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Point of departure

The starting point for this research was the Pilot Project of the MOR Team and the proposal of a future proof transformation project in the competition of Solar Decathlon Europe, 2019. The main principles of the project are circularity, adaptability and feasibility. Being responsible for the domain of adaptability and motivated by the existing situation of my home country, I wanted to conduct a research about how to confront buildings’ obsolescence in order to improve the efficiency of the existing building stock and create better places for living and working. Quite quickly I understood that the capacity of a building to be adapted can notably contribute to an extended, more efficient lifecycle of the building. So, I immediately started researching the different aspects of adaptability in the theory of the built environment and looking for a topic in which I could use my experience as an architect and my knowledge as an MBE master student. The creation of a designing tool for adaptability was the idea that I had in my mind and quite quickly was defined as my research aim. For me this is the ideal topic to work on, as it expresses societal and scientific importance alongside with the close relation to architecture. Moreover, I was benefited by the fact that I was participating in a team whose project could be my “experimental space”. By being liable for designing adaptability I was working closely with the team architects in order to create a future-proof design based on the principles derived from the theory. That was a great opportunity for me to test the accuracy of a set of design indicators on a real case scenario.

Research challenges

As a researcher on this topic I phased many challenges during these nine months of working on adaptability. The first obstacle was to define what is the meaning of adaptability and how to communicate it firstly to my teammates and secondly on the Business model of the MOR project. Even though, all this process is not presented in this report (as is not that relevant with the final research objectives) it was a big personal challenge which educated me and helped me understand that designing a framework is not only talking about drawings but also evaluating their value and their co-existence with other concepts. All this knowledge was the basis for my master thesis. Continuing to the obstacle of definitions, I did not have the chance to interview two of the main researches whose work was a milestone for my understanding, R. Geraedts and A. Manewa due to personal reasons. Another challenge and difficulty was the data collection. Due to big project delays (which still occur) it was not possible to gather data about the cost, transformation and adaptation data for the pilot study. Moreover, it was quite difficult to find these set of data through external companies and professionals.

Reflection on the initial and the adjusted research aim

My ideal thesis would include a fully developed business model, with exact labor and construction costs, transformation and adaptation data for both an adaptable and non-adaptable strategy. Quite early in the process I understood that this would never be possible due to time limitations, in-transparency of shared data and a pilot study that was not finished yet. Nevertheless, my interest on architecture and the way that it can be related with real estate development in order to confront the problem of obsolescence was still feasible. So, I redefined my aim from the financial to a more creative perspective which included more qualitative than quantitative data. To overcome the problem quantitative problem, as in the literature not many things are researched, I decided to conduct empirical research and gather data from specialists.
The process

The first words that come in my mind about the process of this thesis are “busy” and “experimental”. I was always busy with trying to define what is meant by adaptability and how this can be described for transformation projects and “experimental” as I tried many different paths and sequences to reach the final form of my Framework. Although, even if it was a tiring and stressed period it was also fun, creative and absolutely interesting. I started from the literature study for understanding the topic and gather design indicators to create a list of them meant for transformation projects. Even though the literature study was supposed to be only the first part of my thesis, I only stopped looking at new scientific papers on adaptability when I started writing this reflection to ensure that what I am writing is still up-to-date. The next step was the conduction of the Delphi research and a series of interviews about the design indicators and the practitioners’ perspective on adaptability. This process was highly intense, but I am contented with the results. If I could change something would be the first Delphi meetings; as in the process I learned how to better describe my questions and indicators to avoid confusion and overlapping. Moreover, considering the selected design indicators I would probably group some of them. However, the way that they were presented helped me to understand their importance and when I was developing the framework I managed to group them with the ones that are more related to. So, the last part was the analysis of the selected data and the synthesis of the design Framework. Both literature and empirical study were into consideration in the whole process, and the end result presents a comprehensive outcome.

The findings

The outcomes of the literature study were quite clear and descriptive. On the other hand, the data gather through the empirical research were more complex to be analyzed. Seventeen people were interviewed for this research in a semi-structured way. This resulted a variety of different information and different lessons learned provided by the interviewees. In the end, and with the help of the second round of the Delphi research, some things became more specific and the Framework was created. Concerning the implementation part of the Framework on the pilot study, the data and findings are case specific and should not be received as standard situation. Although, the process of implementation can be repetitive and replicable in similar transformation projects.

Conclusion

The outcome was the Framework, called by the author “Degrees of adaptability”. It is a design framework that can be used by real estate professionals, like architects and real estate developers, in order to design adaptable, future proof transformation projects. It consists of twelve design indicators, gather from the literature and confirmed during the empirical research. The framework describes a sequence of steps to develop the favorable adapt-abilities of a transformation project, based on its specific requirements. Nevertheless, its principles are general and with some small adjustments and/or additions can be used in a bigger scale of projects, regardless if they are transformations or not.