# Article information:

Complexity-based risk decision framework for cost overrun using fuzzy Bayesian network | SpringerLink  
<https://link-springer-com.manchester.idm.oclc.org/article/10.1007/s00500-023-07983-7>

# Article summary:

1. Construction projects often encounter cost overrun issues due to uncertainty and the dynamic nature of the project.

2. Fuzzy hybrid methods, such as fuzzy Bayesian belief networks, are superior in evaluating interdependencies between events under high uncertainty.

3. An integrated approach of fuzzy set theory and Bayesian network is effective in finding causes of cost overrun with limited information under high complexity and uncertainty.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article titled "Complexity-based risk decision framework for cost overrun using fuzzy Bayesian network" discusses the issue of cost overruns in construction projects and the use of hybrid methods to measure the causes of such overruns under high uncertainty. The article provides a comprehensive review of previous studies on the topic and highlights the complex and dynamic nature of construction projects as a major contributor to cost overruns.

One potential bias in the article is its focus on Asian international infrastructure transport projects (ITPs) as examples of cost overrun issues, which may not be representative of all construction projects worldwide. Additionally, while the article acknowledges that various risk assessment models have been employed to find out the unique causes of cost overrun, it does not provide a detailed analysis or comparison of these models.

The article also makes unsupported claims about the superiority of fuzzy hybrid methods over multi-criteria decision models in evaluating interdependencies between events under high uncertainty. While some studies have shown that fuzzy hybrid methods may be more effective in certain situations, this claim should be supported by more evidence and analysis.

Furthermore, the article does not explore counterarguments or potential limitations of using fuzzy hybrid methods for risk assessment. For example, some critics argue that these methods may oversimplify complex relationships between variables or rely too heavily on subjective inputs.

Overall, while the article provides a useful overview of previous research on cost overruns in construction projects and introduces an integrated approach using fuzzy set theory and Bayesian networks, it could benefit from more critical analysis and exploration of potential biases and limitations.

# Topics for further research:

* Comparison of risk assessment models for cost overruns in construction projects
* Limitations of fuzzy hybrid methods for risk assessment
* Criticisms of subjective inputs in fuzzy set theory and Bayesian networks
* Case studies of cost overruns in construction projects outside of Asian international infrastructure transport projects (ITPs)
* Evaluation of multi-criteria decision models for interdependencies between events under high uncertainty
* Analysis of complex relationships between variables in risk assessment models for cost overruns.

# Report location:

<https://www.fullpicture.app/item/cd9b4de7c1acb2abe4fdb14e3a43dee4>