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Building Information Modeling (BIM): Interdisciplinary Insights and Research Perspectives

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Chapter 3 - Preface; This study explores the potential of Building Information Modeling (BIM) to serve as a bridge between architecture and civil engineering, focusing particularly on current challenges such as interdisciplinary misalignment, issues of standardization, and the limited fulfillment of sustainability goals. The aim is not only to describe the present state of BIM but also to propose future research perspectives, offering a guiding framework for both academia and industry. The methodology is based on an extensive literature review and the examination of current research trends. In doing so, debates in the literature are compared with research-oriented tendencies, resulting in a thematic analysis. The analysis was structured around five key themes: (i) interdisciplinary collaboration and data sharing, (ii) sustainability and environmental impacts, (iii) new production technologies and BIM integration, (iv) cultural heritage and adaptive reuse, and (v) regional approaches and application differences. The interconnections among these perspectives were highlighted, emphasizing BIM's holistic capacity to link diverse areas of research. The findings indicate that BIM enhances interdisciplinary communication, contributes to sustainability goals, provides a critical integration platform for new production technologies, and offers an effective method for preserving cultural heritage. However, gaps in standardization, institutional adaptation challenges, and cost barriers limit its global dissemination and adoption. In conclusion, the study demonstrates that BIM is not merely a technical tool but a strategic platform for interdisciplinary collaboration and sectoral transformation. The proposed research perspectives thus provide a valuable reference framework for both academic inquiry and professional practice.

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