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VALUE ORIENTED PROJECT DEVELOPMENT – EFFECTS OF AN EARLY INTEGRATION OF STAKEHOLDERS TO THE VALUE OF PROPERTIES

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Since the beginning of the 1990s there can be watched some mayor changes at the European real estate market. One of them is the tendentiously saturated market, which leads to much higher user requirements and have essential influences on the design of real estate properties. In the future, it is necessary that the design of durable asset properties is suitable for short-changing user requirements. As that, the variability of properties, with the aim of a long-term marketability**,** will also be a very significant factor to use properties as security for loans. The changings above result in increasingly complex buildings. The rapid advancement in technology and with it the adjustments of norms and regulations, require a quantity of professional disciplines and special knowledge. To that, the number of project participants increases rapidly. Financiers and builders, who usually have little or no expertise in the management of construction projects, are mostly overtaxed. Its overarching objective is the completed building, which correspond to the desired user requirements and deliver the anticipated rate of return. Consequently, the question arises whether the conventional workflow at real estate project development, which is marked by a sequentially participation of the stakeholders, can fulfill these requirements. Or is it more purposeful to put some incentives on the stakeholders and gather them to operate parallel in earlier project phases. From this initial position, the hypothesis is deduced, that the application of an integrated workflow in project development affects the value of real estate properties. The research should give an answer to the questions: firstly, whether the model of an early integration of the participants at real estate project development is suitable to increase the value of properties and secondly, what relative difference of the asset value is between a conventional process and an integrated process model.

Keywords: Sustainability, Valuation methods, Market value, Collaborating models, Partnering, Partnership, Simultaneous engineering, Incentives.

1 INTRODUCTION

From the perspective of an investor, and consequently from the viewpoint of a project developer, a long-term and maximized return on investment of their properties is crucial. This means that a permanent income and the return of interests have to be ensured (Brauer 2013). So the economic success of a property directly relates to its life cycle value. In the past, this was shown in many researches as well monetarily and not monetary (e.g., Pelzeter 2006, Eser 2009, Fröch 2012). In contrast to these life cycle based optimizations, the present work additionally implements the integral process of the workflow and investigates its impact on the value of properties (Figure 1).

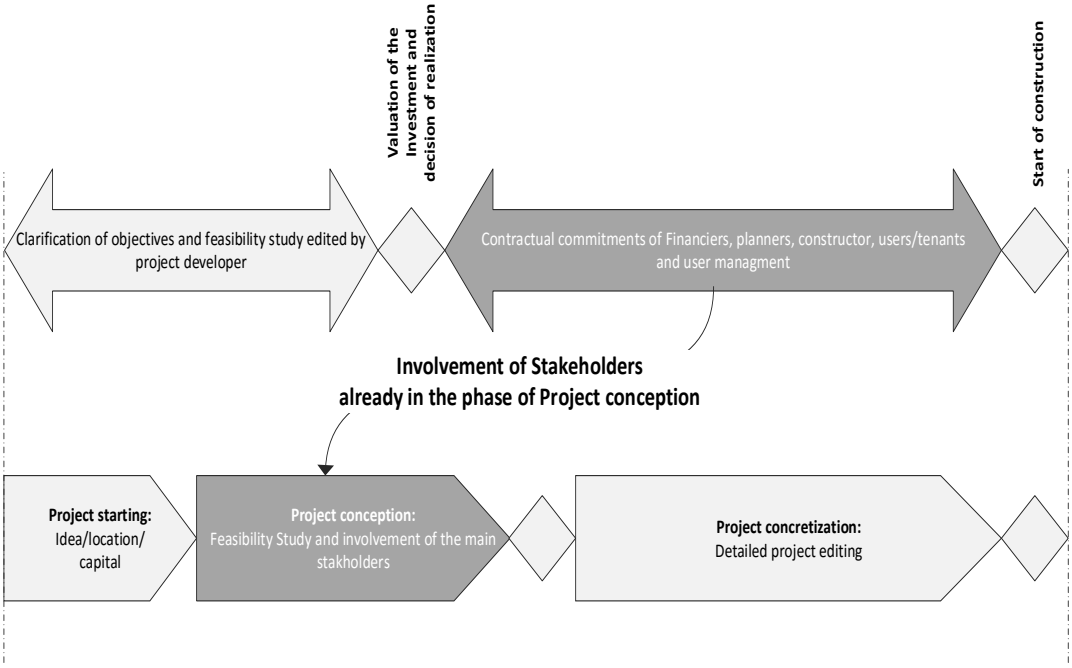

Figure 1. Integration of stakeholders in the phase of project-conception.

By integrating the stakeholders, there are several synergy effects, which have influence on the project development progress (Racky 2006). Some examples are listed below:

- Efficiency of planning and construction
- Quality and functionality of the building
- Building costs
- Renovation cycles
- Costs of operation and maintenance
- Risk relocation
- Vacancy
- etc.

This leads to the assumption that the change over from a sequential project development progress to an integral progress has an impact on the value of real estate properties.

2 METHODOLOGY AND OBJECTIVE

The high heterogeneity of the property market and the uniqueness of construction projects require to set tight constraints. Therefore, in a first step, it is necessary to

select an appropriate valuation method and a specific partnering model in relation to the examined property submarket. Collaborating models in the construction process, such as GMP, PPP, etc., are determined by an early involvement of the necessary project participants, which in turn has an impact on the cost-, schedule- and quality-characteristics of projects (Grimscheid 2014). These parameters form the basis of yield expectations and consequently the value of real estate projects.

Regardless of this, the parameters from the selected collaborating model, which are under influence by the project participants, will be investigated. Due to a comparison with the examined parameters of the valuation method, it is possible to match the essential, relevant and modifiable elements. About a comparative analysis of the conventional and the integral project development process in an example project, it should be finally possible to show the effects on the value.

The advantage of this relative comparison approach is that the non-consideration of unchanged parameters, which aren´t able to detect conclusively, will not affect the result and misinterpretations like in an absolute consideration.

The following article is an excerpt from the ongoing research and shows the analysis of an appropriate value investigation method and the identification of its decision relevant parameters.

3 IDENTIFICATION OF DECISION RELEVANT PARAMETERS

Considering the market value (ON 1997) of real estate properties as the basis for its recoverability, it can be assumed that all factors affecting its value are reflected by it. That means, that the willingness of a tenant or investor to pay the appropriate rental or purchase price only will be given if all decision relevant parameters are involved in this price. This approach is also pursuing Fröch (2013) in his work, in which he demonstrates the optimization of project development by integration selected parameters of sustainability.

According to current international methods, the market value of income oriented real estate properties is determined by capitalization of its net income referring to the remaining period of life. For this, a number of different standardized and non-standardized procedures exist, such as *Ertragswertverfahren*, Discounted cash flow method, Residual method, etc. (ON 1997). For deducting the decision relevant parameters, at this work the choice dropped on the DCF method. On the one hand, this method is used internationally and on the other hand, it’s also adopted to the standards of the German language speaking regions like Austria, Germany or Switzerland.

The principle of the DCF method is dividing the whole lifetime of the property into a detail-prediction period (explicit growth model) and the period of the remaining lifetime (implicit growth model). All expected cash inflows and outflows are recognized directly in the detail-prediction period of the DCF method and not if considering the remaining lifetime of the property on the capitalization rate. The base of both models is the principle of a present value calculation where all of the expected cash inflows and outflows are discounted to the point of time t=0. The residual value at the time n+1 is the present value of a finite annuity, calculated on the remaining life of the property and also discounted to the point of time t=0. This displays the following equation:

$$K_0 = \sum_{t=1}^{n} \frac{CF_t}{(1+r)^t} + \frac{RW_{n+1}}{(1+r)^{n+1}} \quad (1)$$

CF = Cashflow
RW = Restwert
r = Diskontierungszinssatz
n = Detailprognosezeitraum
K = Barwert

$$RW_{n+1} = CF_{n+1} * V \quad (2)$$

$$V = \frac{(i+1)^{Rd} - 1}{(i+1)^{Rd} * i} \quad (3)$$

i = Kapitalisierungszinssatz
Rd = Restnutzungsdauer

The main parameters of the equation above are:

- Cash flow [*CF*] consisting of the rental income from properties less the operating costs, maintenance and the shortfall of rental income e.g. by the changing of tenants.
- Capitalization rate [i] with the implication of rental growth and major risks such as location risk, refurbishment and modernization risk, risk of third party using, risk of rent progression, etc.
- Discounting rate [r] with explicit designation of rental growth - so the risk of rent progression is directly shown in the cash flow.
- Residual value [*RW*] consisting in turn of the cash flow and the remaining economic period of life [*Rd*] of the corresponding object.

In this approach, a derivation of the corresponding parameters initially appears without problems. On closer analysis, by which components they are made up, the main difficulties quickly become evident.

The factors mentioned above, like the cash flow, the interest rates and the remaining economic period of life directly are in context to the success factors recoverability, location, market and the property itself (Eser 2009). Furthermore, there are varieties of dynamic correlations between these parameters. Pelzeter (2006) for instance, describes a dependency between the economic life of an object and its location. Accordingly, the restoration cycles for objects in better locations are longer then in worse ones. Also the qualities of properties affect their renovation cycles and in addition have direct influence on incomes and costs. A property, which fulfils the user demands in large measure will earn more revenue at the market and get a lower vacancy rate than anyone with a low performance level. These are only some of the major effects that have to be taken into account.

4 PROSPECTS

An essential part of the following approach is to show the dependencies of the parameters above and to find out the relations to the modifiable parameters of the selected partnership model. The aim is to identify correlations and link qualitative, not directly with costs detectable parameters, to quantifiable factors for making them measurable.

With this method, it should be possible to ensure under the general conditions of the investigation that, in addition to the quantitatively detectable parameters, also all relevant qualitative parameters are included in the calculation model.

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