

CHALMERS



# Performance Indicators as a Decision Support Tool

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### ABSTRACT

One can reason endlessly why poor design work possibly can exist at all as available knowledge in most cases could have prevented failures that now and then appears. Irrespectively who is to be blamed, the end-user is the one that has to face the result of poor design in terms of unhealthy indoor environment and a reduced service life of the building or building parts. If this issue will not be addressed in the future the building industry will continue to expose themselves to bad publicity.

By using indicators as a decision support tool the required knowledge can be more accessible for the designers. This is however not enough to improve the decision process during design – the tool must also be able to present the predicted results in a way that will give the clients a fair chance to understand the consequences of a chosen design. In this thesis the indicator approach has been explored and a preliminary method has been developed. In order to adapt the tool to the needs of the designers an interview study has been performed. A case study of a crawl space was performed with the aim of finding a suitable method that can predict the service life of a building or a building part. A comparative study of the indicator method and a simulation method was later made to compare the level of output information.

The findings of this thesis show that this approach can be competitive and powerful as it is able to produce a summarised and easy-to-grasp picture of an often complex situation. The method has a potential to provide each design with a *fingerprint*, which can be stored easily in a database. In a long-term perspective this can improve the knowledge management in the building industry which is often accused of not learning from their mistakes. To each fingerprint there will be a photo documentation attached, which will make the prediction results comprehensive for the clients.

**Keywords:** Performance indicators, decision support tool, design

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**APPENDIX**