

# **ICCREM 2019**

## **Innovative Construction Project Management and Construction Industrialization**

**Proceedings of the International Conference on Construction  
and Real Estate Management 2019**

**Banff, Canada  
21 – 24 May 2019**

### **Editors:**

**Yaowu Wang  
Mohamed Al-Hussein  
Geoffrey Q. P. Shen**

**ISBN: 978-1-5108-9374-0**

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2019) by American Society of Civil Engineers  
All rights reserved.

Printed y kj 'r gto kuukqp'by Curran Associates, Inc. (2019)

For permission requests, please contact American Society of Civil Engineers  
at the address below.

American Society of Civil Engineers  
1801 Alexander Bell Drive  
Reston, VA 20191  
USA

Phone: (800) 548-2723  
Fax: (703) 295-6333

[www.asce.org](http://www.asce.org)

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2633  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# Contents

## *Intelligent Construction and Construction Informatization*

|   |           |
|---|-----------|
| <b>A Framework for the Contract Management System in Cloud-Based ERP for SMEs in the Construction Industry.....</b>   | <b>1</b>  |
| Yuan Chen, Meng Wang, and Ling Li   |           |
| <b>A Discrete Event Simulation-Based Analysis of Precast Concrete Supply Chain Strategies Considering Suppliers' Production and Transportation Capabilities.....</b>                      | <b>12</b> |
| Shiwei Chen, Kailun Feng, Weizhuo Lu, Yaowu Wang, Xue Chen, and Shuo Wang   |           |
| <b>Applying Generative Adversarial Network to Combine Occupant Responses to Design Contexts in Immersive Virtual Reality with Existing Building Performance Models .....</b>              | <b>25</b> |
| Chanachok Chokwitthaya, Yimin Zhu, and Supratik Mukhopadhyay  |           |
| <b>Construction Workers' Behaviors Recognition Using 2D Image Human Skeleton Parameterized Method.....</b>  | <b>35</b> |
| Ankang Ji, Xiaolong Xue, Yudan Dou, and Yuna Wang   |           |
| <b>Information Modelling (BIM) Framework for Practical Assessment .....</b>   | <b>42</b> |
| Dat Tien Doan, Ali Ghaffarianhoseini, Nicola Naismith, Tongrui Zhang, Attiq Ur Rehman, John Tookey, and Amirhosein Ghaffarianhoseini  |           |
| <b>Breakdown Structure in the Digitalization of Design Work for Industrialized House-Building: A Case Study of Systems Building Using Predefinition Levels of Product Platforms .....</b> | <b>49</b> |
| Gustav Jansson, Jani Mukkavaara, Fredrik Elgh, and Martin Lennartsson   |           |
| <b>A System Dynamics Model of Prevention through Design Regarding Unsafe Behavior in Construction.....</b>  | <b>58</b> |
| Xinlu Sun and Pinchao Liao  |           |
| <b>Computer Vision Technologies and Machine Learning Algorithms for Construction Safety Management: A Critical Review.....</b>  | <b>67</b> |
| Yongyue Liu, Yaowu Wang, and Xiaodong Li  |           |
| <b>Global Building Information Modeling Maturity.....</b>   | <b>82</b> |
| Chi Tian, Yunfeng Chen, Jiansong Zhang, and Robert F. Cox   |           |
| <b>Study on Influencing Factors of BIM Adoption in China's Construction Industry Based on FA-SEM Model .....</b>  | <b>93</b> |
| Yun Le, Xinyue Zhang, and Mingqiang Liu   |           |

|  |            |
|--|------------|
| <b>Incentive Compensation Structure for Cost Control of Construction Project<br/>Based on IPD-Ish in China .....</b>                                     | <b>101</b> |
| Qiankun Wang, Tingting Mei, Lingwei Kong, and Yaping Xiao  |            |
| <b>The Application Value of BIM Technology in Prefabricated Building Based on<br/>EPC General Contracting Management Model.....</b>                      | <b>109</b> |
| Yunbo Li and Zun Pei   |            |
| <b>Research on Top-Level Redesign of Smart Construction System Based on<br/>Case Study .....</b>   | <b>117</b> |
| Feng Shi, Qingchun Wang, and Yiyue Wang  |            |
| <b>Comparative Research of Integration Application with BIM Based on Mapping<br/>Knowledge Domains at Home and Abroad.....</b>                           | <b>125</b> |
| Wenting Song and Qingpeng Man  |            |
| <b>Initial Logistics Management System of Prefabricated Component Based on<br/>BIM and RFID Technology .....</b>   | <b>135</b> |
| Yan Liu, Lin Qi, and Yingbo Ji   |            |
| <b>Research on Simulation of Promotion Policies for New Technology Application<br/>in Construction Industry Based on System Dynamics.....</b>            | <b>144</b> |
| Jianhui Li and Lei Li  |            |
| <b>Optimization of Integrating Inventory and Transportation of Engineering<br/>Logistics Based on an Improved Heuristics Approach .....</b>              | <b>153</b> |
| Hui Wang, Jinbo Guan, and Shuo Wang  |            |
| <b>Construction and Real Estate Education Curriculum Reform Based on BIM:<br/>Taking Legal System of Construction Contract Course as an Example.....</b> | <b>161</b> |
| Shuhong Zhang and Mengxi Gao   |            |
| <b>Energy Internet Development Based on Blockchain Technology .....</b>  | <b>167</b> |
| Xuefeng Zheng, Hongyu Jia, and Jinsong Wang  |            |
| <b>The Application of BIM in Urban Rail Transit Project .....</b>  | <b>179</b> |
| Xiaoxi Liu, Chengjie Xu, and Qian Jing   |            |
| <b>Application of BIM Technology in Zhuhai Port Project of Hong Kong-<br/>Zhuhai-Macao Bridge .....</b>  | <b>185</b> |
| Taotao Mo, Fan Wu, Yuan Zhang, and Mingquan Wang   |            |
| <b>Measuring the Underlying Structure of Classic Topics in Construction<br/>Engineering and Management: An SNA-Based Analysis.....</b>                   | <b>192</b> |
| Zebin Zhao, Hengqin Wu, Xiaolong Xue, Geoffrey Qiping Shen, and Xin Li   |            |

|  |            |
|--|------------|
| <b>Visual Simulation for Optimization and Application in Tunnel Schedule Engineering .....</b>                     | <b>199</b> |
| Wei Zhong and Peiyao Wang  |            |
| <br><i>Innovative Construction Project Management</i>  |            |
| <b>Construction Supply Chain Integration: Past and Future .....</b>  | <b>204</b> |
| Hao Lu, Xinghua Gao, Pardis Pishdad-Bozorgi, and Guangbin Wang   |            |
| <b>The Impact of PCSR on Financial Performance: Evidence from Chinese Construction Enterprises.....</b>            | <b>215</b> |
| Ying Jiang and Xiaolong Xue  |            |
| <b>Study on Risk Sharing of General Contracting for Construction Projects .....</b>                                | <b>221</b> |
| Jiadong Zhang and Liangbao Li  |            |
| <b>Project Controls and Management Systems: Current Practice and How It Has Changed over the Past Decade .....</b> | <b>231</b> |
| Kareem Mostafa and William O'Brien   |            |
| <b>Influence of Risk Factors on Project's Objectives in Construction Industry of Pakistan .....</b>                | <b>241</b> |
| Asad Kamal, Hafiz Zahoor, Babar Ali, Suqrat Babar, and Ahsen Maqsoom   |            |
| <b>The Development Strategies of Public Art in Metro Architectural Space of Mega Cities in China.....</b>          | <b>250</b> |
| Han Cheng and Julian Worrall   |            |
| <b>Effects of Contractual Incentives in Construction Projects .....</b>  | <b>256</b> |
| Yunhong Wang, Wenxin Shen, and Wenzhe Tang   |            |
| <b>Research on Construction Project Safety Management Model Built by Owner and Contractor .....</b>                | <b>263</b> |
| Dawei Chen, Huanteng Zhao, and Guangyao Zhang  |            |
| <b>Meta-Network Modelling for International Construction Risk Management of Multiple Objectives .....</b>          | <b>273</b> |
| Tsenguu Ganbat and Pinchao Liao  |            |
| <b>Research on Application of Gray Correlation Analysis to Policy Formulation in Construction Industry .....</b>   | <b>281</b> |
| Shaolei Lv and Hongbing Li   |            |
| <b>Building the Model of Multi-Objective Cooperative Measurement for the Complex Construction Project .....</b>    | <b>288</b> |
| Jie Liu, Xianyu Tan, Yongliang Wang, and Zhenwu Shi  |            |

|   |            |
|---|------------|
| <b>Research on Investment Return of PPP Project in Urban Underground Integrated Pipe Gallery.....</b>   | <b>297</b> |
| Jing Huang and Jun Fang   |            |
| <b>Research on Financial Early Warning of PPP Projects from Refinancing Perspective.....</b>  | <b>306</b> |
| Wenhua Hou and Lun Wang   |            |
| <b>Linking Top Management Team's Internal Social Capital and Project Performance in a Mega Construction Project: The Mediating Role of Behavioral Integration .....</b> | <b>314</b> |
| Jingyuan Wan, Yun Le, Jin Li, and Ge Wang   |            |
| <b>Study on the Performance Influencing Factors of Expressway Project Based on PPP Mode .....</b>   | <b>325</b> |
| Xuan Zhang and Jun Fang   |            |
| <b>A Study on Stakeholder Relationship in Urban Renewal Projects: Case of Tianzifang in Shanghai .....</b>  | <b>334</b> |
| Hao Wang, Yaqin Cai, and Ran Gao  |            |
| <b>Exploration and Practice of the Combination of Active Concept and Multiple Teaching Methods in Cost Management of Construction Project .....</b>                     | <b>343</b> |
| Hui Yan, Huiyan Liu, Qiqi Li, Haiyan Zhang, and Qiyu Shen   |            |
| <b>Operation and Maintenance Performance Evaluation of PPP Project in Urban Underground Comprehensive Pipe Gallery .....</b>  | <b>355</b> |
| Yiyuan Guan and Jun Fang  |            |
| <b>An Empirical Study on the Factors Influencing the Capital Structure of PPP Projects .....</b>  | <b>362</b> |
| Wenhua Hou and Min Zhao   |            |
| <b>A Study on Construction-Operation Integrated Management of Megaproject: A Case of ABC International Airport .....</b>  | <b>370</b> |
| Guangshe Jia, Hongyun Ma, Zhongyu Wang, Zhiyang Xu, Kaili Liu, Yuhao Liu, and Meng Zhang  |            |
| <b>Research on the Problem of Social Stability Risk Assessment for Major Projects .....</b>   | <b>381</b> |
| Pengcheng Xiang and Siyu Luo  |            |
| <b>Study on Optimization of Operation and Maintenance Cost of Urban Underground Utility Tunnel Based on PPP Project .....</b>   | <b>387</b> |
| Yu Zhang and Jun Fang   |            |
| <b>An Exploratory Analysis on Factors Affecting the Implementation of Urban Renewal Projects in Shenzhen, China .....</b>   | <b>396</b> |
| Yani Lai  |            |

|   |            |
|---|------------|
| <b>Research on the Quality Demand of Construction Management Industry Based on Factor Analysis.....</b>   | <b>407</b> |
| Xiang Gu, Yingying Luo, and Yalan Deng  |            |
| <b>Risk Identification and Evaluation of Urban Underground Pipe Gallery PPP Project Based on Improved AHP .....</b>                             | <b>415</b> |
| Xukun Liu and Jun Fang  |            |
| <b>Comprehensive Evaluation of PPP Project Construction for Urban Underground Pipe Gallery .....</b>  | <b>425</b> |
| Zhixiang Tong and Jun Fang  |            |
| <b>Market Demand Forecasting Model of Urban Underground Comprehensive Pipe Gallery PPP Project.....</b>   | <b>434</b> |
| Shujin Li and Jun Fang  |            |
| <b>A Study on the Management Mechanism of Third-Party Safety Inspection within the Chinese Context .....</b>                                    | <b>441</b> |
| Lei Zhang, Hongyang Li, Yin Wu, Yousong Wang, Gui Xiong, and Hui Yan  |            |
| <b>Design of Service Evaluation System for Public Resource Trading Platform .....</b>   | <b>451</b> |
| Jian Wang, Jun Fang, Yu Zhang, and Xukun Liu  |            |
| <i>Construction Industrialization and Sustainability</i>  |            |
| <b>Research on the Constraints of the Development of Prefabricated Building in Dalian Based on ISM.....</b>                                     | <b>461</b> |
| Rui Zhao and Yaowu Wang   |            |
| <b>Comparison Study of Green Roof, Blue Roof, Green Blue Roof for Storm Water Management: A Review.....</b>                                     | <b>475</b> |
| Muhammad Shafique and Xiaowei Luo   |            |
| <b>Research on Prefabricated Building Promotion Based on Analytic Hierarchy Process .....</b>   | <b>483</b> |
| Yanting Han, Shoujian Zhang, and Ruijie Qiu   |            |
| <b>Co-Presence in a Shared Virtual Environment (SVE): A Case Study of Highway Work Zone Construction .....</b>                                  | <b>490</b> |
| Sanaz Saeidi, Yimin Zhu, Masoud Zadghorban Lifkooee, Maryam Mollazadeh, and Xin Li  |            |
| <b>Identifying Key Risks of Private and Government Construction Project Failures in West Africa: Environmental and Social Performance .....</b> | <b>498</b> |
| Nikiema Mahamadi, Hui Yan, Lei Zhang, Hongyang Li, and Yousong Wang   |            |

|   |            |
|---|------------|
| <b>Influencing Factors Analysis of the Prefabricated Component Demand in China<br/>Based on Improved Gray Correlation Degree Model.....</b>     | <b>509</b> |
| Zeng Wang, Yan Liu, and Yingbo Ji   |            |
| <b>Exploring the Relationships between the Triple Bottom Line of Sustainability<br/>in the Construction Industry .....</b>                      | <b>518</b> |
| Weina Zhu, Xiaodong Li, and Zhihui Zhang  |            |
| <b>Application Analysis of Prefabricated Buildings under Green Construction.....</b>  | <b>527</b> |
| Qingxin Xu and Lixin Sun  |            |
| <b>Research on Risk Factors of Emerging Information Technology Application in<br/>Prefabricated Construction Enterprises .....</b>              | <b>535</b> |
| Yan Liu, Zedong Zheng, and Yingbo Ji  |            |
| <b>Evolutionary Game Analysis of Knowledge Sharing in the Industrial Chain of<br/>Construction Industrialization .....</b>                      | <b>543</b> |
| Yanlin Wang and Hongbing Li   |            |
| <b>Study on Influence of Prefabricated Rate on the Cost of Prefabricated Building.....</b>  | <b>554</b> |
| Chenyu Liu and Jianguo Chen   |            |
| <b>How Urban Neighborhood Environment Affects Quality of Life of Older Adults:<br/>Enlightenments for Supporting “Aging in Place”.....</b>      | <b>562</b> |
| Fan Zhang and Dezhi Li  |            |
| <b>Research on Identification of Influencing Factors of Prefabrication Building<br/>Cost Based on Improved Entropy and DEMATEL Method .....</b> | <b>570</b> |
| Yingbo Ji, Guoqiang Liu, and Yuan Qi  |            |
| <b>Research on Carbon Emissions Measurement of Reconstruction Projects Based<br/>on Material Recovery.....</b>                                  | <b>577</b> |
| Lipeng Wei  |            |
| <b>Developing Green Building under Low-Carbon Economy.....</b>  | <b>583</b> |
| Ke Lu, Shenglan Jiang, and Siya Tang  |            |
| <b>Analysis on Restriction Cooperation Game among Prefabricated Component<br/>Quality Responsibility Mutual Insurance Subjects .....</b>        | <b>589</b> |
| Hui Ding, Chenyao Lv, and Anze Zhang  |            |
| <b>Analyzing Affordable Housing Industrialization Status in Beijing from the<br/>Perspective of Energy Saving and Emissions Reduction .....</b> | <b>600</b> |
| Zhiye Huang and Shasha Fu   |            |
| <b>Study on Life-Cycle Information Management of Prefabricated Components.....</b>  | <b>609</b> |
| Fei Pang, Yuna Wang, Ruixue Zhang, and Liang Wang   |            |

|  |            |
|--|------------|
| <b>Process Optimization Calculation Model and Empirical Research of Prefabricated Buildings Based on DSM .....</b>                                 | <b>614</b> |
| Likun Zhao and Zhuo Wang   |            |
| <b>Research on Energy Efficiency of Chinese Provincial Construction Industry from 2006 to 2015 Based on Super-SBM Model .....</b>                  | <b>622</b> |
| Pengcheng Xiang, Zongyu Li, and Mingming Hu  |            |
| <b>Quantifying the Green Efficiency of the Construction Industry in China.....</b>   | <b>631</b> |
| Jianjian Teng and Yuan Chang   |            |
| <b>An Engineering Consumption Differences Calculation Model for Prefabricated and Conventional Buildings in China.....</b>                         | <b>640</b> |
| Kai Qi, Yuan Qi, and Yingbo Ji   |            |
| <b>Carbon Emissions Analysis for Construction Process .....</b>  | <b>648</b> |
| Yuan Fang, Xiaoqing Lu, and Yufan Zhang  |            |
| <b>Research on Realization Approach of Green Building Based on Project Life Cycle Theory .....</b>   | <b>655</b> |
| Zhenxiang Shi  |            |
| <b>Economic Benefit Calculation Model for Prefabricated Buildings in China Based on Cash Flow .....</b>  | <b>661</b> |
| Siwei Chang, Yuan Qi, and Yingbo Ji  |            |
| <b>Comparative Study of Industrialized Construction Logic between General Prefabricated and Improved Prefabricated Construction in China .....</b> | <b>669</b> |
| Long Li, Zhongfu Li, Mengqi Yuan, and Shengxi Zhang  |            |
| <i>Real Estate and Land Management</i>   |            |
| <b>Analysis of Operational Efficiency of Real Estate Companies Based on DEA .....</b>  | <b>678</b> |
| Yudan Dou, Xiaolong Xue, Yuna Wang, Ankang Ji, and Ting Luo  |            |
| <b>Research on the Factors Affecting the Price Elasticity of China's Housing Supply: An Empirical Analysis Based on Panel Data.....</b>            | <b>685</b> |
| Zijing Wu and Lin Zhu  |            |
| <b>The Influence of Community Opening on Road Capacity .....</b>   | <b>692</b> |
| Xue Chen and Yaowu Wang  |            |
| <b>Research on the Impact Factors of Housing Affordability for Young University/College Graduates in Guangzhou.....</b>                            | <b>704</b> |
| Fan Wu, Kailin Chen, Wenyao Huang, Daijunyue Yu, Xinyi Yang, and Boya Su   |            |

|   |            |
|---|------------|
| <b>Research in Land Management Modes in China: A Comparative Study of “Three Old” Reform Policy .....</b>   | <b>713</b> |
| Ming Lei, Junhua Chen, Na Liu, and Hao Wang   |            |
| <b>Seismic Study of PHC Pipe Piles in High Pile Wharf .....</b>   | <b>720</b> |
| Shaojun Wang and Cuixuan Li   |            |
| <b>A Comprehensive Evaluation for Disaster Resilience of Smart Cities in China.....</b>   | <b>733</b> |
| Shiyao Zhu and Dezhi Li   |            |
| <b>“Asset-Light and Partnership-Heavy” Mode: Research on Strategic Transformation of the Real Estate Enterprise in China.....</b>                       | <b>741</b> |
| Xiaoyuan Wang and Hongxing Wen  |            |
| <b>Spatial Characteristics and Influencing Mechanism of Housing Price in Polycentric Mountainous City: A Case Study of Chongqing Central City .....</b> | <b>748</b> |
| Chao Mao and Linlin Zhang   |            |
| <b>The Impact of Capital Structure on Financial Performance of Real Estate Enterprises under Deleveraging .....</b>                                     | <b>759</b> |
| Wenguo Ai and Bangshi Chi   |            |
| <b>The Correlation Effect and Ripple Effect of Real Estate Industry: An Empirical Analysis on the Input-Output Table of Heilongjiang .....</b>          | <b>766</b> |
| Qun Cao and Shen Tian   |            |
| <b>Value Perspective: Research on the Influencing Factors of Housing Price Based on Structural Equation Model.....</b>                                  | <b>773</b> |
| Ya Zhao, Jingxin Gao, Yandi Zhou, Ningning Lang, and Weiguang Cai   |            |
| <b>Analysis of the Influence of Individual Factors on Housing Price: Based on the Data of Second-Hand Apartments in Beijing.....</b>                    | <b>784</b> |
| Yuan Meng and Haoye Cheng   |            |
| <b>Fiscal Decentralization, Land Financing, and Local Public Goods Supply Structure: Evidence from 30 Provincial Capital Cities in China .....</b>      | <b>795</b> |
| Junhua Chen and Yi Yang   |            |
| <b>Analysis of Land Financial Dependence and Discussion on Causes.....</b>  | <b>802</b> |
| Ningning Lang, Cun Liu, and Ya Zhao   |            |
| <b>A Critical Review of Water Adaptability in Urban Green Space under the Conception of Sponge City.....</b>  | <b>810</b> |
| Yu Zhang, Yunwei Zhou, Fucun Cao, Leichang Huang, and Yan Zhu   |            |
| <b>Research on Housing Satisfaction of Urban Residents from the Perspective of Household Characteristics .....</b>                                      | <b>819</b> |
| Tianxiang Li  |            |

|   |            |
|---|------------|
| <b>The Impact of Land Acquisition and Storage System on Housing Prices.....</b>   | <b>826</b> |
| Zhaian Bian, Junhua Chen, Guodong Liu, and Zhifeng Wang   |            |
| <b>Relevance on Neo-Urbanization and Real Estate Market in Heilongjiang.....</b>  | <b>833</b> |
| Qingguo Ran   |            |
| <b>Establishing a Third-Party Inspection System of Construction Work Safety .....</b>   | <b>840</b> |
| Yan Zhang, Xiangpeng Zeng, Hongyang Li, and Yousong Wang  |            |
| <b>Occupational Health Management in Road Construction Enterprises: A View<br/>of Cognitive Bias .....</b>                                | <b>852</b> |
| Dan Chong, Lin Chen, and Jianxun Xie  |            |
| <b>Analysis and Countermeasures of Fabricated Building Policy in Guangzhou .....</b>  | <b>859</b> |
| Xiaoling Tang, Xiaolong Xue, Zeyu Wang, Yuna Wang, and Ting Luo   |            |
| <b>Social Cohesion and Urban Sprawl: Urbanization in the Perspective of Social<br/>Concern .....</b>                                      | <b>868</b> |
| Xiaoqing Ge and Buchen Wu   |            |
| <b>Urban Carbon Metabolism: Based on the Change of Cultivated Land Area.....</b>  | <b>877</b> |
| Yunyu Feng and Xuezhu Cui   |            |
| <b>The Impact of Land Intensive Use on Urban Development Quality in Mountain<br/>City: A Case Study of Chongqing, China.....</b>          | <b>885</b> |
| Hongyue Lv, Tingkwei Wang, and Yingchao Lin   |            |
| <b>Case Study on Shantytowns' Reconstruction Mode with the New Urbanization .....</b>   | <b>897</b> |
| Yuanyuan Jiang and Zhirong Wang   |            |
| <b>Restraining the Illegal Sublease Phenomenon of Public Rental Housing in China:<br/>Based on Dynamic Evolutionary Game Theory .....</b> | <b>905</b> |
| Shilong Li and Siyu Liu   |            |
| <b>Design and Efficiency Evaluation of Infrastructure Construction in 31 Chinese<br/>Provinces Using Input-Output Tables.....</b>         | <b>914</b> |
| Yongsheng Wang, Chenzhan Kou, and Guijun Li   |            |
| <b>Review of Compensation Policies for Land Acquisition and Demolition in China.....</b>  | <b>925</b> |
| Ling Li and Chenmei Xu  |            |
| <b>Study on Land Use Status and Land Ecosystem Service Value in Taiyuan City .....</b>  | <b>931</b> |
| Na Yang and Renhui Liu  |            |
| <b>The Feasibility Study of "Winter and Summer Park" in Urban and Suburban<br/>of North China .....</b>                                   | <b>945</b> |
| Xiaoduo Cheng   |            |

|  |            |
|--|------------|
| <b>Research on the Cultivation of Engineering Management Professionals under the Background of Architectural Industrialization .....</b> | <b>950</b> |
| Feiyan Zhao, Tiantian Xu, and Zhukun Yan   |            |