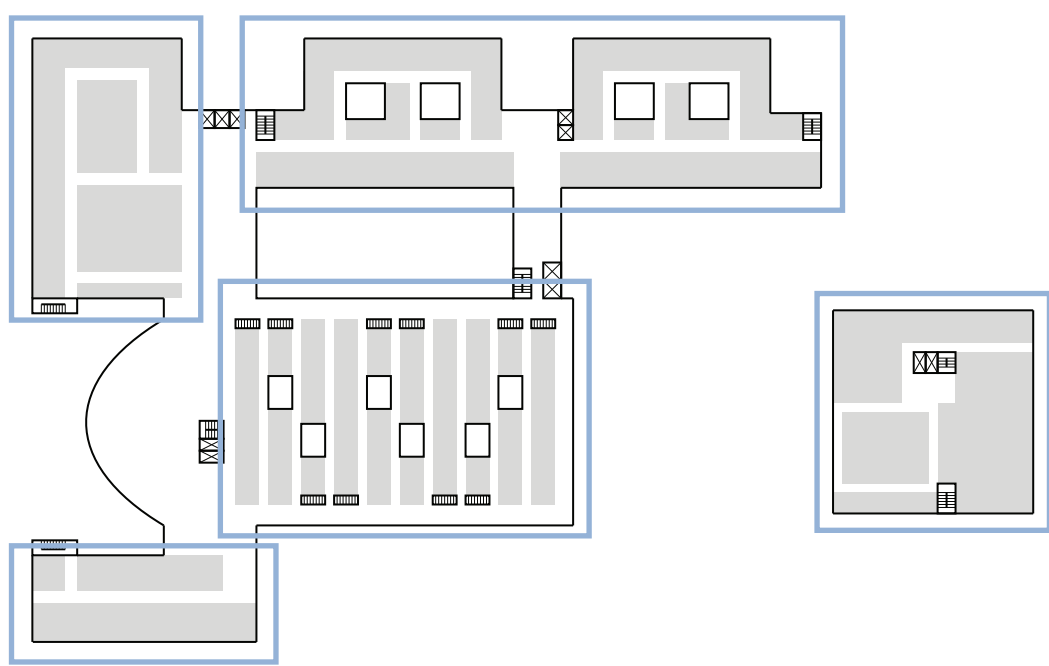


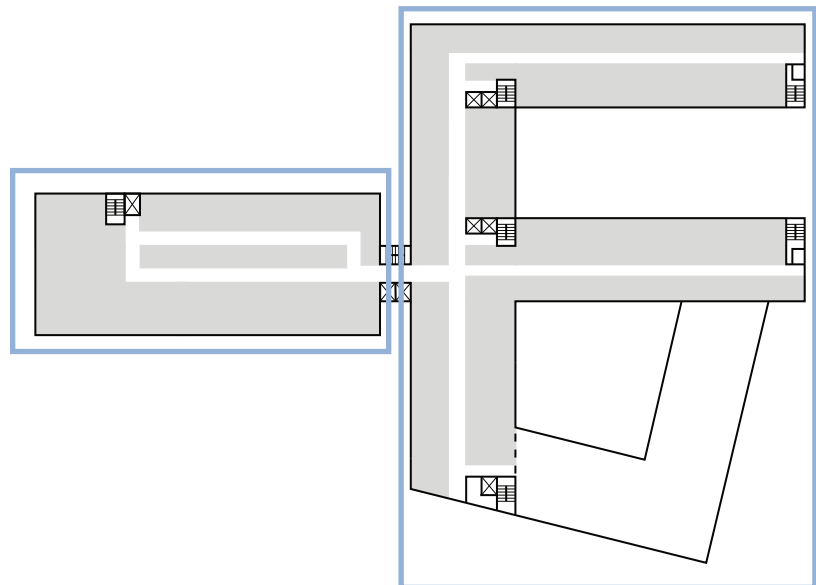
Marketability in relation to productivity in hospital real estate

Cases

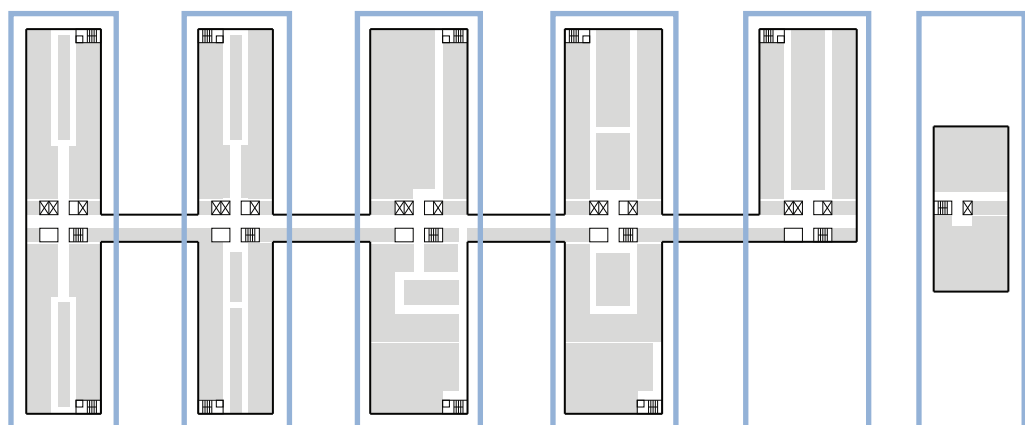
Bernhoven hospital, Uden



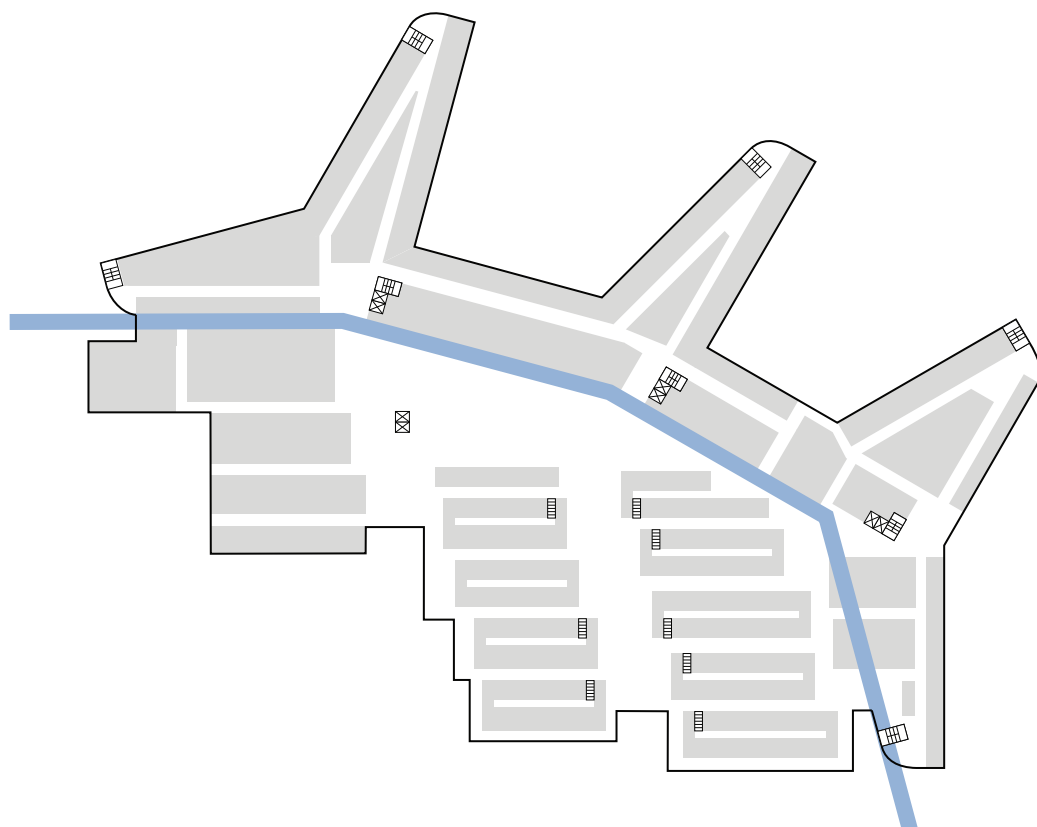
Gelre hospital, Zutphen



Maastricht hospital, Rotterdam

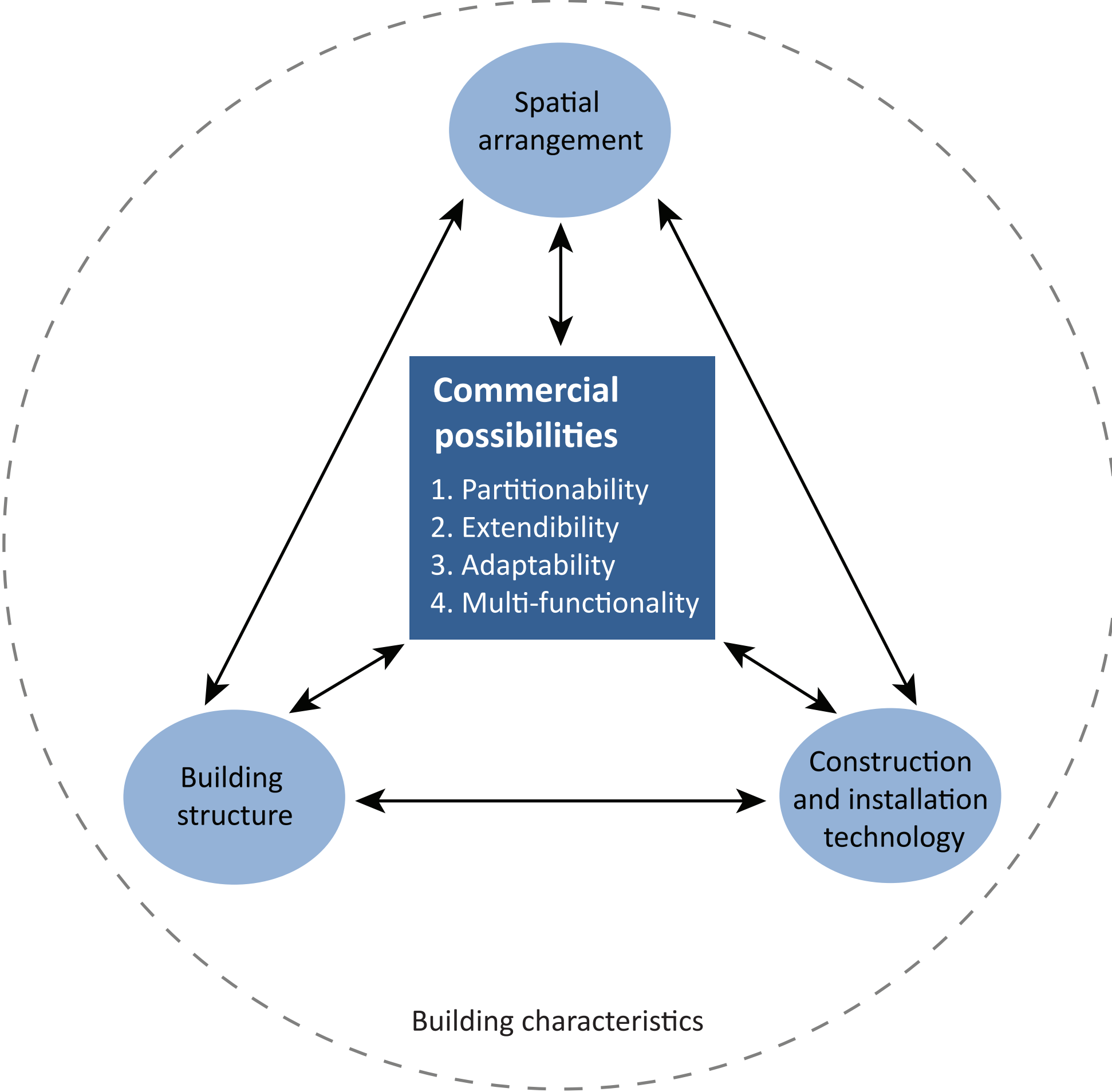


Deventer hospital, Deventer



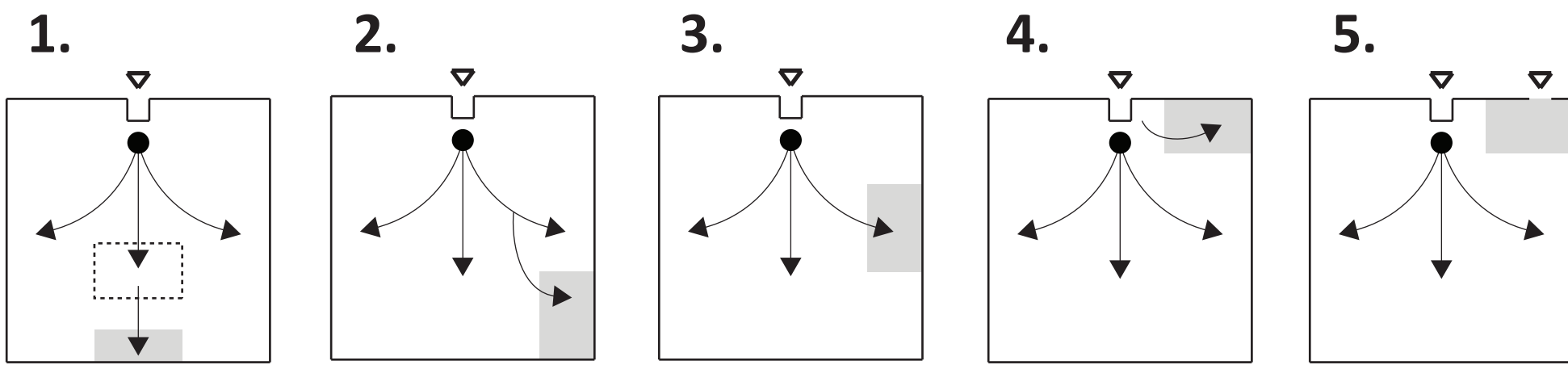
Marketability

An asset is considered marketable if it can meet market standards or if there is an active demand for the object. The actual marketability depends on various elements and the 'building characteristics' is one of those elements. The better these characteristics fit to various functional demands the more commercial possibilities an object has and the higher the marketability.

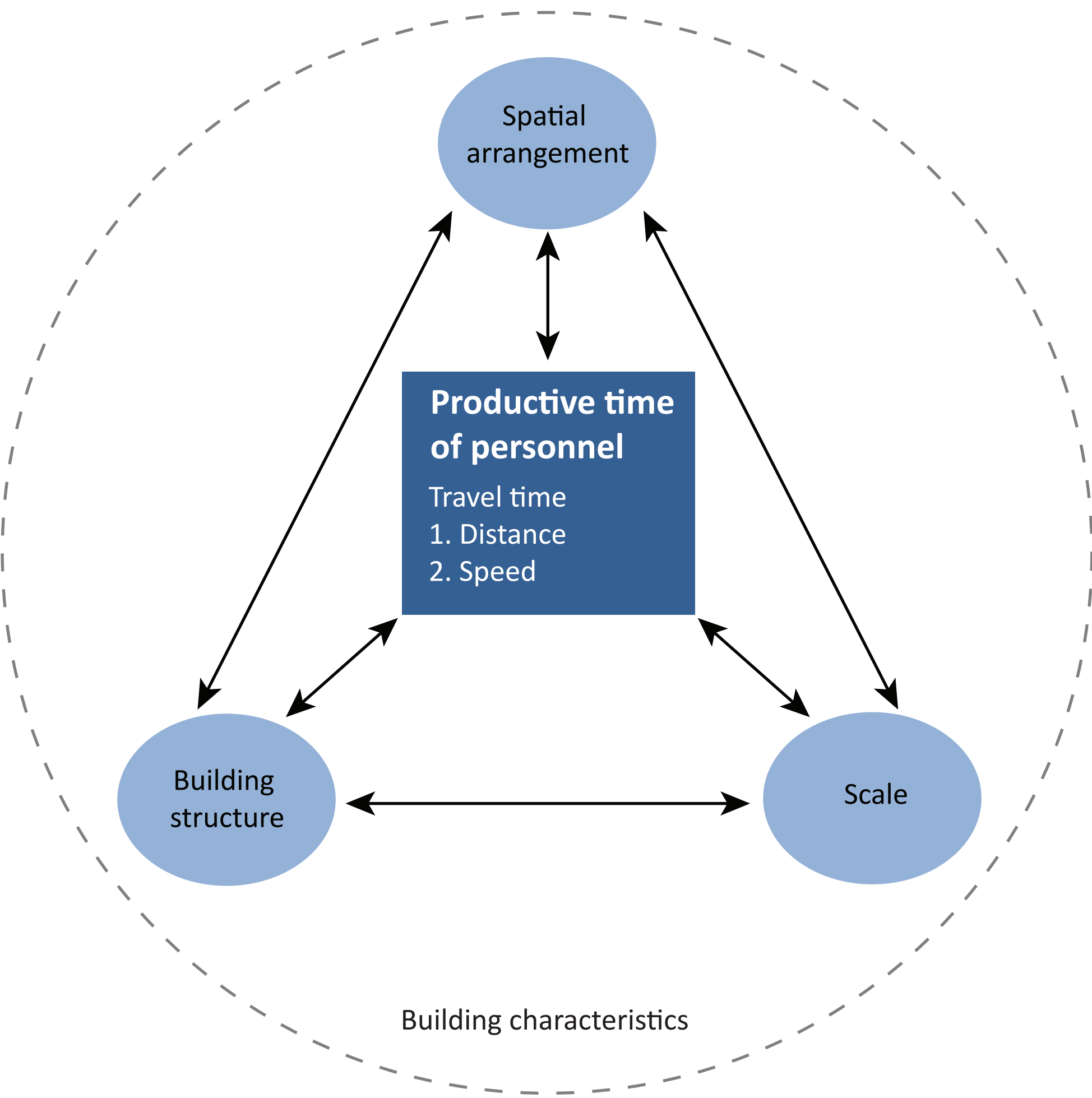


Based on this methodological framework a tool was developed to rate the implementation of specific building characteristics in the cases. The building characteristics were rated based on their contribution to marketability from one to five in which a five was the highest score.

Example: standards for the influence of the spatial arrangement on the routing.



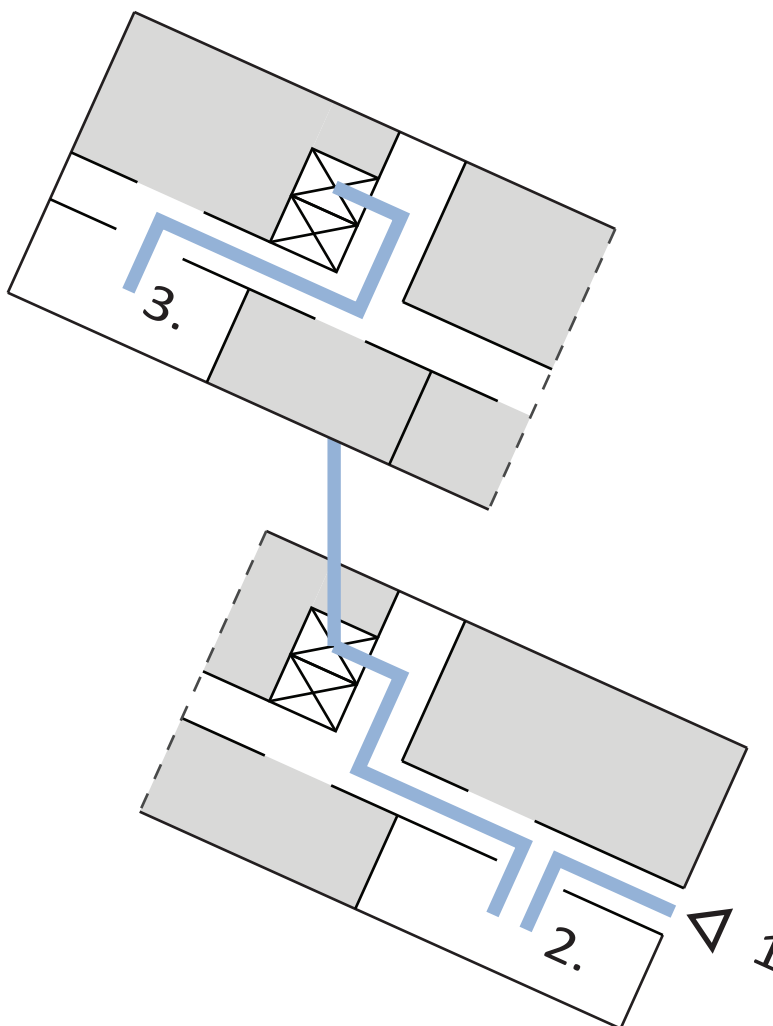
Productivity



Productivity is a measure for the relation between the input and output of a process. Output refers to the amount and the quality of treatments. Real estate influences the ratio between the input and the output through the spatial relation between departments.

To analyse the influence of the designs on productivity the travel time was measured in the cases. Those measurements were based on five treatment paths: that of a patient with a hip fracture, a trauma patient, a patient with neurologic complications, a delivery and a same day surgery. Every department that was visited during a treatment was represented as a specific step. To measure the distances, the steps were set out in floor plans.

Example: the numbers represented the separate steps in a treatment path.



Problem statement

In 2005 the Dutch government introduced a regulated market system in the hospital market. Part of this system overhaul was a new compensation method for accommodation costs. In the new system the organisations had to pay their accommodation costs out of their production related income. This transferred the financial responsibility for real estate to the organisations and forced them to adopt a new approach to managing their real estate.

The functional zoning model is a design concept for hospital real estate that is used to deal with these issues. The idea behind the model is to group functions together based on their real estate demands. This offers the potential to built parts of the hospital according to market demands which might increase the residual value of the object.

The concept originated as an evaluation tool and has a strong emphasis on real estate considerations. Since expenses on for example personnel are large in comparison to real estate the potential benefits of this model have to be carefully weighed to potential threats:

- The position of departments in relation to others is vital for the quality of the hospital process and an emphasis on real estate considerations instead of the cure process might threaten this.
- The arrangement that is proposed by the functional zoning model might reduce the efficiency of personnel.
- Designing nursing departments and policlinics according to models for hotels and offices might reduce the overall functional flexibility.

Objective

The aim of this research was to provide an insight in the balance between the threats and opportunities of the functional zoning model in relation to the trends in the market. This can provide a board of directors of a hospital with a means to make balanced decisions between aspects on the level of marketability, flexibility and productivity during the development of a new hospital building.

Besides providing information the aim of this research was to develop two research tools. One of those tools was developed to analyse the marketability of a hospital object and the other to analyse the influence of a real estate object on the productivity of an organization. In this research both tools were used to analyse a number of cases. However, both have the potential to be developed further into instruments that can provide boundary conditions or even design solution based on predetermined demands of an organisation.

Conclusion

The functional zoning model does offer the potential to increase the marketability of hospital real estate. The model clusters functions in zones and by separating those zones horizontally, individual modules are created that can be cut off. This guarantees that the processes of the hospital and the new user will not interfere. As a result a hospital that is designed according to the functional zoning model has building characteristics that are more attractive for potential new users. From this perspective the model thus increases marketability.

The strict functional separation that is dictated by the functional zoning model however does not necessarily result in the best possible marketability. The multi-functionality of real estate modules that are specifically designed for a certain function is relatively low. This limits the group of potential new users.

The horizontal separation that offers the potential to increase marketability has a negative effect on the influence of real estate on the potential productivity. The horizontal spread of functions results in an increase in walking distances in comparison to other cases. As a result the potential amount of treatments that can be completed with a fixed amount of input is reduced.

The influence of designing according to the functional zoning model on the potential quality of the treatments is limited. Due to the fact that the functional zoning model clusters all specialised medical functions together, vital relations are located in proximity of each other.

The comparison pointed out that the reduction in productivity is primarily the result of the positioning of the functional zones in relation to each other. An element that dictates positions was never introduced in the functional zoning model since the model was developed with the purpose to evaluate investment decisions from a real estate perspective.