STRATEGIC INVESTOR RESPONSES TO DEMOGRAPHIC TRENDS: SEGMENT-BASED RECOMMENDATIONS FOR THE RESIDENTIAL REAL ESTATE MARKET

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Abstract: *This article examines how residential real estate investors respond to demographic change by focussing on segment-based differences of investors for example in the relevance of data use, analytical capabilities, and strategic investment or portfolio management behavior. Given the general relevance of demographic variables for residential real estate investments, the existing literature has largely overlooked how different investor types process and operationalize such information according to their specific needs. Using information gained from qualitative expert interviews with professionals from the residential real estate sector in Germany, this paper identifies three distinct investor segments that show a different approach in the use of demographic information: community or small private housing firms, large housing firms, and institutional asset managers. Each segment exhibits unique patterns regarding the relevance of demographic data, data access, analytical depth, or investment response. It is shown that responses to demographic trends are not uniform but conditioned by organizational objectives, market scope, and internal resources. The findings underline the importance of differentiated planning strategies for residential real estate investments, proposing segment-specific recommendations to enhance analytics by integrating demographic insights.*

Keywords*: Demographic Change, Residential Real Estate, Investment Decision-Making, Investor Types*

1 Introduction

The dynamics in terms of demographic change, which manifest in various ways such as regarding aging, changing household sizes or other variables, necessitate its use and proper integration in real estate information systems (Krämer, 2016; Scharmanski & Wiencke, 2017; Schürt, 2017). However, while previous academic research has generally agreed on the relevance of demographic information for real estate forecasting and planning, there remains a lack of attention in real estate research as to how different types of investors make actual use of demographic data, such as through processing the data and using it for actual decision-making purposes.

This article addresses this gap by exploring how residential real estate investors differ in their use of demographic data, particularly with regard to market scope, organizational capabilities, and strategic portfolio intentions. Empirical data is hereby employed in the form of expert interviews which was gained in the context of doctoral research. Here, representatives from various firms in the residential real estae sector are included in the sample. It will be shown that investor responses are different and dependent on the type of investor, as there are systematic differences in data use, analytical capabilities, or other factors, leading to different approaches towards investment planning and decision-making. Also, targeted recommendations will be derived for investors, depending on their unique type.

The paper is structured as follows: After presenting the theoretical background, the empirical section includes the results from the interviews, pointing out and discussing key patterns in how different investor types engage with demographic information. Here, a distinction will be made depending on the different kinds of demographic data that are of typical relevance as well as towards other relevant categories. Having presented the empirical part, the conclusion summarizes the results and provides the implications and recommendations that are helpful to better understand the role of investor type differences in the context of using demographic information for real estate investments.

2 Theoretical Background

Real estate investments show a rather high level of complexity due to numerous issues that are characteristic to the property or to the structuring of the transaction itself. Therefore, it is required to adequately evaluate these issues in order to optimize investment results. This first includes the legal or regulatory issues that are connected to the property as well as the analysis of the transaction, which can be made rather differently, such as through project development, asset acquisition or via other direct or indirect investment structures (Busch, 2017; Goepfert, 2016; Rödl & Partner, 2020).

Each of these transactions is also different in terms of operational logic, which therefore contributes to the inherent complexity of this type of asset. Therefore, a generalization of the investment process is hardly possible, as different investment formats show specific characteristics.

Beside legal and transaction-specific issues, there are other issues that need to be considered by investors. These must be covered by additional types of analysis, such as location analysis, market analysis, or the analysis of the usage concept. In addition to these types of analysis, which are very qualitative in nature, there are also risk analysis, economic feasibility assessments, and portfolio management that need to be mentioned as additional types of analysis for real estate investments. The literature provides general guidance on how to navigate the demands of all these types of analytical approaches (Alda & Hirschner, 2016; Scharmanski & Wiencke, 2017).

Within the total realm of necessary data for optimal real estate analysis, demographic data assume a relevant impact as well. Here, it can be argued that demographic data are recognized as a strategic factor in location and market analysis (Alda & Hirschner, 2016; Scharmanski & Wiencke, 2017). However, how demographic data are integrated in the information systems that pertain to investment decision-making and how such data are used and interpreted can potentially be conducted in different ways, depending on the strategy, or capabilities of the particular investor. The relevance of demographic variables in location analysis becomes particularly evident when combined with classic hard location factors such as infrastructure connectivity, surrounding quality, or land price development. While these parameters are regularly incorporated into due diligence processes and the

corresponding valuation models (Alda & Hirschner, 2016; Busch, 2017; Ertle-Straub, 2019), the systematic integration of demographic factors including trends like aging, household structure changes, or migration patterns is mostly limited to contextual background considerations with little specific guidance offered in the literature.

This problem also shows another layer of complexity, given the increasing prevalence of novel forms of technology that enable superior analysis. This is relevant at various stages of real estate investments, e.g. with respect to construction, cost management, or facility management (Alda & Hirschner, 2016; Kilb & Weigold, 2017; Lange, 2019), as they potentially cause improvements in terms of economic viability or risk mitigation. Generally, the analytical landscape in real estate investment currently experiences a substantial transformation due to recent technological advancements. Innovative applications of information technologies are no longer limited to operational or construction phases but increasingly extend to core investment analysis as well. Most notably, machine learning methods such as Support Vector Machines (SVM), Random Forests (RF), and Gradient Boosting Machines (GBM) enable highly accurate forecasting of property values, thereby providing a viable alternative to traditional valuation models (Ho et al., 2021). These models can also be integrated with conventional techniques, such as with hedonic pricing models, to enhance predictive performance even further (Pérez-Rave et al., 2019). Generally, artificial intelligence applications are becoming more prevalent across the real estate lifecycle, including in early-stage planning and project development (Bach et al., 2024). These developments mark a paradigm shift, as it can be argued that analytical quality and business performance increasingly depend on the maturity of a firms' technology infrastructure and its methodological capabilities or resources.

Accordingly, significant differences can be expected across different types of real estate firms with respect to the quality, depth, and integration of novel types of information systems into investment decision-making. These differences are likely to stem from varying levels of analytical and human resource capabilities, as well as from disparities in the maturity of the implemented information infrastructure for real estate analysis. As a consequence, the way in which demographic is expected to differ. This

heterogeneity represents an issue that has not yet been adequately addressed in the existing literature and will therefore be evaluated in this paper.

3 Empirical Approach and Findings

This chapter outlines the empirical approach, which is based on expert interviews conducted with representatives from different types of real estate investment firms. Subsequently, the findings are presented along key thematic dimensions that allow for a systematic comparison of investor type differences. The chapter concludes with a discussion of the results.

3.1 Empirical Approach

The empirical analysis uses a qualitative research design grounded in semi-structured expert interviews. This method was chosen in the context of doctoral research in order to gain insight into the current state of information systems and investment decision-making procedures of residential real estate investors in Germany. The sample comprises fifteen interviews with decision-makers from a heterogeneous mix of investor types, including municipal and church-affiliated housing companies, large and small housing firms, and institutional investors that are running investment funds. The participants were selected randomly through purposive sampling within their investor type categoryThe identification of potential experts was made by using a commercial industry database (Listenchampion), from which companies were drawn and contacted directly.

As mentioned, the data were originally collected as part of the author's ongoing doctoral research project, which investigates information processes in residential real estate investment under conditions of demographic change. The interviews were conducted via telephone between December 2024 and February 2025. A structured interview guide was used to ensure consistency across conversations and to cover key thematic areas in relation to the role and use of demographic data for real estate information processes. The transcribed material was evaluated through deductive qualitative content analysis, allowing for a systematic analysis along predefined analytical categories.

3.2 Findings from Interviews

Generally, all interviewees acknowledged the relevance of demographic developments (e.g. aging, singularization, or migration) for housing demand and analytical approaches such as location assessments. However, notable differences were observed across investor types in how systematically such information are integrated into decision-making. Institutional investors and large housing companies tend to engage in more formalized demographic analysis. These actors commonly apply demographic data to scenario planning, market forecasting, and risk assessment:

"[D]emographic data is especially relevant when calculating scenarios and identifying opportunities and risks." (Interview#13)

In contrast, smaller and locally focused companies typically apply demographic information in a more informal way, while relying heavily on local knowledge and object-specific expertise and knowledge. There is also an important role of past project experience, which remains a dominant source of information:

"Our main source is experience from earlier projects." (Interview #5) "Most market analyses are still based on experience." (Interview #3)

Municipal and socially oriented housing providers also have a stronger focus on specific population groups, such as students or the elderly, while tailoring their investment planning to these local demographic demands. Their data use reflects clear planning intentions tied to public interest mandates:

"Demographic data help us estimate local housing demand—for example, the growing student population forces us to plan ahead." (Interview #10)

In contrast, private-sector and profit-oriented institutional investors emphasize that they use demographic data primarily to optimize the return on investment as well as to reduce market risk. Hereby, they also rely on targeted partnerships such as with developers in high-demand areas:

"We work closely with developers and invest in markets with high housing demand, which virtually eliminates vacancy risk." (Interview #14)

Therefore, demographic information is widely regarded as relevant by the experts, while their operational integration varies significantly depending on investor type as determined by company size and by the specific firm objectives. Demographic

data also serves dual functions, as it enables social needs-based planning in public-interest organizations, while also contributing to optimizing return objectives and to mitigate investment risk.

3.2.1 Human Resources and Analytical Competence

Organizational capacity to evaluate demographic data is closely linked to the availability of specialized personnel. Here, companies with internal research or data teams such as large housing firms or institutional investors demonstrate significantly higher analytical depth:

"Our research team plays a critical role in identifying the key parameters for economic feasibility." (Interview #1)

"[I]n the analysis department, the market research unit provides us with information. Here, numerous methods are used to assess the impact of demographic influences on the real estate market." (Interview#13)

Therefore, these firms clearly show that they possess the necessary resources in terms of specialized personnel so that they can perform sophisticated types of analysis. In contrast, smaller firms generally report resource constraints when it comes to hiring or developing specialized personnel. Their understanding of what constitutes expertise tends to be more traditional and based on general experience and less on data-based analytics.

"Experienced staff are essential, as we rely heavily on practical knowledge." (Interview #5)

"We have staff for demand analysis and modernization planning, but not necessarily technical specialists for data evaluation." (Interview #9)

Nevertheless, some smaller actors are actively investing in further digital skill development, as the importance of building relevant competencies has been acknowledged:

"We see digitalization as a chance to streamline processes and are investing in staff training accordingly." (Interview #6)

The findings therefore support the view that specialized human capital is a critical enabler of data-driven approaches to investment analytics. Resource

limitations for smaller firms therefore represent a structural barrier towards a more advanced type of demographic analysis.

3.2.2 Analytical Tools and Technological Infrastructure

Technological tools play a key role in enabling systematic information processing. Advanced data analysis systems are primarily found among institutional investors and larger firms. These actors use complex models that can incorporate demographic indicators. One of the experts mentions the integration of AI-based procedures including neural networks and predictive modeling based on regional household, income, and mobility data to identify growth opportunities. Also, AI is used to assist in forecasting future levels of rent levels and property prices. However, in the context of the interviews, the use of such applications is rather the exception.

In contrast, smaller and municipally affiliated providers typically rely on basic tools such as Excel-based calculations and internal administrative data, in particular for managing the existing property in the real estate portfolio:

"We calculate profitability with Excel, mainly using our own data." (Interview #7)

"We carry out simple analyses based on our knowledge of the local client base." (Interview #8)

Taken together, the findings indicate that the systematic use of demographic information is strongly mediated by the availability of corresponding analytical tools and system architectures. Larger and more sophisticated investor types are better positioned to implement such technologies, while smaller actors remain constrained by limited resources, as they clearly exhibit less technological maturity.

3.2.3 Population Growth and Ageing

Population growth and aging are widely recognized as key input factors for residential real estate investment, particularly in long-term location assessment and future demand projections. Interviewees across investor types acknowledge that shifts in age structure directly affect the viability of new developments and the adaptation of existing portfolios. Institutional investors and large housing providers view these trends as critical indicators for scenario modeling and product design:

"These are essential factors for assessing location attractiveness. Aging, for instance, requires adjustments to housing design and infrastructure." (Interview #13)

While large actors tend to evaluate the topic with a stronger emphasis on the economic impact, municipally affiliated providers use the information about aging with the purpose of catering better to the needs of specific target groups like for example regarding senior-friendly housing:

"The growing number of elderly people means we must focus more on accessible housing options." (Interview #5)

"Older people prefer barrier-free units. This guides our renovation strategy." (Interview #8)

"We're focusing on assisted and accessible housing models." (Interview #12)

"Demographic development is key because we need to respond to an aging population." (Interview #8)

In saturated urban markets, demographic growth does not necessarily raise concerns regarding vacancy risk but is clearly used as a signal for market positioning. In some contexts, like in university towns or high-demand cities with stable or growing populations, population growth does not necessarily lead to visible growth opportunities but can reinforce the need for a more tailored development.

3.2.4 Household Size and Singularization

Shrinking household sizes have been mentioned by the experts from the sample as significant trends shaping housing demand. Many investors have therefore adapted their product strategies accordingly by focusing on smaller, modular units:

"More single households lead to increased demand for small apartments." (Interview #1)

"This is an important factor in adjusting our apartment sizes." (Interview #11)

However, the trend is not uniform. In high-rent cities, rising costs have led to a rise of shared living arrangements, which somewhat counteracts the singularization trend. Some investors noted this increase in larger households formed for economic reasons:

"Despite lower average household sizes, we observe more shared apartments in urban areas as a response to affordability issues." (Interview #14)

The complexity of household composition is also reflected in phenomena like overcrowding and under-occupation, which reveal misallocations not captured by demographic metrics like the average household size, which is discussed in the literature (Kohl et al., 2024).

Overall, household size is considered a meaningful demographic variable but its importance varies with respect to the investor's asset flexibility, strategic and geographical positioning, but also regarding its social aims. For some investors, household size changes can shape new construction strategies, while for others, they have limited relevance due to the inflexibility of the existing stock of properties.

3.2.5 Internal Migration and Net Immigration

Internal migration and international inflows are clearly considered as powerful drivers of urban housing demand. Most experts emphasize the growing importance of population mobility for both short- and long-term investment planning:

"Migration within Germany determines which cities grow and which stagnate." (Interview #4)

"We are experiencing significant inflows, which directly affect our housing strategy." (Interview #9)

Metropolitan areas are especially impacted by internal as well as by international migration, as the growing number of people acts as a form of stabilizer for housing demand as well as for rent increases. Urban pull factors were mentioned, which contribute to the disparities between rural and urban areas:

"Migration drives demand and rental levels in metropolitan areas." (Interview #1)

"Student cities and urban centers remain the main destinations for internal and international migration." (Interview #14)

However, not all investors experience migration as a relevant factor. In some cases, companies that operate in more static regions with less exposed portfolios report that they do not experience a visible impact:

"Migration is important socially, but it has no concrete effect on our stock." (Interview #12)

In addition, some experts link mobility to new living and working patterns, which have become more popular with the advent of the COVID-19 pandemic (Waizenegger et al., 2020). Given the opportunity of remote working, suburban areas can become more attractive as well, especially if there is a well-functioning transport infrastructure that connects it to the metropolitan areas:

"There's a long-term trend toward cities, but the pandemic temporarily strengthened suburban markets." (Interview #15)

Migration-related insights are therefore used rather differently by investors. That is because migration patterns are to some extent local trends that are also relevant in the context of a real estate firm's geographic positioning as well as target groups.

3.3 Discussion

The evidence from the interviews shows visible contrasts regarding the way investors use demographic data for residential real estate investment decisions. Also, clear differences have been pointed out also in terms of its relevance as well. It is particularly noteworthy that firms engage with these variables in markedly different ways, depending on their strategic orientation, organizational aims and resources as well as their geographic focus.

The results indicate that demographic indicators are commonly treated as soft location criteria in market screening, which is similar to the approach found in the literature (Alda & Hirschner, 2016; Lange, 2019). Yet, some investor types actively incorporate such information into operational planning decisions, like for example regarding the adaptation of building concepts in order to cater towards specific needs of the tenants.

While using demographic data, investors also show differences in terms of their organizational and personnel resources, or analytical capabilities. It can be argued here that the classical resource-based view (Mintzberg, 1979; Wernerfelt, 1984) is highly relevant in the discussion of firms' abilities (and discrepancies) to use advanced technological tools such as in the realm of AI (Ho et al., 2021; Mishra et al., 2019).

On the basis of the findings from the interviews, three dominant response profiles can be deducted. These are listed below together with a short description of the use of demographic information by these types of investors:

Institutional asset investors and large housing firms

These investors apply highly formalized processes supported by dedicated analytical infrastructure and specialized personnel. Demographic data are used to identify market opportunities, assess risk exposures, and inform diverse investment strategies with a strong focus on risk and return objectives.

Municipal, church-affiliated, or other more socially motivated investors

These investors tend to emphasize demographic needs from a public service or mission-driven perspective. Their decisions are often grounded in local knowledge and local needs with a strong orientation towards long-term social utility, especially in relation to aging populations or vulnerable groups.

Small- or medium-sized private housing firms

These represent the most diverse group. Basically, these firms mostly rely on traditional, experience-based decision-making and financial analysis tools. However, attempts are visible that they are beginning to adopt more structured approaches. However, their ability to act is typically constrained by limited resources.

4 Conclusion

In this paper, it was shown that various types of residential real estate investors respond differently to demographic trends in their decision-making and investment planning. Based on qualitative interviews with 15 professionals from the residential real estate sector in Germany, it was shown that demographic variables like aging, household size, or migration patterns play an important role in the investment decision-making process but are operationalized in markedly different ways. These differences are shaped less by the data themselves than by investor type, organizational resources, or the strategic objectives.

Institutional investors and large housing firms mostly apply formalized and data-intensive approaches, using demographic inputs for market screening, forecasting, and portfolio alignment. Other actors, such as municipal and church-affiliated providers, adopt a more needs-driven logic, focusing on specific population groups in their region. Small- and medium-sized private providers fall somewhere in between, with decisions often being grounded in practical experience rather than

systematic data use. The findings therefore highlight that demographic insights cannot be made via a standardized process. Instead, a careful reflection is required that integrates other elements in terms of applicability and usefulness of the information, organizational resource issues and strategic orientation.

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