

Management Summary

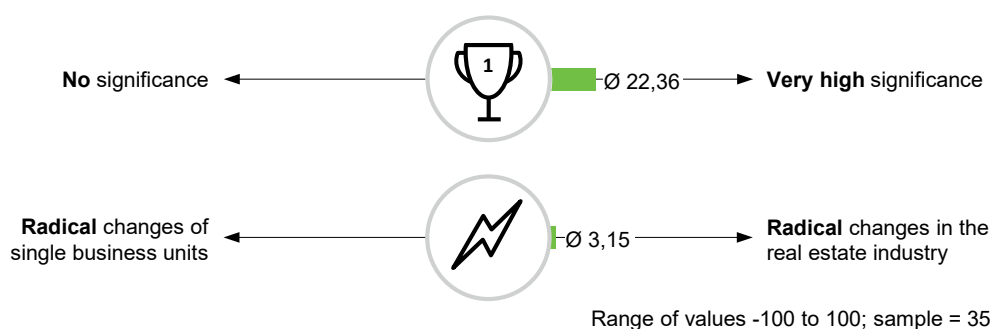
Currently the term Big Data is also being discussed intensively in the real estate industry. The potentials are highly valued, the application fields are large. The content, which is hidden behind Big Data, is presented in many ways. In the intersection one agrees, that there are large amounts of data from different areas and sources. There is also consensus, that Big Data faces big challenges within the collection, structuring, pattern recognition and utilization of large-volume, heterogeneous and dynamic data.

Nevertheless, the real estate industry is lacking a concrete picture of what Big Data really is and what potentials are adjustable. The here presented market study, consisting of a combined qualitative and quantitative analysis, gives an insight into the phenomenon of big data and its importance for the real estate industry. The quantitative online survey involved a total of 118 real estate experts. The finding results were expanded by structured interviews with a total of 35 personalities from the real estate industry. The views of the real estate specialists serve to analyze the need for Big Data on three levels:

- Big Data in the real estate industry
- Big Data in companies
- Big Data in data management

Notwithstanding the current euphoria, surprisingly the participants of the study rated the current value of **Big Data in the real estate industry** as only slightly increased (see fig. 1). Another result is astounding: non-industry companies are mentioned as potential suppliers of the new data sets. The industry eludes its own business opportunities and thus „take the butter off the bread“. Also the question about the use of Big Data was asked. The largest beneficiaries are long-standing well-known players in the industry: fund companies and portfolio managers. However, some time will pass before the absorption. An average implementation period of 6.1 years is expected. Similarly, the changes in the industry structure will remain manageable, according to the assessment. Although the variety of statements ranges from radical change to retention of the status quo, moderate restructuring is expected in the business models of the real estate industry (see fig. 1).

Fig. 1: Big Data in the real estate industry (extract)



On the level of **Big Data in companies**, a target model is created for the implementation of Big Data. For this purpose, the aspects of data volume, application areas, data provisioning, readiness of the companies and profitability of Big Data are discussed in detail.

With regard to the required content spectrum of Big Data, in particular information from the fields of real estate, economy and finance are of interest. There is a particular need for the specific tenants and/or users of the buildings, especially with regard to data on local locations (see fig. 2). Global market data and general information of the society are rather secondary and are only needed for acquisitions.

Within the application areas of Big Data portfolio optimization is also more often mentioned than acquisition is. This – all interviews agree on – is depending unambiguously on the business model. The more a company is focused on transactions, the greater is the interest in data on new real estate markets. In deciding whether to use Big Data to optimize internal processes or the assets, there is a tendency for the assets. Finally, the subject of the fields of application is discussed as to whether the data should be used for predictions or for the analysis of the current state. The trend is clearly in the direction of future developments.

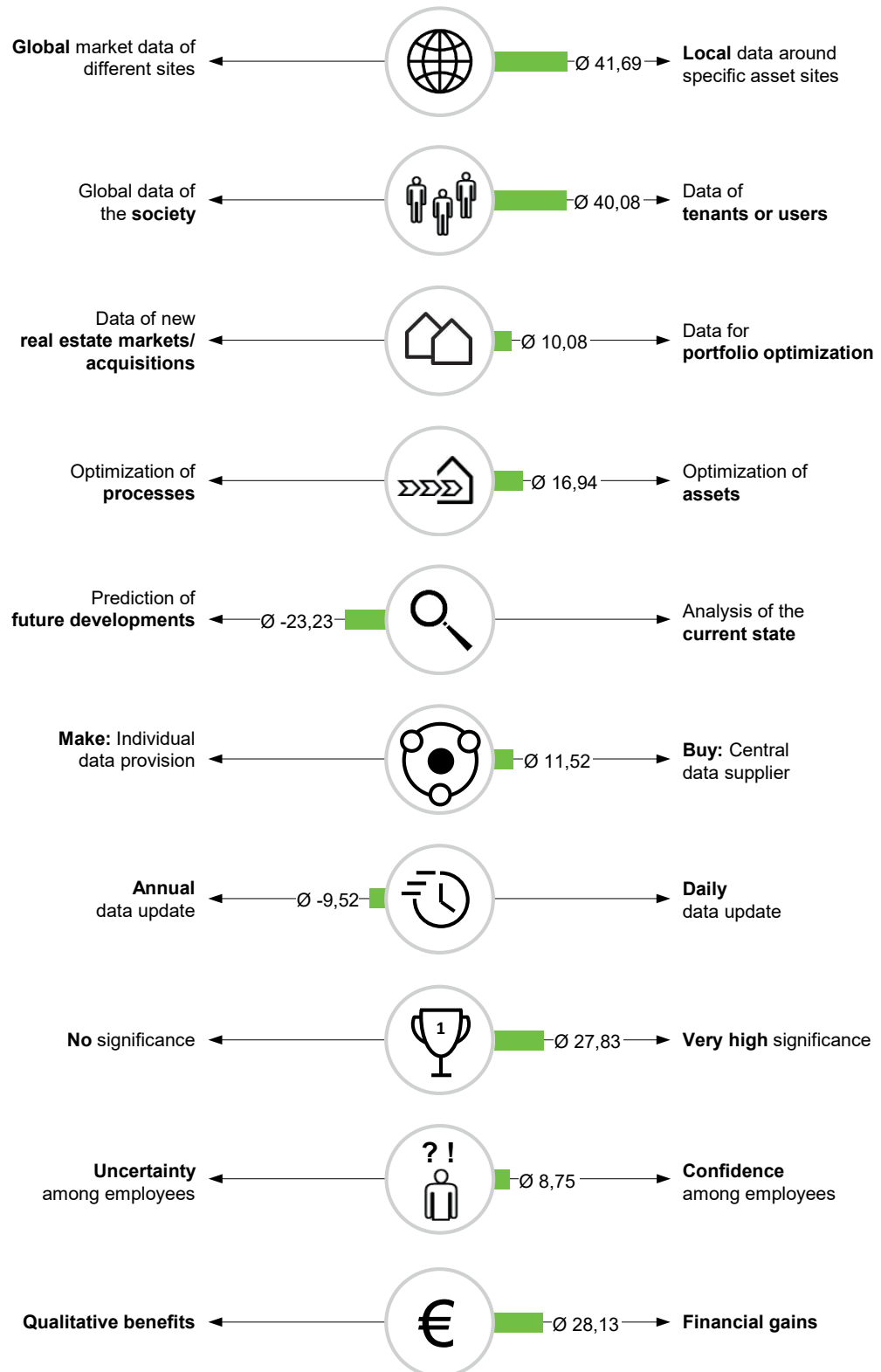
In the context of data provisioning, the decision Make or Buy is at the forefront. The “Make Group” emphasizes, that the analysis of Big Data is a core competence and therefore offers competitive advantages. In addition, the risk of strategic dependency is mentioned and warnings against unpleasant interferences in own data bases are highlighted. Advocates of the buy strategy, on the other hand, emphasize the efficiency of central data provisioning and are afraid to build up their own resources for data processing. While there are many different opinions on the question of Make or Buy, there is no clear preference on average. The decision depends on the individual company and is decisively influenced by the future data providers. Another aspect of the topic of data provisioning is the frequency of data updating. In this respect, the real estate industry has rather low expectations. Despite aspects such as the fast-paced nature and dynamics often associated with Big Data, the industry desires on average a half-year update of the data base.

The prerequisite for the readiness of a company to use Big Data is, that these new data sets are given a high priority and that they have a precedent degree of implementation, as well as a positive attitude to this in the company. The results for all three prerequisites are moderate. The value of Big Data in its own companies is only slightly above the value for the entire industry and is thus relatively low. In terms of implementation, companies have developed first strategic ideas and developed initial concepts. Concrete strategies and pilot projects, or even the creation of organizational units as well as the system adjustment, are still pending. In addition, the mobilization of employees, whose openness to Big Data is still low, must also be worked on. Confidence is highly required, since it is imperative that the human factor is decisive for digital success.²

The assessment of the profitability of Big Data is determined by the weighing up, what benefits they bring and what profit they promise. In principle, a financial gain is expected, even if this expectation is still subdued and difficulties of quantification are evident. The greatest advantages are promised by strategy development, the optimization of purchasing decisions and the reduction of operating costs. However, substantial investments are necessary to exploit these potentials. The effort required to implement the whole Big Data concept is estimated to be around € 1,000,000 on average. Three values are available for investing in the data records: an average for a single data record is 1 €. The investment per record and year is estimated at an average of € 14,600, including periodical updates. For the total package of all data per year, an investment of an average of € 470,000 is expected.

² Zeitner/Peyinghaus, PMRE Monitor 2016, Warum IT Projekte scheitern, 2016

Fig. 2: Big Data in companies (extract)



Range of values -100 to 100; sample = 31

The analysis **Big Data in data management** addresses the question of which data is implemented within Big Data. To this end, clusters were formed that divided the data sets into three categories:

- implementation,
- eventual implementation and
- no or unlikely implementation.

The result is sobering. From a total of 123 data sets provided to the discussion, only two were rated as relevant or were adequately capitalized to ensure that an automated, IT-technical implementation is realistic. Accordingly, only 1.6% of all the data sets discussed would be implemented. These are information on market rents and real estate prices. This low relevance assessment and willingness to invest is surprising and contrasts with the current enthusiasm surrounding Big Data and the alleged intent to implement it.

The analysis also shows further unexpected results: in the category „eventual implementation“, only real estate-related information are listed. This cluster does not contain any data outside the real estate sector, for example in the areas of economy, finance or politics and society. A look beyond the boundaries of the industry is therefore currently not required.

No, or only very little, probability of automated implementation of Big Data (category III) is predicted for a total of 109 records, representing a share of 89% of all records discussed. In particular, the low consideration of sociodemographic data as well as evaluations via social media is of interest, as these data sets are seen as leading in the context of Big Data in other sectors (e.g. retail). A positive deviation is shown in the detailed group analysis for individual asset types. The real estate managers, who predominantly look after the asset type of logistics, are the first, who do also consider, among the top data fields, information outside the classic real estate data such as, for example, the purchasing behavior of the average consumer.

Big Data hovers today between a widely-praised remedy and a marketing gag of the IT industry. The results of the market study show that the real estate industry is also in a hovering state and is still at the very beginning of the discussion with Big Data. Reasons are insufficient data standards or a lack of technical possibilities. But here is the well-known question of what was first: chicken or egg. It will be the task of the real estate industry to secure the data quality and to demand the necessary tools.

In addition to the technique, theory is also required. What is the purpose of data analysis? Which statements should the data confirm or invalidate? Which influencing factors explain identified patterns? Without this theoretical discussion, the data have no meaning. Data is not self-sufficient. You will get no information without context. A model is required for gaining knowledge, answering wise questions from practice. Only then does genuine knowledge emerge. Whether large volume, heterogeneous and dynamic data sets are necessary as a basis, is currently not yet defined for the real estate industry.

Impressum

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