management research in the last two decades. The current study ascertains the current body of knowledge, points out the critical steps and issues, and forecasts future research trends and directions in this field by reviewing relevant articles published in major peer-reviewed journals in the past 25 years (1994–2018). A total of 105 articles are collected and analyzed in terms of the number of annually publications, key authors and their contributions, critical aspects of applying SD, topic areas, and future directions.

The results show that SD has received increasing attention from construction management researchers over the past five years. Moreover, several issues exist in SD application, which include model boundary, model development, model test, and model simulation. Nine categories have been identified as research interests, including (1) sustainable construction; (2) design error, rework, and change management; (3) risk management; (4) resource management; (5) decision making, planning, and control; (6) hybrid modeling; (7) safety management; (8) PPP project; and (9) organization performance. Three future research directions, namely, the hybrid and integration of SD with other methods, uncertainty analysis, and human factors analysis, are proposed. This study has certain limitations. As noted by Zheng et al. (2016), the categories of identified articles may be influenced by the subjective judgments of authors to an extent. Furthermore, the number of citations can be a controversial indicator because it can be influenced by the publication year, self-citation, and citation data source. This research does not eliminate all factors that may influence the number of citations. Although limitations exist, the information revealed in this study is valuable to researchers in the construction management field, which could help them understand not only the current status of the research topic areas with SD but also the critical issues and future research directions.

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