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On the need for iterative real estate project models – Applying agile methods in real estate developments

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Abstract

This paper discusses how agile methods can be applied to real estate projects, and proposes a model for real estate development projects, inspired by practices in IT-projects. We review real estate development models and project management. Project models typically describe a project process as a linear development, from idea, through decisions, execution and delivery. Real estate development projects are no exception. However, reality frequently feed surprises into real estate development projects, creating needs for iterations, where the projects need to be re-defined. We also review agile methods used in IT-projects. The logic in these methods is iterative. This iterative aspect in IT-projects is relevant to real estate development projects as well. This means that real estate development projects have similarities with IT-projects, where the need for iterative development has contributed to the development of agile methods. We illustrate applications of the model, and corresponding time use in the development process. We find that there is significant variation in the time use, along with need for iterations. The time needed for processing a regulation plan in Norway is found to be minimum about one year, but it may take two years or more.

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1. Background

The development of real estate can be described as a creative process focused on value added (Haila, 1991). Real estate is about investments in land area with the objective to increase its value. Value is created when the land utilization is changed from one type to another type that is in demand. An example would be agricultural land that is

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converted to housing. Planning and legislation governs the relationship between public benefit, individual freedom and business aspects. Urban and regional planning includes social and community development. Planning identifies what can, should or must be done in the future and how it will be implemented (Fiskaa, 2010).

It is tempting to look at the real estate development process as a structured process divided into phases. In a way it is. However, experience shows that there is often a need for flexibility and the need to return to the previous step, that one originally thought was finalized. Research on successful projects show that the projects are gradually adapted to the opportunities and conditions. The adjustment is done in iterative processes. To survive this forming stage and end as a successful project, the projects need an active support from key sponsors (Miller and Lessard, 2000).

Projects are inherently uncertain, and thus exposed to uncertainty (De Meyer et al., 2002; Huchzermeier and Loch, 2001; Sun and Meng, 2008). Real estate development is dynamic by nature, and processes related to development will almost always contain changes to a greater or lesser extent. Project management mainstream literature tends to describe best practice project processes in a rational and deterministic way, opting for routine-based standardized project models. In contrast, Geraldi (2010) describe that successful responses to unexpected events are built on three pillars: responsive structures, good interpersonal relationship and competent people. Consequently, a method for real estate development that acknowledges the need for flexibility is important for a good real estate development. Similarly, methodology that prevents change can be an obstacle for optimal development. A major role in this argument is that there is a continuous need to verify every step of the process to verify that the project is still relevant, or if the status indicates that it is necessary to revise the process or goals. In some situations it will be necessary to consider a plan B or project termination.

A model for real estate development projects would thus have a need for flexibility. The concept of flexibility is of significant interest to scholars of various research areas, including economics (Carlson, 1989), strategic management (Mintzberg, 1994) and project management (Olsson, 2006). Conboy and Fitzgerald (2004) describe agility as what is known in other fields as “flexibility” and “leanness”. Lean design differs from traditional practice in systematically deferring decisions until the last responsible moment in order to maintain flexibility. In the literature, we also find articles that trace the roots of project flexibility to Ackoff’s (1999) interactive planning. Nerur and Balijepally (2007) compare agile development to maturing design ideas in architectural design and strategic management.

This paper builds on these ideas, and proposes a flexible model for real estate development projects. The chosen approach for flexibility is inspired by agile methods in IT-projects. The purpose of this paper is to (1) review project phase models in real estate development projects and IT projects, (2) map actual time use in selected real estate projects and (3) propose a revised model for real estate projects with inspiration from agile methods in IT projects.

2. Methodology

The model presented in this paper is based on literature studies on real estate development and IT-projects. The literature review indicated that project models described a project process as a linear development. In practice the process tends to be less linear, with needs for continuous re-definitions during the preparation of projects. We noted that agile methods used in IT-projects were used to support iterations. We therefore wanted to investigate whether this iterative aspect in IT-models could contribute to a better description of real estate development projects as well.

In the empirical part of the paper, we have used a qualitative case study research approach, as described by Yin (2008). To support the development of the model we have investigated time use for a selected part of the real estate development process. We study time use, and have special interest for any need of iterations. The data is based on two sources: (1) Statistics Norway and (2) six case studies. Statistics for durations of the zoning phase of property development process have been collected from Statistics Norway. This data is based on KOSTRA, a system for reporting key benchmarks from Norwegian municipalities. The studies include six different cases from three different developers. Problems and successes are identified, elaborated and justified through interviews and literature studies. The cases have in common that they are from Norwegian cities and includes building and real estate development. The cases are of different sizes and complexity. Three regulation processes are assumed to be

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