

Reflection

In this document the research culminating in the thesis 'Designing and Testing a Strategy Game' will be positioned in its respective scientific field and the wider social context. The objective is to account for the results in the graduation phase and to learn lessons from the process.

The research in question has been conducted within the scientific field of Real Estate Management (REM). Research done in this field is done on different levels of abstraction. At the highest level of abstraction is the research on CREM/PREM theory, with regard to generic strategy, added value, alignment, etc. One level below that is the research done on real estate management for specific organizations, e.g. municipalities, corporations, hospitals, and universities. On the third level, the research done relates to specific elements of real estate such as workplace innovation or transformation of vacant buildings.

Aside from these three levels of abstraction, two different types of research can be distinguished in the field of REM. The first type of research is empirical, and in this research things that already exist are studied. The goal of this type of research is typically to gain an understanding of what is happening around us and what we can learn from it. The other type of research is formal, and in this research the aim is to develop new solutions to problems that have developed in practice. These types of research are never completely separated from each other – in order to develop new solutions, one must gain an understanding of the problem and its environment. Similarly, as a result of an empirical study, solutions to the problem can be proposed and subsequently designed.

The research done in REM is mainly empirical. This means that over the years a substantial amount of knowledge has been gained and data collected. In the case of this thesis, others have devoted years of research to developing a framework for strategy design and gaining knowledge on how universities manage their real estate. In accordance with the levels of abstraction described previously, a logical step to make next would be to design a tool that helps practitioners to incorporate this knowledge and data into their decision-making. That is exactly what Monique Arkesteijn is doing in her Ph.D. and what has been done in my thesis.

However, because the role of empirical research in REM is so large, I wanted to include an empirical component in my research in order to put the design of this tool into perspective. Because of this gaming has become a prominent part my thesis, where otherwise it might not have been a part at all. In the exploratory phase of my research I found that, after a search on databases such as Web of Science and Google Scholar, little was written about the similarities and differences between Gaming and Decision Support Systems (DSS). The only relevant articles that came out of this search query were Mayer and De Jong (2004) and Erisman, Hensen et al. (2002). These articles both made a distinction in the definitions of a game and a decision support system.

In the decision-making model that I would be designing, the definition by Erisman et al. (2002) would be ideally suited to explore the differences between gaming and DSS. They write: "The moment where a decision support system becomes a game is where the players are confronted with the consequences of their actions and those of others in the simulation and can act upon them." If an algorithm had been developed in time, my model could have been used in two ways: (1) users design alternatives, which is gaming, and (2) the algorithm selects the best design alternative, which is DSS.

Unfortunately that was not the case. Now the model could only be used as a game, and by evaluating the process of refining and adjusting criteria and designing alternatives in the model I could answer my research question (Erisman (2002): confrontation with the consequences of actions and acting upon them). In further research the comparison of using the model as a game and as a DSS would be very valuable.

Although there is an empirical component in my research, the research is predominantly formal. Because formal research was the dominant type of research in my research, it was possible for me to adjust and refine my theoretical framework and even add an extra chapter about timetabling to it. In empirical research this would have not been possible.

As a result of these adjustments it was also possible to keep the research and design closely related to each other. However, the design is a very specific product designed to solve a very specific solution, whilst the aspects discussed in the theoretical framework are at a more abstract level. This does not have any repercussions for the ability to evaluate the design with the knowledge gained from the theoretical framework, but it does mean that the lessons learned are only applicable to this particular tool.

When viewing the project in the wider social context it is possible to extract some conclusions as a result of this research. Using a tailor-made model to solve specific problems in an iterative process is rated very positively by the stakeholders involved. The use of the method leads to design alternatives with a higher overall preference score and stakeholders also think that the method can be helpful in this respect.

In reality one does not have to look far to acknowledge the importance of more efficient management in real estate. Increasing worldwide focus on sustainability compels us to make more efficient use of the world's resources. As one of the world's largest contributors to carbon emissions real estate has a large role to play in this respect. The Netherlands is one of the most densely populated countries in the world, which would lead one to think that we already make efficient use of the space we have. However, currently the Netherlands has an average vacancy of 16 percent in office space and 8 percent in retail space (Duurzaamnieuws.nl, 2013): even in the Netherlands there is a big step to be made.

References

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Mayer, I. and M. De Jong (2004). "Combining gaming and GDSS for decision support." Group Decision and Negotiation **13**: 233-241.

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