis of this work from macro-location, micro-location, building center structure and industry mix enables a quantitative analysis of the effects of the influences so that management can compare environmental factors with center specifics and derive value-adding actions accordingly.

1.3 Research objectives

The aim of this study is to investigate and analyze the influence of non-systemic and systemic factors on the performance evaluation of tenants in shopping centers in order to improve the performance of shopping centers in a value-adding manner. For this purpose, important success factors for shopping centers are summarized based on the existing literature and a database of performance evaluations of centers is generated, which is linked to the systemic and non-systemic influencing factors. The analysis and interpretation of this data will provide information on the future viability and value creation potential of the centers and develop action recommendations for management to optimize operations.

1.4 Research questions

The focus of this dissertation is therefore on the questions of which systemic and non-systemic influencing variables are related to the performance evaluation of shopping centers by tenants and how these factors affect the performance evaluation of the centers in the environment 2015 to 2022.

1. To answer these questions, first the systemic influencing variables of macro-location and micro-location that are relevant for the performance evaluation of shopping centers by tenants will be investigated. These factors cannot be influenced and include, for example purchasing power, centrality, accessibility or also the attractiveness of a city, summarized by the Prognos Rank. The research question can be derived, to what extent do macro-location and micro-location influencing factors contribute to the success of a shopping center from the tenant's point of view?

2. In addition, the non-systemic influencing variables of the building center structure and the sector mix are analysed, which are relevant for the performance evaluation of shopping centers by tenants. These factors can be influenced and include, for example, area size, number of parking places, tenant structure. The research question can be derived, to what extent does the building structure of the center and the sector mix contributes to the success of a center from the tenant's point of view?

3. Furthermore, the study examines the extent to which the Covid 19 pandemic had a impact on shopping center performance evaluations. This is of particular interest because the pandemic led to several restrictions and changes in retail and shopping center use. The research question can be derived, to what extent does COVID-19 pandemic influence the performance evaluation of the centers from the tenant's point of view?

In order to answer these questions, data from market research institutes will be combined with information provided by shopping center operators and literature and conduct an empirical-quantitative analysis of the decisive influencing criteria. Using bivariate and multivariate analysis methods, tenant performance is analyzed as well as correlations and influences of shopping centers are interpreted.

1.5 Contribution and significance

This study makes an important contribution to both the theoretical and practical issues in the field of retail agglomerations, especially regarding shopping centers.

Theoretical implications:

1- An overarching methodological approach that examines both systemic and non-systemic influences on tenants' performance evaluations of shopping centers.

2- The identification of value-added and non-value-added

influencing factors, including macro-location, micro-location, building center structure, and sector mix.

3- To apply accepted mathematical analysis methods to validate or falsify hypotheses.

4- A contribution to national and international research in the field of shopping centers, especially under the influence of COVID-19 pandemic, and the implications.

5- The results can give further insights if the database is transferred to other countries. As an example, the ecostra survey is also conducted in Austria, so there is future research potential here, or even in Europe.

Practical implications:

1- The derivation of practical courses of action for management to enable the value-added operation of shopping centers.

2- A particular focus on the impact of COVID-19 pandemic and the related courses of action.

3- An assessment of the influencing factors that can and cannot be influenced and the derivation of actions to respond to center-specific influences.

4- An increased transparency and traceability of shopping center performance assessment through the analysis of data.

5- The possibility to derive forecasts on future performance assessments of shopping centers based on the results obtained.

Chapter Two

Review of Literature

2.1 Definition of shopping center

The basic success factors of shopping centers, nationally as well as internationally, have always been characterized by similar structure such as, multiple stores offering a range of products and services, coupled with entertainment offerings, located in aisles under a conveniently located, weather-protected building that provides some facilities such as restrooms and parking (Bloch, Ridgway, and Dawson 1994). Further following the International Council of Shopping Centers (ICSC), founded in 1957, the definition:

> *„A group of retail or other commercial establishments that is planned, developed, owned and managed as a single property. On-site parking is provided. The center's size and orientation are generally determined by the market characteristics of the trade area served by the center."*[81]

The Urban Land Institute's definition will be listed further (ULI):

> *„ […] a group of architecturally unified commercial establishments built on a site that is planned, developed, owned, and managed as an operating unit related by its location, size, and type of shops to the trade area that it serves. The unit provides on-site parking in definite relationship to the types and total size of the stores."*

From the aggregate consideration of these definitions, a shopping center thus exhibits the following conceptual characteristics:

- Uniform planning and development as one property or unit in a structurally enclosed complex of land and buildings
- Location on a greenfield site, in city districts or in city centers
- Establishment of parking lots on the property
- The building complex is in the hands of an owner or an owner's company and is managed by a center management
- Artificial agglomeration of cooperating but legally independent retail and service businesses, integrating a large number of sectors (target full range depending on center size), but only a small number of businesses per sector (EHI, 2021)

Considering this state of knowledge and the lack of a recent literature review on shopping center image models (Besemer, 2004 / Chebat, 2019 / Teller, 2007 / Wakefield, 1998), this work focus on the aggregated information on them by Sturm. The model presented here includes the influencing factors to be analyzed from macro-location, micro-location, building center structure and industry mix. Furthermore, the important transaction process between customer, tenant and landlord is presented in this model, which provides information about the performance of the center.

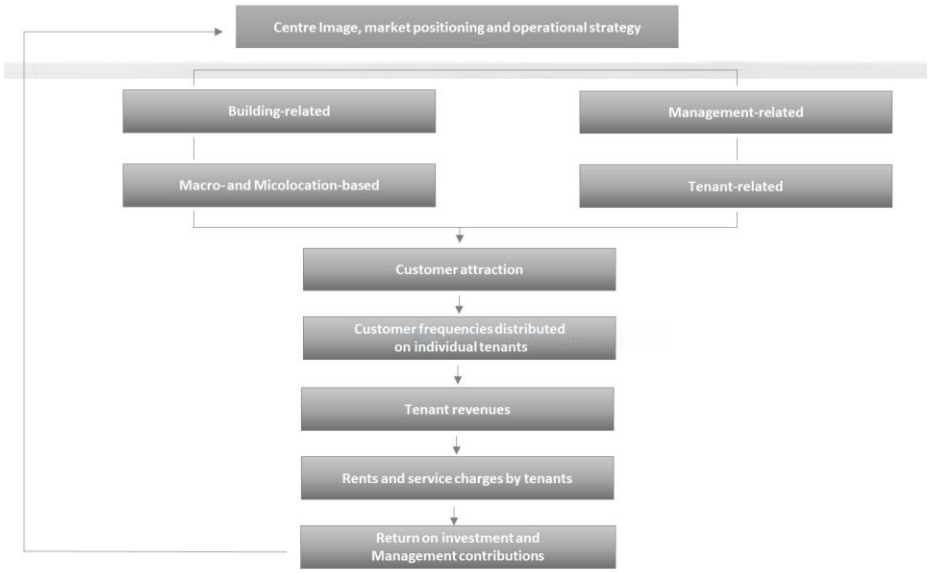

Figure: Shopping center success model (Sturm, 2006)

2.2 Systemic and non-systemic influence greens according to Markowitz

In real estate and finance, the literature makes the distinction between systemic and non-systemic risks in terms of risk classifications. This distinction is based on Markowitz's Modern Portfolio Theory and the Capital Asset Pricing Model, which builds on it. Systemic risks are risks that cannot be reduced within a portfolio through diversification, while non-systemic risks can theoretically be completely eliminated through diversification. With maximum diversification through infinite investments, the overall risk approaches systemic risk.

2.2.1 Systemic influencing variables

In the real estate industry, there are both systemic and non-systemic risks due to various factors. Systemic risks result from "overall market influencing determinants" (not influenceable) and can be defined as systemic influencing factors or influencing variables. Non-systemic risks result from building center structure or the industry mix" (can be influenced) and can be defined as non-systemic influencing factors or influencing variables. Changes in these influencing variables usually lead to changes in the non-systemic risks. In terms of retail properties, non-systemic influencing variables can be defined as the physical property characteristics that differentiate the property from others and whose active change impacts the property itself but not others.

2.2.2 Macro-location and its influence

This analysis defines cities as macro locations in Germany, considering

complex influencing factors such as purchasing power, population density, geographic location, and retail space intensity. Retail space intensity, measured in square meters, is used to evaluate the availability of retail space in a region. Purchasing power, calculated as disposable income, is an indicator of a region's prosperity and attractiveness for retailers and businesses. The retail centrality index, which measures the importance of a location as a retail location, can be greater than or less than 100. The Prognos Urban Ranking evaluates the economic performance and future prospects of cities in Germany, considering factors such as economic strength, population development, labor market situation, educational structure, and infrastructure.

2.2.3 Micro-location and its influence

Micro-location is a spatial location within a place that distinguishes between city centers, city districts, and greenfield centers. It is crucial for the strategic orientation of shopping centers as accessibility requirements vary. Greenfield centers are located near the city edge, allowing a large-scale appearance and geared towards motorized customers. District centers are located in residential areas and secondary centers, providing good accessibility by public transport and ample parking spaces. City centers are the most common location category, accounting for 56% of classic German centers. The quality of a shopping center's location is primarily determined by its urban environment and competition. Inner-city centers benefit from high pedestrian frequencies in highly visible locations near main shopping streets, which can be exploited through strategically effective positioning. However, the competitive situation

can be intensified by the overlapping catchment areas of several centers and cities. Access to private and public transport infrastructure is an important factor in the choice of location for shopping centers. Connections to heavily trafficked roads are essential for decentralized locations, as regular obstructions and long waiting times can impair the center's appeal, so that public transport is also given focus.

2.2.4 Non-systemic influencing variables

Both hard and soft site factors are used to evaluate a shopping center site. Hard, non-systemic factors are quantifiable and include aspects such as the building structure of the development, the age or the last revitalization, the number of parking spaces, the number of levels and the horizontal center structure comparable to the parcelling, to name some of the major influences. The management can adjust these factors, according to the circumstances. These factors are influenceable.

2.2.5 Building structure of the center

The building structure of a shopping center is both the guiding idea of a design and the process of creating it. The age of a shopping center can impact its performance, with older centers being less attractive due to outdated facilities and accessibility. The development phases of shopping centers can be distinguished: 1964-1979, 1980-1999, 2000-2015, and present. The first shopping centers were built in non-integrated locations, with bone-like development structures (Falk, 2009). The 1980s saw the integration of retail spaces, with the need for offices, apartments, and medical practices. From 2000 onwards, shopping centers were

characterized by extravagant and style-defining leisure components. The most recently realized centers are designed with ecological sustainability concepts, such as thermal insulation, renewable energies, water conservation, and pollutant-free materials. The shortage of prime properties is leading to smaller projects in inner-city locations, with conversion strategies such as neighborhood developments and specialist market orientations. The quantity and quality of parking spaces are also important factors in the attractiveness and success of shopping centers (Falk, 2009).

2.2.6 Industry mix and its influence

The attractiveness of a shopping center significantly influences consumer visits and frequency, influenced by the industry mix. Factors such as tenant numbers, product range, supplier price-performance ratio, business types, competitive situation, and business arrangement play a role. The interconnected system of shopping centers allows for active control of these influencing factors. The operator structure, such as chain stores or regional sole proprietors, can combine regional expertise with professionalized retailing, creating a tailored industry mix. A sustainable branch mix should consist of 40% textiles, 25% hard goods, 11% food, 10% sports/shoes, 6% gastronomy, 6% health, and 2% service. The industry mix composition is closely related to the shopping center's strategic concept and has a long-term influence on target groups and catchment areas (Falk, 2009). Shopping centers can use two strategies: economization strategy for fast, convenient, and inexpensive shopping, and preference strategy for long dwell times and experiential character,

such as gastronomy concepts (Falk, 2009).

2.3 The influence of COVID-19 pandemic

The retail sector was particularly affected by the Covid 19 pandemic, as social desistance rules and changes in consumer behavior severely impacted the industry. Observations show a significant decline in customer frequency and varying impacts on shopping area characteristics. Grocery stores and drugstore (suppy-relevant trade) saw a slight increase in customer frequency at the beginning of the closures as disconcerted customers stocked up on supplies and medications.. As the pandemic continues to worsen economically, retailers are being forced to adapt their business operations and structures to respond to growing demand for online purchases or on-street deliveries or pickups.

2.4 Research triangulation

The critical examination of the results of the analyses should add value by considering their content through research triangulation.

In research triangulation, multiple data sets, different methods, theories or perspectives are used to strengthen the accuracy of the research through the use of qualitative and quantitative research (Patton, 2015).

To this end, the key findings of the most important success factors are analysed and the customer perspective is also included. This corresponds to data triangulation, as the in-depth analysis of the tenant survey is no longer considered individually, but a customer, a second view, survey from 2023 is also included.

Chapter Three

Research framework and methodology

3.1 Ecostra Shopping Center Performance Report

The success of a shopping center is determined by sales and tenant satisfaction. In order to assess this, the consulting company ecostra has been publishing the annual "ecostra Shopping-Center Performance Report" since 2011, which ranks German shopping centers according to tenant satisfaction. This ranking is based on survey-based assessments by tenants of centers that are represented in at least three German shopping centers. The shopping centers are selected on the basis of the EHI Shopping Center Report and are limited to centers with at least 10,000 square meters of retail space and a specific center type. A total of 400 shopping centers are surveyed each year. The results of the report from 2015 to 2022 serve as a reference, in which 100 tenants evaluate more than 3,000 stores in 400 German shopping centers (ecostra, 2022).

3.2 Methodology

The aim of the dissertation is to evaluate German shopping centers in terms of tenant satisfaction. The basis for this is the economic performance of the center, measured by the ratio of sales to location costs. Based on this evaluation, a ranking of the most successful shopping centers in Germany is created. This is based on the results of the SCPR from 2015 to 2022. A detailed list of all shopping centers included can be found in the appendix.

3.3 Results and their relevance

The German shopping center market is opaque in terms of visitor frequencies, sales and also rent levels. A systematic overview of a larger number of properties was and is completely missing. Ecostra has remedied this situation with a methodical analytical approach. Ecostra has been conducting the tenant survey study together with Immobilienzeitung and Textilwirtschaft since 2011. The results of the study are an important step towards more transparency in the German shopping center market. The aim of the study is to provide market participants with information and utilization opportunities in a systematic and clear form.

3.4 Deriving of the dataset 2015 - 2022

In this dissertation, the time frame from 2015 to 2022 is taken as a basis. It is relevant in the data set that the shopping centers considered have at least five tenant valuations in each year, so that a complete time series is available for the years 2015 to 2022.

3.6 Data Analysis of the population

The mean value of the shopping center was calculated from the individual ratings of various tenants of the same shopping center. This mean value then forms the basis for the corresponding classification of a shopping center in a ranking that reflects the economic performance from the perspective of the tenants surveyed.

3.7 Quantitative parametric and non-parametric analysis methods

Quantitative research uses numerical data to test existing hypotheses or discover new effects. Exploratory studies mainly use descriptive statistics and graphical evaluations, while hypothesis-testing studies use statistical significance tests. The statistical comparison of means compares the mean values of metric characteristics from different samples and can include both the arithmetic mean and the median. A well-known example is the Wilcoxon-Mann-Whitney test, which is an alternative to the t-test. Another example is the Kruskal-Wallis test, which is an alternative to ANOVA (analysis of variance). Overall, however, non-parametric procedures are less powerful than their parametric counterparts and should therefore only be used if the prerequisites for the application of parametric procedures are not given.

Chapter Four

Data analysis and results

4.1 Data information and hypothesis

The Shopping Center Performance Report is a tenant survey in which chain store operators from the retail and gastronomy sectors grade their satisfaction with the economic success of their stores in 400 German shopping centers with more than 10,000 m2 of retail space using a school grading system ranging from 1 = very good to 5 = poor. This economic success not only relates to the tenants' income, but also takes account of their expenses, i.e. the (sales-related) rent level, ancillary costs and contributions to center advertising. Only centers that have received a score from at least five tenants are included in the ranking. To participate in the SCPR, tenants themselves must be represented in at least three shopping centers.

Since the SCPR was carried out in 2011, more than 100 chain store operators from the stationary retail sector have taken part in the annual survey and evaluated more than 3,000 stores in around 400 shopping centers in Germany (Will, 2022).

The following hypotheses to be investigated result from this survey ranking and the data basis created from macro-location, micro-location, building structure of the center, industry mix and the excurs COVID-19 pandemic.

Trend movement of the shopping center asset class

H1 Master: It is assumed that the market environment from 2015 to 2022 within the brick-and-mortar retail sector for shopping centers has led to a weaker performance assessment of shopping centers from a tenant perspective.

Systemic influences macro-location

H2 Master: It is assumed that at least two of the four systemic influencing variables of the macro-location (sales area per inhabitant, purchasing power, centrality rating, Prognos Rank) have a positive impact on the performance assessment of shopping centers from the tenant's perspective.

Statistical hypotheses for operationalization:

H2.1 = Shopping centers with a lower sales area per inhabitant at the macro location show a better performance rating.

H2.2 = Shopping centers with a higher purchasing power at the macro location show a better performance rating.

H2.3 = Shopping centers with a high centrality rating at the macro location show a better performance rating.

H2.4= Shopping centers with a good Prognos Rank at the location show a better performance rating.

Systemic influences micro-location

H3 Master: It is assumed that at least two of the four systemic influencing variables of the micro-location (location city-district-green meadow, competition, car accessibility, public transport) have a positive

impact on the performance assessment of shopping centers from the tenant's perspective.

Statistical hypotheses for operationalization:

H3.1 = Greenfield shopping centers show a better performance rating by tenants than the rest.

H3.2 = Shopping centers with little competition (center or downtown) nearby show a better performance rating than shopping centers with more competition.

H3.3 = Shopping centers with a shorter distance to the highway show a better performance rating than shopping centers that are further away from the highway.

H3.4 = Shopping centers with a public transport connection within walking distance show a better performance rating than shopping centers without a public transport connection within walking distance.

Non-systemic influences structural center concept

H4 Master = It is assumed that at least two of the four non-systemic influencing variables of the building center structure (age, parking spaces, levels, rental space) have a positive impact on the performance assessment of shopping centers from the tenant's perspective.

Statistical hypotheses for operationalization:

H4.1 = Younger shopping centers show a better performance rating than older shopping centers.

H4.2 = The higher the number of parking spaces in a shopping center, the

better the performance rating of the tenants.

H4.3 = The fewer levels the shopping center has (for example, only one floor), the better the performance assessment of the tenants.

H4.4 = The larger a shopping center is, the better the performance rating of the tenants.

Non-systemic influences Industry mix

H5 Master = It is assumed that at least two of the four non-systemic influencing variables of the industry mix (number of supply-relevant rental units, number of industries, number of restaurants, number of anchor tenants) have a positive impact on the performance assessment of shopping centers from the tenant's perspective.

Statistical hypotheses for operationalization:

H5.1 = The higher the number of supply-relevant rental units (food and drugstore) in a shopping center, the better the performance assessment.

H5.2 = There is a correlation between tenant performance ratings and the number of industries represented in the shopping center.

H5.3 = Centers with a higher number of food service operations have better performance ratings.

H5.4 = Centers with more magnet operations have better performance ratings.

Exkurs COVID-19 pandemic

H6 Master = It is assumed that the Corona pandemic had a greater

impact on tenant satisfaction in shopping centers without utility-related units than on tenant satisfaction in shopping centers with utility-related units.

H7 Master = It is assumed that there is a difference in performance assessment between the group of shopping centers that have a digital mall and the group of shopping centers that do not have a digital mall.

Chapter Five

Discussion of results and conclusion

5.1 Study finding

Overall, the general conditions for bricks-and-mortar retail have become more difficult. An increasing reluctance to buy on the part of investors in the markets of the large retail agglomerations shows this, as does the likewise "continuously" worsening assessment of the tenants with regard to the performance of the evaluated shopping centres (n 183) in the period from 2015 to 2022.

The reasons are complex and range from higher market interest rates for financing to excessively high operating and construction costs of the rental units to a strong change in customer behaviour after the corona pandemic, in particular a reluctance of consumers to save due to inflation, to name just a few reasons. All this is under the sign of a necessary transformation, also caused by a strong pressure to develop and adapt. Therefore, significant influences on the positive or negative success of a center from the tenant's point of view can be identified. The following results of the hypotheses are now summarized.

H_n Confirmed	Constant	Variable	Hypothesis
H1: Yes	Center Performance	Year 2015 - 2022	It is assumed that the market environment from 2015 to 2022 within the brick-and-mortar retail sector for shopping centers has led to a weaker performance assessment of shopping centers from a tenant's perspective
H2: No	Center Performance	Systemic influence macro location	It is assumed that at least two of the four systemic influencing variables of the macro location (sales area per inhabitant, purchasing power, centrality rating, Prognos Rank) have a positive impact on the performance assessment of shopping centers from the tenant's perspective.
H3: Yes	Center Performance	Systemic influence micro location	It is assumed that at least two of the four systemic influencing variables of the micro location (location, competition, car accessibility, public transport) have a positive impact on the performance assessment of shopping centers from the tenant's perspective.
H4: Yes	Center Performance	Building center structure	It is assumed that at least two of the four non-systemic influencing variables of the building center structure (age, parking spaces, levels, rental space) have a positive impact on the performance assessment of shopping centers from the tenant's perspective.
H5: No	Center Performance	Industry mix	It is assumed that at least two of the four non-systemic influencing variables of the industry mix (number of supply-relevant rental units, number of industries, number of restaurants, number of anchor tenants) have a positive impact on the performance assessment of shopping centers from the tenant's perspective.
H6: No	Center Performance	Corona	It is assumed that the Corona pandemic had a greater impact on tenant satisfaction in shopping centers without utility-related units than on tenant satisfaction in shopping centers with utility-related units
H7: No	Center Performance	Digital Mall	It is assumed that there is a difference in performance assessment between the group of shopping centers that have a digital mall and the group of shopping centers that do not have a digital mall

Table: Summary of hypothesis

5.2 Findings implications

5.2.1 Theoretical implications

Within the scope of the investigations the main study finding could be shown that shopping centers, contrary to a long history of success, are in a saturation process, partly even in a process of degeneration. **The trend movement of the shopping center asset class is decreasing**.

Continuing, the first of the three research questions, to what extent do macro and micro location influencing factors contribute to the success of a shopping center from the tenant's point of view, can be answered as follows.

1. **The systemic influences at the macro-location** do not have a significant impact on the positive performance assessment in the influencing factors analyzed here. Only a high centrality index shows a positive performance assessment.

   The systemic influences of the micro-location show a differentiated picture of the performance assessment from the tenant's perspective for the shopping center. The greenfield location and the proximity to a freeway were particularly positive factors. Direct stationary competition in the vicinity and public transport connections do not have a significant influence.

Further, the second of the **three research questions**, to what extent can the structural center design and the sector mix contribute to the success

of a shopping center from the tenants' perspective, can be answered as follows.

2 **The non-systematic influences structural center** offers considerable opportunities for management to positively influence the performance assessment from the tenant's point of view. In particular, the number of parking spaces, the size of the center and a small number of floors (one floor). On the other hand, it is revealing that younger centers tend to be rated poorly from the tenant's perspective than older centers on the market.

The non-systemic influencing factor of the sector mix is theoretically a decisive element for the evaluation of shopping centers from the tenant's point of view, in particular due to coupling and synergy effects among each other. However, statistically, in the present work and data basis for the supply-relevant stores, the diversity of the industry mix, the food service establishments and the number of anchor tenants, no significant findings can be determined about their significantly positive influence. Only in the interpretation of the bar chart for the number of magnet businesses could a slightly positive performance rating be interpreted descriptively, even if this could not be sufficiently validated statistically.

It must be critically mentioned that the quality of the anchor tenants could not be included in the evaluation.

The third of the three research questions, to what extent does **Covid 19** influence the success of a shopping center from the tenants' perspective, can be answered as follows

3. The security-oriented measures by **Covid 19** of the state to restrict contact had no impact on the centers with a share of supply-relevant stores or without this supply-relevant share, from the tenants point of view.

   Likewise, the possibility of using **the digital mall** (shipping and collection of products from the mall with interlinking) from the tenant's point of view had either no significant impact on performance.

5.2.2 Practical implications

This study provides practical and scientific insights for shopping center managers, investors, and tenants. It highlights factors such as macro location, micro location, building structure, industry mix, and Covid 19 that influence performance evaluation of shopping centers from the tenants' perspective. The study also highlights shopping center trends in Germany, such as competition, development, and insights for improving performance. The return on sales, or the ratio between tenant turnover and center costs, is crucial for evaluating shopping centers and is used in negotiations and lease agreements. The study uses a tenant survey and a new database to map the relationship between revenue potential and cost structure of a property in comparison with several centers in Germany. The SCPR provides valuable knowledge on which influencing factors management must optimize to achieve higher value creation for the center. The study emphasizes that the effectiveness of BREEAM concepts depends on positive transaction relationships with tenants, and the SCPR evaluates revenue prospects from the tenant's perspective.

To this end, key performance indicators such as rental turnover or visitor frequency can be used to interpret which influencing factors the management can focus on directly or indirectly using the Action Cockpit as an extension to Sturm's model and improve within the centre, according to the author's new interpretation.

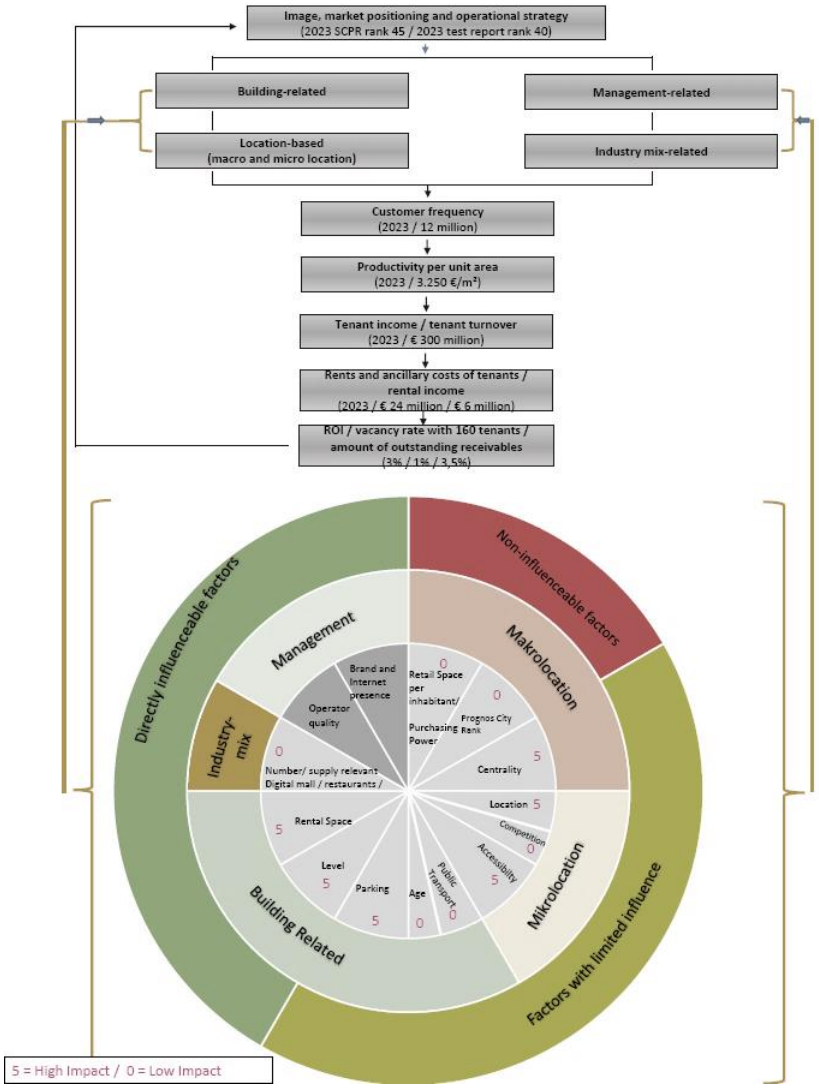

Figure 2.15 KPI Action Cockpit based on Sturm / Stoyke

In this case, there is already an unmistakable trend towards declining visitor numbers, lower sales, falling rents and vacancies. The results of this dissertation can then be used as an additional source of information, either as a leading or lagging indicator, to review the management and conceptual direction of the property (Stoyke, 2020).

5.3 Limitations and future research directions

This dissertation identifies several limitations and suggests future research. It only assessed influencing factors of macro and micro location, building structure, and industry mix. It also lacked consideration for existing American studies on consumer attitudes towards shopping mall success factors. The study's conceptual limitations make it impossible to test every hypothesis and provide no significant insights into the design of the industry mix. The quality of tenants is another important field of research. The German environment should be considered, as similar trends in success factors exist in neighboring countries. Sustainability, environmental awareness, and CO2 emissions are not yet influencing factors. Excessive rent amounts can negatively influence tenant ratings, and the pro rata rating of only 10% of tenants may not be representative of the actual performance of all tenants. However, an in-depth analysis of the centers only from the customer's point of view would certainly provide further insights, but this is outside the scope of the research, as is the survey of owners or investors. But this in particular can raise new research questions about shopping centers for those interested in future research, nationally or internationally.

Chapter Six

The new scientific results

6.1 New scientific results of the study and summary

The aim of this dissertation is to take a closer look at the developments in stationary real estate in order to be able to derive findings on the main factors influencing shopping centers and their performance on the basis of quantitative analyses. This serves to derive recommendations for action in order to prevent the critical developments of the recent past described in the following.

Specifically, there are signs of increasing competition from bricks-and-mortar retail in US, Europe and especially Germany, as a result of which shopping centers are having to contend with declining customer footfall, falling sales and, consequently, considerable vacancy rates. Extensive revitalization, but in some cases also conversion to other concepts, is then relevant.

The Shopping Center Performance Report, compiled since 2011, shows how centers are increasingly unable to position themselves successfully in the market. The increasing intensity of competition and the associated market saturation due to the further expansion of retail space with declining productivity per unit area will further complicate the successful positioning of all centers and requires critical awareness. In addition, the fact that customer expectations of brick-and-mortar retail are in constant competition with e-commerce will not make the successful operation of centers any easier in the future (Zhang, 2016). In this respect, the center

industry and its players will have to face the new challenges of the current market requirements. As a result of the increased demands of consumers, inadequacies in the location, the structural and design concept, and the staffing that can be tolerated can result in serious competitive disadvantages in the medium term, as has already happened with regard to a number of foreign shopping center markets, in particular the USA (deadmalls.com). This is documented by the recent spread of leasing difficulties, vacancies and problems with subsequent use in many places (Calvo-Porral and Lévy-Mangin, 2019).

Current developments demand such a high level of professionalism from today's decision-makers and executives in the management of shopping centers in terms of site selection at the macro- and micro-location, the building structure of the center, the design of the sector mix as well as the management that without these factors there is no longer any market acceptance today.

However, a resulting, often uniform and homogeneous appearance of the centers all too often causes an indifferent market position from the customer's point of view, so that no sufficient competitive advantages can be achieved for the individual shopping center brand. In this respect, the operation of centers in the coming years with unchanged concepts will not be able to meet the expectations of customers and also investors. The market has changed too dynamically for this, with more and more centers in German cities suffering from structural problems. This makes the findings of this dissertation of value-added management with application of the right influencing factors all the more crucial. In the future, the insights gained may be useful to center operators in the form

of a catalog of actions, as there are likely to be similar, if not the same, challenges to difficult market positioning as recently observed in the Shopping Center Performance Report (2022) for new centers (Mall of Berlin, Schultheis Quartier) or centers that have shown steadily declining performance in recent years (Zwickau Arcaden, My Zeil, Neukölln Arcaden).

Operator	Center	Ranking
HGHI	Mall of Berlin	(3.57)
ECE	Zwickau Arcaden	(3.6)
ECE	My Zeil	(3.75)
URW	Neukölln Arcaden	(4.00)
HGHI -	Schultheis Quartier	(4.78)

It must be mentioned, however, that a generalized catalog of measures for unconditional center operation must be viewed critically. The highly complex requirements of center project planning and leasing and operation are always current and must be perceived individually due to the large number of participants and their motivations and often do not follow a linear course of action (Stoyke, 2020). The exogenous economic structure additionally dynamizes the complex challenges and also influences the most important factors of management such as macro location, micro location, building structure and industry mix.

Nevertheless, this work can sensitize investors, developers, municipalities and other stakeholders to the fact that centers are not always a consistently successful and secure value investment in today's

world and have a positive signal effect in terms of urban policy. Furthermore, the work shows what tenants value in order to evaluate a center as successful and which factors are decisive for a sustainable management of the center on the market, with following findings of this work:

1. This dissertation examined the factors influencing shopping centers. The study is of particular importance because it shows the significance of influencing and non-influencing factors for center performance from the tenant's point of view. The way in which the analysis draws on the recognized Shopping Center Performance Report and derives insights for shopping center management from a database by means of quantitative analysis represents a significant added value in terms of knowledge.
2. On the one hand, the significance of this study lies in its scientific nature. In particular, the analysis and evaluation of numerous studies, primarily from the USA, Europe and Germany, provides interested parties with essential findings on the research framework for shopping centers.
3. The importance of this study on the other hand lies in its practical relevance. In particular, the analysis and evaluation of numerous practical approaches provides a sound basis for identifying the key influencing factors that can be focused on by management in order to improve center performance.
4. Furthermore, the analysis methodology can be extended to other countries in the European area. The Shopping Center Performance Report is also carried out in Austria, so that similar studies and

analyses are possible for Austria, resulting in research potential for other countries. Especially for this purpose the author has created the website deadmalls.de to enter into dialogue with interested researcher, besides the most famous website deadmalls.com.

5. In 2020, for the first time, 261 main shopping streets in 128 cities were evaluated by ecostra using the same survey methodology and presented in a shopping street ranking, comparable to the Shopping Center Performance Report. Crisis cities with significant vacancy problems have structurally similar retail problems as shopping centers or large retail agglomerations. In this respect, the results of this dissertation can also become an important information basis for retail concepts in cities for municipal economic development and urban development planning or offer further research opportunities here.
6. The analysis of the key positive success factors of the shopping centers from the tenants' perspective offers the opportunity to delve even deeper into the future viability of individual properties. In particular, if centers are combined according to good ratings from the tenant's perspective, from the customer's perspective and the success factors, very high-performing centers and very low-performing centers can be segmented and clustered.

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Curriculum Vitae

Thomas Stoyke was born on September 10th, 1981 in Neuss, Germany. After graduating from the Marie-Curie-Gymnasium, he did his military service at the NATO E3A unit in Geilenkirchen. From 2002 to 2005, he studied at the Baden-Wuerttemberg Cooperative State University (DHBW) in Heidenheim, including a semester abroad at the University of California Santa Barbara. He began his professional career in 2005 as a Junior Center Manager in one of the largest shopping centers in Berlin, the Gropius Passagen. In 2007 he moved to the shopping center Galerie Roter Turm Chemnitz and graduated from the Chemnitz University of Technology with an MBA in 2009.

Several positions and centers in the real estate industry followed and now since 2015 as Center Manager of the Chemnitz Center. Since 2010, Thomas Stoyke has been an honorary lecturer at the Zwickau University of Applied Sciences and the Glauchau University of Cooperative Education. The interlocking of practice and science will lead to the launch of the Doctoral School of Management and Organizational Science at Kaposvar University in 2019.

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