

RP1009 THE EFFECT OF GREEN BUILDINGS ON PERFORMANCE, PRODUCTIVITY AND WELL-BEING: STUDY ON OFFICE BUILDINGS

- **Background:** Based on "Closing the Loop" project
- **Project Sponsor:** Cooperative Research Council for Low Carbon Living
- **Industry Partners:** Aecom, Brookfield Multiplex and Hassell
- **Participating Institutions:** Curtin University and UNSW

Research Question

The proposed study explores how evidence base is used to inform green office building design, and to examine the impact design has on the performance and productivity of occupants of these buildings. To explore this, the research questions posed are:

- **RQ1: How can the Systematic Review of building design research complement evidence-based design for better infrastructure as well as realise strategic business advantages?**
- **RQ2: How can strategic building design improve employee well-being and engagement to achieve a High Performance Work System?**



source: <http://www.gbca.org.au/news/gbca-news/global-study-connects-levels-of-employee-productivity-and-well-being-to-office-d/36178.htm>

Methodology

The study is expected to incorporate Systematic Review and Case Study as methodologies.

- Systematic review will conduct a rigorous, well-defined and transparent approach to identify, evaluate and interpret all relevant research on the topic of the impact of green building on productivity, well-being and performance.
- The Case Study methodology will analyse the current systems and processes utilised within industry.

The scope and definition of the project is completed. The project is in its planning and design stage.

Planning

An issue for industry as green buildings continue to increase is that the evidence base for design is largely embedded in academic literature and is not fully understood as it is not accessed by industry.

First Phase: Systematic Review

It is anticipated that the output of the Systematic Review will show a set of design strategies or environmental interventions against specific outcomes/results and details of the level of research undertaken in those areas.

Deliverables:

A software program or app that can rank academic articles to uncover evidence and inform the design and construction industry about change to processes and products

Second stage: Conducting case study

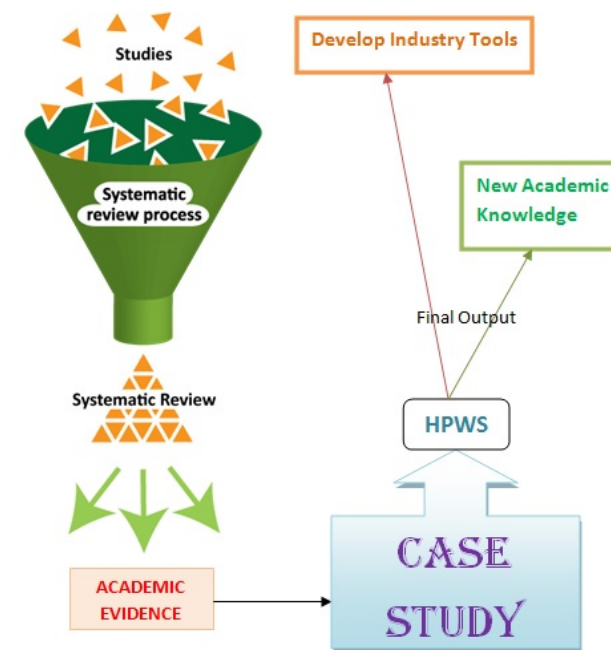
Analysing the gaps from the academic data and conducting a case study that can be linked to user reviews or advice and real-time information on the buildings. It is relatively unknown if environmental considerations make a discernible difference to the working environment of employees and why employee well-being might

be enhanced through working in green buildings specifically office buildings.

Case selection:

- Financial metrics
- Physical metrics
- Perceptual metrics

Final stage of analysis: High Performance Work System



Proposed Output

- **Industry Tools:** New design to enhance occupants' health, well-being, productivity and performance
- **Academic Outcomes:** New knowledge on green buildings working as High Performance Work Systems

Anticipated impacts

- This research will provide a high-level analytical framework for office building owners, occupiers and designers to start tracking the impacts of green buildings on

employee health, wellbeing and productivity in order to use that information in organisational decision-making.

- Utilising evidence-based design aims for better standardisation and transparency for decision-makers to invest in green buildings.
- This project will help to develop industry tools that will enable the design of, and stimulate the market for green buildings.

The combination of "Looking Back" (*Systematic Review*) and "Moving Ahead" (*High Performance Work System*) will help the industry to make an informed decision and the academic to build new theories.

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