

## IMPACT OF QUANTITY SURVEYING PRACTICES TOWARDS CONSTRUCTION INSOLVENCY STIMULUSES FOR SRI LANKAN CONTRACTORS

CD Weerakody<sup>#</sup> and D.M.S.Jayasuriya

*Department of Quantity Surveying, General Sir John Kotelawala Defence University,  
Sri Lanka*

<sup>#</sup> 36-qs-0018@kdu.ac.lk

### Introduction

When an organization encounters issues in finance and fails to pay off the debts to a company or a person, it is referred to as suffering from insolvency. According to Census Bureau data from 2012 to 2022, construction companies are 1.5 times likely to become a victim of bankruptcy compared to other industries. The rate of failure in construction businesses according to Scott Shane’s 2013 data compilation of Business dynamic statistics does demonstrate that construction companies do have a 65% chance of failing during their first five years. Quantity surveyors as a profession has evolved over the years over areas related to Law, Management, Finance, Valuation to name a few. The Pathway guide Quantity Surveying and Construction suggests Quantity Surveyors should be competent in “Corporate Recovery and Insolvency” and have a thorough understanding in how the insolvency has affected their project and the legal and contractual position of the parties involved. This research study aims at investigating the Quantity Surveying practices being imposed within a project to avoid or mitigate the risks beforehand facing insolvency and going bankrupt through managing and implementing skills and experiences in insolvency matters since the Quantity Surveying practices could directly affect insolvency where the criticalness of these causes within industry could be often neglected or unknown (Ooghe and de Sofie, 2008; Lukason and Hoffman, 2014).

### Methodology

#### *A. Data Collection Methods*

Both Questionnaire surveys, and semi-structured interviews were conducted to collect the primary data intended for further analysis parallel to 12 construction insolvency stimuluses. As for the secondary data, a comprehensive literature survey was carried out. The Questionnaires were both handed out via electronic and physical means while the interviews did take place through telephonic conversations and in face-to-face approach.

## *B. Data Analysis Methods*

### 1. Relative Importance Index (RII)

Through the implementation of the RII, identified causes were compatible to rank them in order indicating which cause did matter the most in both regards. RII calculates the Primary data with an output between 0 and 1. (Rajgor et al., 2016) The higher RII value suggested a relatively important cause compared to others. The RII or the Relative Importance Index was used at two different instances.

### 2. Standard Deviation and Mean

Standard Deviation can be denoted as the degree of dispersion of the data relative to its mean value. Standard Deviation offers an understanding of how the data gathered are spread across the data sample (Hussain et al., 2017).

## **Results and Discussion**

### *A. Ranking according to RII values, Standard Deviation and Mean*

#### 1. According to the Severity factor

According to the analyzed data, inaccurate estimating is ranked higher than the rest of other causes with almost a similar RII value in poor cashflow management as well. This may denote a similarity between these two indicating, that without estimating properly, it would be useless and harder to manage the cashflow and the poor cashflow management could ruin properly carried out estimations completely. Another apparent reason especially within the year 2022 was the labor and material shortage. The collective agreeing nature of the respondents towards this factor is further denoted by the least standard deviation value for SR8 factor.

#### 2. According to the Quantity Surveyor's intervention

Managing the cashflow has the highest RII2 value with a mean value over 3.9, denotes that it is the factor which has the highest contribution of a Quantity Surveyor. Upon the fact of having a lower standard deviation and a higher mean, estimating practices was ranked the 2nd whereas, Estimation is a core competency a Quantity Surveyor should be able to perform on. Fluctuations in material costs was ranked the 3rd factor a Quantity Surveyor's intervention is necessary. Though the Fluctuations themselves are out of control, the Quantity Surveyor has a significant responsibility in claiming for material fluctuations.

### *B. Absolute difference and the Overall RII*

Absolute difference was calculated and the Overall RII values were ranked again, so that each potential Insolvency/ Bankruptcy cause could be able to understand without a bias (Severity or Quantity Surveyor's Intervention). These values indicate an idea of whether the effort taken to avoid mitigate the risk of insolvency is worth it or not rather than ranking both RII1 and RII2 alone. But these ranks do not indicate the overall impact taking the Severity factor and the Quantity Surveyor's contribution.

## Conclusion

The Quantity Surveyor does have limitations within their practice and should know how such a profession could have an overall impact. Comparing both RII1 and RII2 value rankings does implicate the connections between the above. Several factors had a low possibility of remedying the same factors with a lower RII2 value. It should also be noted that factors with a higher absolute difference value also denoted the factors which are either less severe or had less contribution from Quantity Surveying practices. Therefore, a Quantity Surveyor should put the effort into these 12 causes taking both the Severity factor and the intervention factor in an overall sense. With the data gathered, it became more evident that there are several areas Quantity Surveyors do not usually practice in, but still are viable to perform in. Project management practices could greatly help the project in finance and technologies such as BIM and other management software packages could also make the project to perform efficiently and effectively.

## References

- Alaka, H.A. (2017). ‘*Big data analytics’ for construction firms insolvency prediction models*’.
- Ar-Rasyid, R. (2012) *Are there differences in the bankruptcy risk of Indonesian’s construction firm during different presidency regimes*
- George, A.S.H., George, A.S. and Baskar, T. (2022) ‘*Sri Lanka’s Economic Crisis: A Brief Overview*’, Partners Universal International Research Journal [Preprint]. Available at: <https://doi.org/10.5281/zenodo.6726553>.
- Hussain, S. et al. (2017) ‘*Rural residents’ perception of construction project delays in Pakistan*’, Sustainability (Switzerland), 9(11). Available at: <https://doi.org/10.3390/su9112108>.
- Imtiyaz, A.R.M. (2020) ‘*The Easter Sunday Bombings and the Crisis Facing Sri Lanka’s Muslims*’, Journal of Asian and African Studies, 55(1), pp. 3–16. Available at: <https://doi.org/10.1177/0021909619868244>.
- Lukason, O. and Hoffman, R.C. (2014) ‘*Firm Bankruptcy Probability and Causes: An Integrated Study*’, International Journal of Business and Management, 9(11). Available at: <https://doi.org/10.5539/ijbm.v9n11p80>.
- Manzoor Arain, F. (2019) *Causes of Insolvency and Unethical Practices of Contractors In Pakistan Construction Industry*.
- Ooghe, H. and de Sofie, P. (2008) ‘*Failure processes and causes of company bankruptcy: A typology*’, Management Decision, 46(2), pp. 223–242. Available at: <https://doi.org/10.1108/00251740810854131>.
- Pacheco, A.G.C. and Krohling, R.A. (2018) ‘*Ranking of Classification Algorithms in Terms of Mean–Standard Deviation Using A-TOPSIS*’, Annals of Data Science, 5(1), pp. 93–110. Available at: <https://doi.org/10.1007/s40745-018-0136-5>.
- Perera, K.K.S. et al. (2018) *Investigating Quantity Surveying Entrepreneurship: The Case of Sri Lanka*. Available at: <https://www.researchgate.net/publication/327980227>.