

- Abedi, M., Fathi, M., Mirasa, A., Rawai, N., 2016. Integrated collaborative tools for precast supply chain management, *Scientia Iranica A*.
- Amuda-Yusuf, G., 2018. Critical success factors for building information modelling implementation. *Construction Economics and Building* 18, 55–73.
- Antwi-Afari, M.F., Li, H., Pärn, E.A., Edwards, D.J., 2018. Critical success factors for implementing building information modelling (BIM): A longitudinal review. *Autom Constr*. <https://doi.org/10.1016/j.autcon.2018.03.010>
- Aram, S., Eastman, C., Sacks, R., 2013. Requirements for BIM platforms in the concrete reinforcement supply chain. *Autom Constr* 35, 1–17. <https://doi.org/10.1016/j.autcon.2013.01.013>
- Bakhshi, S., Chenaghlo, M.R., Pour Rahimian, F., Edwards, D.J., Dawood, N., 2022. Integrated BIM and DfMA parametric and algorithmic design based collaboration for supporting client engagement within offsite construction. *Autom Constr* 133. <https://doi.org/10.1016/j.autcon.2021.104015>
- Barkokebas, B., Khalife, S., Al-Hussein, M., Hamzeh, F., 2021. A BIM-lean framework for digitalisation of premanufacturing phases in offsite construction. *Engineering, Construction and Architectural Management*. <https://doi.org/10.1108/ECAM-11-2020-0986>
- Bert, C., Fischer, O., 2018. Stahl- und textildbewehrte Vorsatzschalen von Sandwichwänden unter thermischen Einwirkungsgrößen - Experimentelle und numerische Untersuchungen unter verschiedenen Randbedingungen. *Beton- und Stahlbetonbau* 113, 859–867. <https://doi.org/10.1002/best.201800060>
- Cho, Y.S., Lee, S. Il, Bae, J.S., 2014. Reinforcement placement in a concrete slab object using structural building information modeling. *Computer-Aided Civil and Infrastructure Engineering* 29, 47–59. <https://doi.org/10.1111/j.1467-8667.2012.00794.x>

- Costa, G., Madrazo, L., 2015. Connecting building component catalogues with BIM models using semantic technologies: An application for precast concrete components. *Autom Constr* 57, 239–248. <https://doi.org/10.1016/j.autcon.2015.05.007>
- Dan, Y., Liu, G., 2023. Integrated scheduling optimization of production and transportation for precast component with delivery time window. *Engineering, Construction and Architectural Management*. <https://doi.org/10.1108/ECAM-09-2022-0871>
- Daniel, D.R., 1961. Management Information Crisis. . *Harvard Business Review*, US.
- Dao, T.N., Chen, P.H., Nguyen, T.Q., 2021. Critical Success Factors and a Contractual Framework for Construction Projects Adopting Building Information Modeling in Vietnam. *International Journal of Civil Engineering* 19, 85–102. <https://doi.org/10.1007/s40999-020-00542-3>
- Darwish, A. M., Tantawy, M.M., Elbeltagi, E., 2020. Critical Success Factors for BIM Implementation in Construction Projects. *Saudi Journal of Civil Engineering* 4, 180–191. <https://doi.org/10.36348/sjce.2020.v04i09.006>
- Delgado, J.M.D., Butler, L.J., Brilakis, I., Elshafie, M.Z.E.B., Middleton, C.R., 2018. Structural Performance Monitoring Using a Dynamic Data-Driven BIM Environment. *Journal of Computing in Civil Engineering*. [https://doi.org/10.1061/\(ASCE\)CP.1943](https://doi.org/10.1061/(ASCE)CP.1943)
- Derkowski, W., Jeziorski, M., 2022. Specificity of precast floor design, on the example of the hollow-core slabs. *Cement, Wapno, Beton* 27, 198–210. <https://doi.org/10.32047/CWB.2022.27.3.4>
- Eleftheriadis, S., Duffour, P., Stephenson, B., Mumovic, D., 2018. Automated specification of steel reinforcement to support the optimisation of RC floors. *Autom Constr* 96, 366–377. <https://doi.org/10.1016/j.autcon.2018.10.005>
- Gbadamosi, A.Q., Mahamadu, A.M., Oyedele, L.O., Akinade, O.O., Manu, P., Mahdjoubi, L., Aigbavboa, C., 2019. Offsite construction: Developing a BIM-Based optimizer for assembly. *J Clean Prod* 215, 1180–1190. <https://doi.org/10.1016/j.jclepro.2019.01.113>
- Gong, T., Yang, J., Hu, H., Xu, F., 2015. Construction Technology of Off-Site Precast Concrete Buildings. *Frontiers of Engineering Management* 2, 122. <https://doi.org/10.15302/j-fem-2015039>

- Habte, B., Guyo, E., 2021. APPLICATION of BIM for STRUCTURAL ENGINEERING: A CASE STUDY USING REVIT and CUSTOMARY STRUCTURAL ANALYSIS and DESIGN SOFTWARE. *Journal of Information Technology in Construction* 26, 1009–1022. <https://doi.org/10.36680/j.itcon.2021.053>
- Hasan, A.M.M., Torky, A.A., Rashed, Y.F., 2019. Geometrically accurate structural analysis models in BIM-centered software. *Autom Constr* 104, 299–321. <https://doi.org/10.1016/j.autcon.2019.04.022>
- Huang, L., Pradhan, R., Dutta, S., Cai, Y., 2022. BIM4D-based scheduling for assembling and lifting in precast-enabled construction. *Autom Constr* 133. <https://doi.org/10.1016/j.autcon.2021.103999>
- Ingrao, C., Lo Giudice, A., Mbohwa, C., Clasadonte, M.T., 2014. Life cycle inventory analysis of a precast reinforced concrete shed for goods storage. *J Clean Prod* 79, 152–167. <https://doi.org/10.1016/j.jclepro.2014.05.030>
- Ismail, Z.A. Bin, 2022. Thermal comfort practices for precast concrete building construction projects: towards BIM and IOT integration. *Engineering, Construction and Architectural Management*. <https://doi.org/10.1108/ECAM-09-2020-0767>
- Ismail, Z.A., 2017. Improving conventional method on precast concrete building maintenance Towards BIM implementation. *Industrial Management and Data Systems* 117, 1485–1502. <https://doi.org/10.1108/IMDS-09-2016-0380>
- Jahn, B., Dettenmaier, P., 1997. *Offsite Construction*. McGraw-Hill, Britania Raya.
- Jang, Y.E., Son, J.W., Hwang, S., 2022. Requirements Analysis for Development of Off-Site Construction Project Management System: Focusing on Precast Concrete Construction. *Buildings* 12. <https://doi.org/10.3390/buildings12101499>
- Khondoker, M.T.H., 2021. Automated reinforcement trim waste optimization in RC frame structures using building information modeling and mixed-integer linear programming. *Autom Constr* 124. <https://doi.org/10.1016/j.autcon.2021.103599>
- Kim, J.H., Hong, W.K., Park, S.C., Ko, H.J., Kim, J.T., 2013. Environmentally-friendly apartment buildings using a sustainable hybrid precast composite system. *Smart*

- Kim, M.K., Cheng, J.C.P., Sohn, H., Chang, C.C., 2015. A framework for dimensional and surface quality assessment of precast concrete elements using BIM and 3D laser scanning. *Autom Constr* 49, 225–238. <https://doi.org/10.1016/j.autcon.2014.07.010>
- Kim, Seungho, Lee, D.E., Kim, Y., Kim, Sangyong, 2020. Development and application of precast concrete double wall system to improve productivity of retaining wall construction. *Sustainability (Switzerland)* 12. <https://doi.org/10.3390/SU12083454>
- Kong, L., Li, H., Luo, H., Ding, L., Zhang, X., 2018. Sustainable performance of just-in-time (JIT) management in time-dependent batch delivery scheduling of precast construction. *J Clean Prod* 193, 684–701. <https://doi.org/10.1016/j.jclepro.2018.05.037>
- Kordestani Ghalenoei, N., Babaeian Jelodar, M., Paes, D., Sutrisna, M., 2022. Challenges of offsite construction and BIM implementation: providing a framework for integration in New Zealand. *Smart and Sustainable Built Environment*. <https://doi.org/10.1108/SASBE-07-2022-0139>
- Li, M., Wong, B.C.L., Liu, Y., Chan, C.M., Gan, V.J.L., Cheng, J.C.P., 2021. DfMA-oriented design optimization for steel reinforcement using BIM and hybrid metaheuristic algorithms. *Journal of Building Engineering* 44. <https://doi.org/10.1016/j.jobbe.2021.103310>
- Liao, L., Teo, E., Low, S., 2017. A project management framework for enhanced productivity performance using building information modelling. *Construction Economics and Building* 17, 1. <https://doi.org/10.5130/AJCEB.v17i3.5389>
- Liao, L., Teo, E.A.L., 2017. Critical Success Factors for enhancing the Building Information Modelling implementation in building projects in Singapore. *Journal of Civil Engineering and Management* 23, 1029–1044. <https://doi.org/10.3846/13923730.2017.1374300>
- Lima, C.M., Ferreira, E.A.M., Calmon, J.L., 2021. BIM AND IOT INTEGRATION TO SUPPORT MANAGEMENT PROCESSES: AN APPLICATION FOR PRECAST CONCRETE SYSTEMS. *Journal of Modern Project Management* 10, 237–251. <https://doi.org/10.19255/JMPM02716>

- Liu, H., Wang, S., Yang, T., Chen, Z., 2024. Optimized transportation scheduling for precast concrete components considering heterogeneous vehicle-size matching. *Advanced Engineering Informatics* 62. <https://doi.org/10.1016/j.aei.2024.102658>
- Liu, J., Liu, P., Feng, L., Wu, W., Li, D., Chen, F., 2020a. Towards automated clash resolution of reinforcing steel design in reinforced concrete frames via Q-learning and building information modeling. *Autom Constr* 112. <https://doi.org/10.1016/j.autcon.2019.103062>
- Liu, J., Xu, C., Wu, Z., Chen, Y.F., 2020b. Intelligent rebar layout in RC building frames using artificial potential field. *Autom Constr* 114. <https://doi.org/10.1016/j.autcon.2020.103172>
- Liu, Z., Lu, Y., Nath, T., Wang, Q., Tiong, R.L.K., Peh, L.L.C., 2022. Critical success factors for BIM adoption during construction phase: a Singapore case study. *Engineering, Construction and Architectural Management* 29, 3267–3287. <https://doi.org/10.1108/ECAM-12-2020-1072>
- Mangal, M., Cheng, J.C.P., 2018. Automated optimization of steel reinforcement in RC building frames using building information modeling and hybrid genetic algorithm. *Autom Constr* 90, 39–57. <https://doi.org/10.1016/j.autcon.2018.01.013>
- Mangal, M., Li, M., Gan, V.J.L., Cheng, J.C.P., 2021. Automated clash-free optimization of steel reinforcement in RC frame structures using building information modeling and two-stage genetic algorithm. *Autom Constr* 126. <https://doi.org/10.1016/j.autcon.2021.103676>
- Messner, J., Anumba, C., Dubler, C., Goodman, S., Kasprzak, C., Kreider, R., Leicht, R., Saluja, C., Zikic, N., Bhawani, S., 2021. *BIM Project Execution Planning Guide, Version 3.0*.
- Mobasher, M.E., Youssef, ;, Rashed, F., Elhaddad, W., 2015. *BIM Standards for Automated BEM Structural Analysis and Design of RC Plates*. [https://doi.org/10.1061/\(ASCE\)](https://doi.org/10.1061/(ASCE))
- Mom, M., Tsai, M.H., Hsieh, S.H., 2014. Developing critical success factors for the assessment of BIM technology adoption: Part II. Analysis and results. *Journal of the Chinese Institute of Engineers, Transactions of the Chinese Institute of Engineers, Series A* 37, 859–868. <https://doi.org/10.1080/02533839.2014.888798>

Automated fabrication of reinforcement cages using a robotized production cell. *Autom Constr.* <https://doi.org/10.1016/j.autcon.2021.103990>

Nath, T., Attarzadeh, M., Tiong, R.L.K., Chidambaram, C., Yu, Z., 2015. Productivity improvement of precast shop drawings generation through BIM-based process re-engineering. *Autom Constr* 54, 54–68. <https://doi.org/10.1016/j.autcon.2015.03.014>

Nicał, A., Anysz, H., 2020. The quality management in precast concrete production and delivery processes supported by association analysis. *International Journal of Environmental Science and Technology.* <https://doi.org/10.1007/s13762-019-02597-9>

Olawumi, T.O., Chan, D.W.M., 2019. An empirical survey of the perceived benefits of executing BIM and sustainability practices in the built environment. *Construction Innovation* 19, 321–342. <https://doi.org/10.1108/CI-08-2018-0065>

Ozorhon, B., Karahan, U., 2017. Critical Success Factors of Building Information Modeling Implementation. *Journal of Management in Engineering* 33. [https://doi.org/10.1061/\(asce\)me.1943-5479.0000505](https://doi.org/10.1061/(asce)me.1943-5479.0000505)

Patel, T., Bapat, H., Patel, D., van der Walt, J.D., 2021. Identification of critical success factors (Csfs) of bim software selection: A combined approach of fcm and fuzzy dematel. *Buildings* 11. <https://doi.org/10.3390/buildings11070311>

Patlakas, P., Livingstone, A., Hairstans, R., Neighbour, G., 2018. Automatic code compliance with multi-dimensional data fitting in a BIM context. *Advanced Engineering Informatics* 38, 216–231. <https://doi.org/10.1016/j.aei.2018.07.002>

Phang, T.C.H., Chen, ; Chen, Tiong, R.L.K., 2020. New Model for Identifying Critical Success Factors Influencing BIM Adoption from Precast Concrete Manufacturers' View. [https://doi.org/10.1061/\(ASCE\)CO.1943](https://doi.org/10.1061/(ASCE)CO.1943)

Preidel, C., Daum, S., Borrmann, A., 2017. Data retrieval from building information models based on visual programming. *Visualization in Engineering* 5. <https://doi.org/10.1186/s40327-017-0055-0>

Rockart, J.F., 1979. Chief executives define their own data needs. *Harv Bus Rev* 57, 81–93.

D., 2023. BIM critical factors and benefits for public sector: from a systematic review to an empirical fuzzy multicriteria approach. *Brazilian Journal of Operations and Production Management* 20. <https://doi.org/10.14488/BJOPM.1837.2023>

Sinoh, S.S., Othman, F., Ibrahim, Z., 2020. Critical success factors for BIM implementation: a Malaysian case study. *Engineering, Construction and Architectural Management* 27, 2737–2765. <https://doi.org/10.1108/ECAM-09-2019-0475>

SNI 1726:2019, 2019. *Procedures for Earthquake Resistance Planning for Building and Non-Building Structures*. Badan Standardisasi Nasional, Jakarta, Indonesia.

SNI 1727:2020, 2020. *Minimum Design Loads and Associated Criteria for Buildings and Other Structures*. Badan Standardisasi Nasional, Jakarta, Indonesia.

SNI 7833:2012, 2012. *Procedures for the Design of Precast Concrete and Prestressed Concrete for Building Structures*. Badan Standardisasi Nasional, Jakarta, Indonesia.

Son, H., Lee, S., Kim, C., 2015. What drives the adoption of building information modeling in design organizations? An empirical investigation of the antecedents affecting architects' behavioral intentions. *Autom Constr* 49, 92–99. <https://doi.org/10.1016/j.autcon.2014.10.012>

Tan, S., Gumusburun Ayalp, G., Tel, M.Z., Serter, M., Metinal, Y.B., 2022. Modeling the Critical Success Factors for BIM Implementation in Developing Countries: Sampling the Turkish AEC Industry. *Sustainability (Switzerland)* 14. <https://doi.org/10.3390/su14159537>

Tsai, M.-H., Mom, M., Hsieh, S.-H., 2014. Developing critical success factors for the assessment of BIM technology adoption: part I. Methodology and survey. *Journal of the Chinese Institute of Engineers* 37, 845–858. <https://doi.org/10.1080/02533839.2014.888811>

Volpe, S., Sangiorgio, V., Petrella, A., Coppola, A., Notarnicola, M., Fiorito, F., 2021. Building envelope prefabricated with 3d printing technology. *Sustainability (Switzerland)* 13. <https://doi.org/10.3390/su13168923>

- Wang, Q., Kim, M.K., Cheng, J.C.P., Sohn, H., 2016. Automated quality assessment of precast concrete elements with geometry irregularities using terrestrial laser scanning. *Autom Constr* 68, 170–182. <https://doi.org/10.1016/j.autcon.2016.03.014>
- Wang, Y., Thangasamy, V.K., Tiong, R.L.K., Zhang, L., 2022. Improved Workflow for Precast Element Design Based on BIM and Lean Construction. *J Constr Eng Manag* 148. [https://doi.org/10.1061/\(asce\)co.1943-7862.0002316](https://doi.org/10.1061/(asce)co.1943-7862.0002316)
- Wang, Z., Hu, H., Gong, J., Ma, X., Xiong, W., 2019. Precast supply chain management in off-site construction: A critical literature review. *J Clean Prod.* <https://doi.org/10.1016/j.jclepro.2019.05.229>
- Wang, Z., Zhang, Q., Yang, B., Wu, T., Lei, K., Zhang, B., Fang, T., 2021. Vision-Based Framework for Automatic Progress Monitoring of Precast Walls by Using Surveillance Videos during the Construction Phase. *Journal of Computing in Civil Engineering* 35. [https://doi.org/10.1061/\(asce\)cp.1943-5487.0000933](https://doi.org/10.1061/(asce)cp.1943-5487.0000933)
- Wong Chong, O., Zhang, J., 2021. Logic representation and reasoning for automated BIM analysis to support automation in offsite construction. *Autom Constr* 129. <https://doi.org/10.1016/j.autcon.2021.103756>
- Wu, J., Asce, S.M., Hezha, ;, Sadraddin, L., Ren, ; Ran, Zhang, J., Asce, A.M., Shao, X., 2020. Invariant Signatures of Architecture, Engineering, and Construction Objects to Support BIM Interoperability between Architectural Design and Structural Analysis. [https://doi.org/10.1061/\(ASCE\)CO.1943](https://doi.org/10.1061/(ASCE)CO.1943)
- Wu, P., Feng, Y., 2014. Identification of non-value adding activities in precast concrete production to achieve low-carbon production. *Archit Sci Rev* 57, 105–113. <https://doi.org/10.1080/00038628.2013.829023>
- Yaakob, M., Athirah, W.N., Ali, W., Radzuan, K., 2016. International Review of Management and Marketing Critical Success Factors to Implementing Building Information Modeling in Malaysia Construction Industry. *International Review of Management and Marketing* | 6, 252–256.
- Yang, B., Liu, B., Xiao, J., Zhang, B., Wang, Z., Dong, M., 2021. A novel construction scheduling framework for a mixed construction process of precast components and cast-

<https://doi.org/10.1016/j.jobe.2021.103181>

Yin, X., Liu, H., Chen, Y., Al-Hussein, M., 2019. Building information modelling for off-site construction: Review and future directions. *Autom Constr.*

<https://doi.org/10.1016/j.autcon.2019.01.010>

Zhang, C., Hu, M., Laclau, B., Garnesson, T., Yang, X., Li, C., Tukker, A., 2021. Environmental life cycle costing at the early stage for supporting cost optimization of precast concrete panel for energy renovation of existing buildings. *Journal of Building Engineering* 35. <https://doi.org/10.1016/j.jobe.2020.102002>

Zhao, W., Jiang, Y., Liu, Y., Shu, J., 2022. Automated recognition and measurement based on three-dimensional point clouds to connect precast concrete components. *Autom Constr* 133. <https://doi.org/10.1016/j.autcon.2021.104000>