



INTERNATIONAL JOURNAL OF
INNOVATION AND
INDUSTRIAL REVOLUTION
(IJIREV)
www.ijirev.com



TRANSACTION COST ECONOMICS FOR HOUSING DEVELOPMENT: SYSTEMATIC LITERATURE REVIEW

Farah Kamilah Zainuddin¹, Fara Diva Mustapa^{2*}, Siti Hajar Misnan³

¹ Faculty of Built Environment and Surveying, Universiti Teknologi Malaysia (UTM), Malaysia
Email: fkamilah2@graduate.utm.my

² Faculty of Built Environment and Surveying, Universiti Teknologi Malaysia (UTM), Malaysia
Email: faradiva@utm.my

³ Faculty of Built Environment and Surveying, Universiti Teknologi Malaysia (UTM), Malaysia
Email: shajar@utm.my

* Corresponding Author

Article Info:

Article history:

Received date: 30.10.2022

Revised date: 07.11.2022

Accepted date: 15.11.2022

Published date: 31.12.2022

To cite this document:

Zainudin, F. K., Mustapa, F. D., & Minsan, S. H. (2022). Transaction Cost Economics For Housing Development: Systematic Literature Review. *International Journal of Innovation and Industrial Revolution*, 4 (12), 16-23.

DOI: 10.35631/IJIREV.412002

This work is licensed under [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)



Abstract:

Over the years, Transaction Cost Economics (TCE) has been successfully applied into various industries in attempt to analyse on the cost-effectiveness of their activities and performances within the economic activities. As such, Construction Industry also adopt the theory by taking advantage of TCE's good merits in their construction plan and activities. In parallel with TCE application in various industries, academic works regarding this research domain have been rising steadily. Which is why this research sets to study the application of TCE in Housing Development to determine the possibility and benefits in its adoption through Systematic Literature Review. The review utilises the Bibliometric Analysis and conducted using Visualisation of Similarities (VOS) Viewer software. The analysis enables the identification of main research areas, an estimation of their size, and assessment of interaction between these research areas to determine the substance and relevancy of the research topic. The outcome managed to illustrate the systematic literature review of TCE application within the Construction Industry and managed to highlight that the research area is not well explored when Housing Development is incorporated. Thus, this calls for a much needed extensive study into the aforementioned specific research area. The findings of this analysis managed to provide clear direction for future research to navigate through the voluminous academic papers as well as a detailed descriptive analysis guidance to delve into the unexplored research areas.

Keywords:

Transaction Cost Economics (TCE), Construction Industry, Housing Development, Systematic Literature Review, Bibliometric Analysis.

Introduction

Transaction costs, an economic tool was first introduced by Ronald Coase in 1937 and he refers to it as ‘the costs of using the price mechanism in the market’ in his journal “The Nature of The Firm” (Coase, 1937). The concept was further elaborated by Oliver Williamson, who introduced the Transaction Cost Economics (TCE) theory in 1981 in which he defined transaction costs as the costs of running the economic system. It involves (i) searching and information costs; (ii) bargaining and decision costs; and (iii) policing and enforcements costs (Williamson, 1981; Dyer, 1997; Liang & Huang, 1998; Wink Junior et al., 2011; Zainuddin et al., 2021). Over the years, TCE has been successfully applied to various industries in an attempt to analyse on the cost-effectiveness of their activities and performances within economic activities. Construction Industry also does not miss the opportunity to adopt the theory and take advantage of TCE’s good merits in their construction plan and activities. In parallel with TCE application in Construction Industry, academic works regarding this research domain have been rising steadily. This is why this research sets out to study the application of TCE in Housing Development to determine the possibility and benefits in its adoption. Hence, a Systematic Literature Review is carried out. The review utilises the Bibliometric Analysis and is conducted using Visualisation of Similarities (VOS) Viewer software.

Systematic Literature Review

Academic knowledge is growing significantly, making it increasingly difficult for researchers to keep track of new research findings due to the time-consuming-tasks of assessing and evaluating a new study, as well as ensuring the credibility of the said study. Researchers also struggle to identify relevant studies on a topic of interest, to critically review the content and quality of existing data and to synthesise available findings (Linnenluecke et al., 2020).

This is how a Systematic Literature Review can overcome these limitations and assist with several aspects of the research process such as establishing a context, seeking theoretical support, distinguishing what has been done from what needs to be done, identifying the main outcomes and methodologies used in prior studies as well as avoiding unproductive research. If the researcher is contributing to existing research, such reviews can focus on identifying major research streams and future research directions (Linnenluecke et al., 2017). A systematic Literature Review can also be beneficial if a researcher is driven by a lack of research on a particular topic and the review can be the foundation for a discussion regarding the knowledge gap, and how a researcher intends to fill it.

The value of a Systematic Literature Review depends on the methods and the transparency of data presentation, as well as on the application of scientific strategies so that errors and biases are limited (Moher et al., 2009). Basically, a Systematic Literature Review is a comprehensive search of designated databases (Scopus and Web of Science) and additional literature that might not be available through these databases that will go through a systematic process for analysing and producing relevant findings (Linnenluecke et al., 2020).

Bibliometric Analysis with Visualisation of Similarities (VOS) Viewer

Having explained the purpose of Systematic Literature Review, there are various ways to present the findings through various software to visualise research on a topic or theme. They provide systematic ways to map knowledge developments over time, as well as trends of topics of interest in the research literature (Linnenluecke et al., 2020).

This research uses a Bibliometric Analysis, a term that was coined by Pritchard (1969) who indicated that it can be applied in all studies that aim to quantify the process of written communication (Gokhale et al., 2020). Bibliometric Analysis is a method that uses a set of quantitative methods to measure, track, and analyse scholarly literature (Roemer & Borchardt, 2015). It categorises the publications by authors, the most prominent journals, as well as the methodologies used and the conclusions obtained (Durán Sánchez et al., 2014).

A graphical bibliometric analysis can be developed using Viewer software programs, which is widely used to carry out such a type of bibliometric review in diverse subject areas (Paul & Rialp-Criado, 2020). This research utilises Visualisation of Similarities (VOS) Viewer software to present the findings of the Systematic Literature Review.

The Scopus multidisciplinary bibliographic database was used to find information in journals classified into an organized hierarchy of fields and subfields (Hassan et al., 2019). This database was selected because of three criteria (Falagas et al., 2008): (i) it has quality indexes (ii) it provides approximately 20% more coverage than the Web of Science and (iii) simultaneous downloading of references is allowed (Rojas-Sánchez et al., 2022).

Application of TCE in Construction Industry

Bibliometric Analysis using Scopus database enables the identification of main research areas, an estimation of their size, and an assessment of interaction between these research areas (Avila-Robinson & Wakabayashi, 2018; Van Eck & Waltman, 2011). As illustrated in Figure 1, Bibliometric Analysis with keywords Transaction Cost Economics and Construction Industry is mostly associated with project management, transaction costs, cost-benefit analysis, risk management, decision making and others.

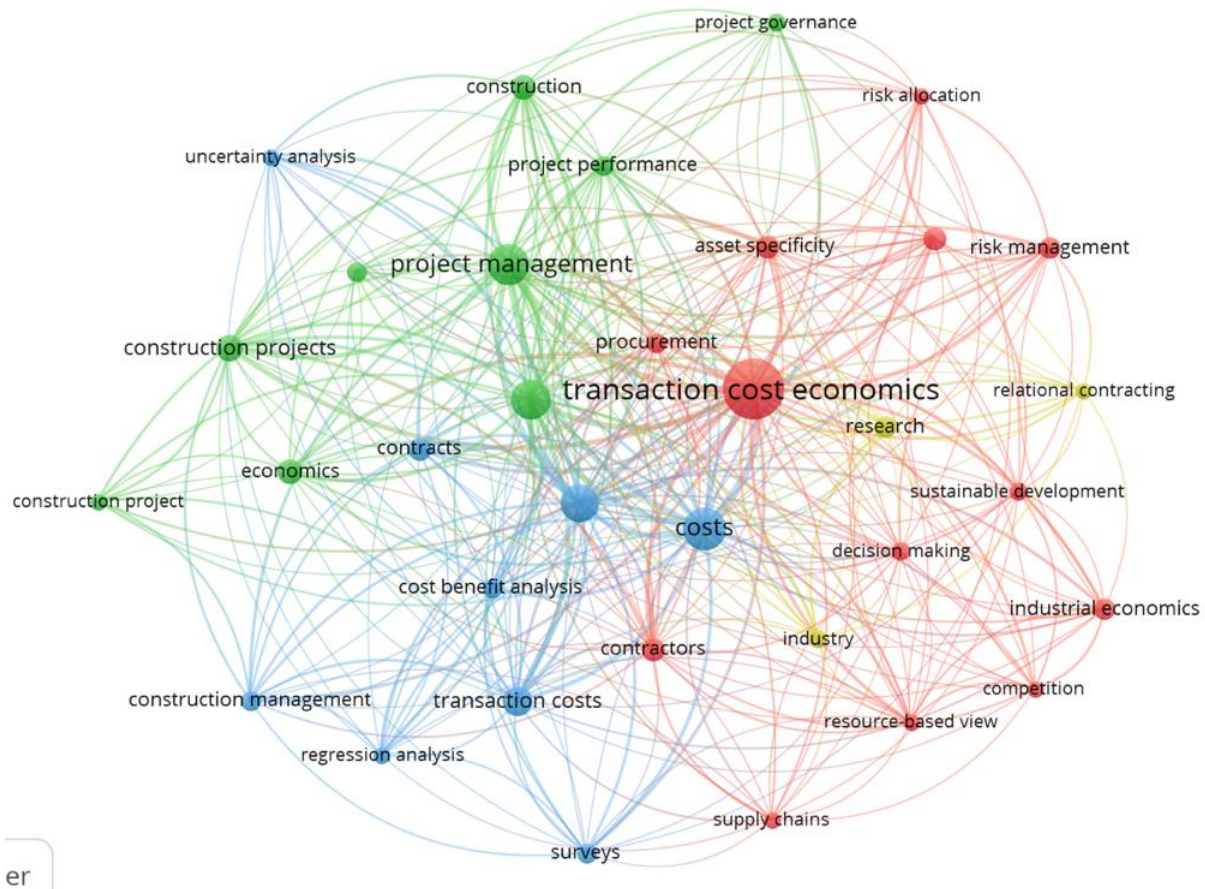


Figure 1: Bibliometric Analysis with keywords Transaction Cost Economics and Construction Industry

Source: Visualisation of Similarities (VOS) Viewer findings

The findings of the Bibliometric Analysis will assist on the detailed descriptive analysis desired from the bibliographic elements. For the purpose of this paper and to simplify the presentation of the findings of the Systematic Literature Review for this research, the bibliographic elements chosen to be presented are regarding the research methodologies such as research approach, research technique and research analysis as shown in Table 1 that follows. This is important so the presentation of the findings will be able to assist the researcher to analyse and adopt the most suitable methodologies that can cater to the research's nature and circumstances.

Table 1: Some of Previous Research of TCE in Construction Industry

Research	Author	Approach	Technique	Analysis
Transaction Costs and Housing Affordability in Asia	Cruz, 2008	Quantitative	Document Screening	Content Analysis
Resilience Through Transaction Cost Economic Evaluation: Recognising The Cost-Effectiveness Of Sustainable Development	Whittington & Young, 2013	Quantitative	Experiment	Experimental Analysis

Determining The Magnitude Of Transaction Costs In Construction Procurement Systems: An Explanatory Study	Rajeh et al., 2013	Delphi Method	Pilot Questionnaire and Semi-Structured Questionnaire	Structured Data Analysis
Determinants of Transaction Costs in Construction Projects	Li et al., 2015	Qualitative	Document Analysis	Content Analysis
Challenges In Delivering Green Building Projects: Unearthing The Transaction Costs	Qian et al., 2015	Qualitative	Semi-Structured Interview	Content Analysis
Estimating Transaction Costs In The New Zealand Construction Procurement	Rajeh et al., 2015	Mixed Method	Survey Questionnaire and Document Analysis	Descriptive Statistical Analysis and Content Analysis

Source: Visualisation of Similarities (VOS) Viewer findings

Application of TCE in Construction Industry and Housing Development

Based on the preliminary Bibliometric Analysis with Transaction Cost Economics and Construction Industry keywords, another keyword is added to which is Housing Development as depicted in the following Figure 2. This is to expand the analysis to show that there are some connections between the keywords yet limited, which indicates that this research area is not well versed as there is a knowledge gap and worth to be explored by other researchers because desired research findings do not exist (Miles, 2017), or in this case, it is very limited. The lack of research in this area is further supported by the fact that there are only three academic papers with these three keywords.

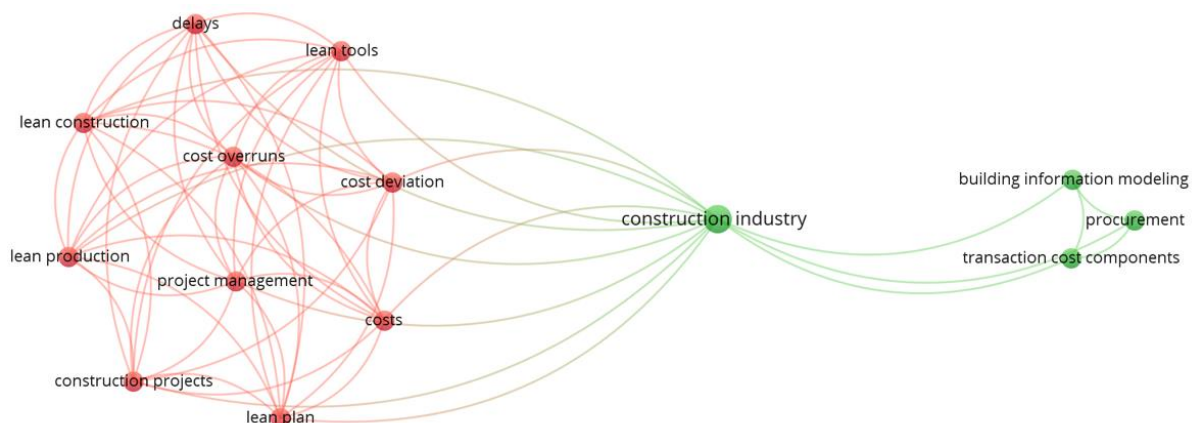


Figure 2: Bibliometric Analysis with keywords Transaction Cost Economics, Construction Industry and Housing Development

Source: Visualisation of Similarities (VOS) Viewer findings

Pilot Study Findings

From the Bibliometric Analysis with keywords Transaction Cost Economics, Construction Industry and Housing Development findings, it shows that TCE is beneficial to be applied for Construction Industry as the theory has been successfully applied by previous research, however the studies are limited especially in the scope area of Housing Development. Therefore, a Pilot Study has been conducted to study the application of TCE in Housing Development to determine the possibility and benefits in its adoption. The Pilot Study has managed to identify the transaction cost components within the pre and post-contract of typical housing development projects and the findings revealed that the number of identified transaction cost components at both pre and post-contract were higher than the anticipated from literature review. Higher number of identified transaction cost components translates higher transaction costs in housing development and that directly contributes to the increase of housing selling prices (Zainuddin et al., 2021). This discovery should be further researched by quantifying the transaction cost components to support the findings and ultimately develop the transaction cost economics framework for housing development, designed for process coordination and cost optimization.

Conclusion

This paper illustrates the outcome of systematic literature review of TCE within Construction Industry, and managed to highlight that despite its benefits, TCE research area is not well explored when Housing Development is incorporated. Thus, this calls for a much needed extensive study into the aforementioned specific research area. The findings of this analysis provide a direction for future research to navigate through the voluminous academic papers as well as a detailed descriptive analysis guidance to delve into the unexplored research areas.

Acknowledgement

The authors wish to thank those who helped in facilitating and assisting this research. This research is also part of the Fundamental Research Grant Scheme (FRGS) FRGS/1/2019/SS08/UTM/02/6 funded by Malaysia's Ministry of Education.

References

- Ávila-Robinson, A., & Wakabayashi, N. (2018). Changes In The Structures and Directions Of Destination Management and Marketing Research: A Bibliometric Mapping Study, 2005 2016. In *Journal of Destination Marketing and Management* (Vol. 10, pp. 101–111). Elsevier Ltd. <https://doi.org/10.1016/j.jdmm.2018.06.005>
- Coase, R. (1937). *The Nature of The Firm*. 386–405. [https://doi.org/10.1016/S0039-6109\(16\)37642-3](https://doi.org/10.1016/S0039-6109(16)37642-3)
- Cruz, P. C. R. (2008). Transaction Costs and Housing Affordability in Asia. *International Real Estate Review*, 11(1), 128–150.
- Durán Sánchez, A., Álvarez-García, J., Río-Rama, D., & Cruz, M. (2014). Active tourism research: A literature review. *ROTUR*, 8, 62–76.
- Dyer, J. H. (1997). Effective Interfirm Collaboration: How Firms Minimize Transaction Costs and Maximize Transaction Value. *Sensors (Switzerland)*, 15(10), 24996–25014. <https://doi.org/10.3390/s151024996>
- Falagas, M. E., Pitsouni, E. I., Malietzis, G. A., & Pappas, G. (2008). Comparison of PubMed, Scopus, web of science, and Google scholar: Strengths and weaknesses. *The FASEB Journal*, 22(2), 338–342. <https://doi.org/10.1096/fj.07-94921sf>

- Gokhale, A., Mulay, P., Pramod, D., & Kulkarni, R. (2020). A bibliometric analysis of digital image forensics. *Science & Technology Libraries*, 1, 18. <https://doi.org/10.1080/0194262x.2020.1714529>
- Hassan, S. U., Visvizi, A., & Waheed, H. (2019). The 'who' and the 'what' in international migration research: Data-driven analysis of Scopus-indexed scientific literature. *Behaviour & Information Technology*, 38(9), 924–939. <https://doi.org/10.1080/0144929x.2019.1583282>
- Li, H., Arditi, D., & Wang, Z. (2015). Determinants of transaction costs in construction projects. *Journal of Civil Engineering and Management*, 21(5), 548–558. <https://doi.org/10.3846/13923730.2014.897973>
- Liang, T. P., & Huang, J. S. (1998). An empirical study on consumer acceptance of products in electronic markets: A transaction cost model. *Decision Support Systems*, 24(1), 29–43. [https://doi.org/10.1016/S0167-9236\(98\)00061-X](https://doi.org/10.1016/S0167-9236(98)00061-X)
- Linnenluecke MK, Chen X, Ling X, Smith T, Zhu Y (2017) Research in finance: A review of influential publications and a research agenda. *Pacific-Basin Finance Journal*, 43, 188–199.
- Linnenluecke, M. K., Marrone, M., & Singh, A. K. (2020). Conducting Systematic Literature Reviews and Bibliometric Analyses. In *Australian Journal of Management* (Vol. 45, Issue 2, pp. 175–194). SAGE Publications Ltd. <https://doi.org/10.1177/0312896219877678>
- Miles, D. A. (2017). *A Taxonomy of Research Gaps: Identifying and Defining the Seven Research Gaps*.
- Moher D, Liberati A, Tetzlaff J, Altman D G (2009) Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *Annals of Internal Medicine*, 151: 264–269.
- Paul, J., & Rialp-Criado, A. (2020). The Art of Writing Literature Review: What Do We Know and What Do We Need To Know. *International Business Review*, 29.
- Qian, Q. K., Chan, E. H. W., & Khalid, A. G. (2015). Challenges In Delivering Green Building Projects: Unearthing The Transaction Costs (TCs). *Sustainability* (Switzerland), 7(4), 3615–3636. <https://doi.org/10.3390/su7043615>
- Rajeh, M., Tookey, J., & Rotimi, J. (2013). Determining the magnitude of transaction costs in construction procurement systems: An exploratory study. *Construction Management and Economics*. Retrieved from <http://aut.researchgateway.ac.nz/handle/10292/5414>
- Rajeh, M., Tookey, J. E., Olabode, J., & Rotimi, B. (2015). Estimating Transaction Costs In The New Zealand Construction Procurement. *Engineering, Construction and Architectural Management*, 22(2), 242–267. <https://doi.org/10.1108/ECAM-10-2014-0130>
- Roemer, R. C., & Borchardt, R. (2015). Meaningful metrics: A 21st century librarian's guide to biblio-metrics, altmetrics, and research impact. *Association of College and Research Libraries*
- Rojas-Sánchez, M. A., Palos-Sánchez, P. R., & Folgado-Fernández, J. A. (2022). Systematic Literature Review and Bibliometric Analysis On Virtual Reality and Education. *Education and Information Technologies*. <https://doi.org/10.1007/s10639-022-11167-5>
- Whittington, J., & Young, S. (2013). Resilience through Transaction Cost Economic Evaluation: Recognizing the Cost-Effectiveness of Sustainable Development. *S.A.P.I.E.N.S. Surveys and Perspectives Integrating Environment and Society*, 6(6.1).
- Williamson, O. E. (1981). *The Economics of Organization: The Transaction Cost Approach*. 3(September), 1981.

- Wink Junior, M. V., Sheng, H. H., & Eid Junior, W. (2011). Transaction costs: An empirical analysis of their relationship with investment and foreign direct investment. *RAE Revista de Administracao de Empresas*, 51(2), 175–187. <https://doi.org/10.1590/S0034-75902011000200005>
- Zainuddin, F. K., Mustapa, M., & Mustapa, F. D. (2021). Transaction Cost Economics Identification In Malaysian Housing Development: A Preliminary Review. *International Journal of Sustainable Construction Engineering and Technology*, 12(1), 212–220. <https://doi.org/10.30880/ijscet.2021.12.01.021>