IMPLEMENTING VDC AND CONSTRUCTION IN AEC PROJECTS

RESEARCH SUMMARY

Virtual Design and Construction (VDC) is an integrated design approach that aims to integrate and visualize the entire design lifecycle. It facilitates collaboration among project participants by providing a common platform for data exchange and visualization.

However, the current level of VDC implementation in large Architecture, Engineering, and Construction (AEC) projects is limited. The research was conducted in a Dutch engineering firm to study the integration of VDC components into their projects.

The research showed that VDC components were only partially implemented, and a lack of commitment and understanding of VDC was found among project participants. This suggests that pilot projects are needed to gain experience and improve project performance.

Further research is recommended to determine how VDC implementation during the design phase of large AEC projects can be improved.

CONCLUSIONS

- VDC implementation during the design phase of large AEC projects is expected to be limited to basic POP visualization.
- More profound use of VDC is expected to require a comprehensive approach, including technological developments, and to be untested and unclear.
- Although more profound use of VDC is expected to require additional resources, it is also expected to offer increased performance.

RECOMMENDATIONS

- Conduct more case studies to understand how VDC is implemented in various projects.
- Develop a comprehensive approach that includes technological developments and proper project management.
- Enhance communication and collaboration among project participants.

PROJECTS

- VDC pilot project: a project study of VDC implementation in AEC projects.
- Case studies: analysis of VDC implementation in large AEC projects.
- Project 1: VDC implementation in a project.
- Project 2: VDC implementation in another project.

ANALYSIS

- Task deadlines
- Modeling factors (e.g., actor characteristics)
- Decision authority
- Threshold values
- Dependencies and challenges of VDC implementation

CLOSING PAGES

- VDC implementation during the design phase of large AEC projects.
- Current state of VDC implementation.
- Recommendations for future research.