# Article information:

Study of Black-Scholes Model and its Applications - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S1877705812019480>

# Article summary:

1. The Black-Scholes option pricing model is studied in this paper, including definitions and derivations useful for further development of the formula and partial differential equation.

2. The solution of the Black-Scholes equation is obtained and represented graphically using Maple software.

3. Various numerical techniques have been utilized by researchers to handle nonlinear DEs related to the Black-Scholes model, including Cauchy Euler method, explicit difference scheme, multivariate padé approximation scheme, and finite difference scheme.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article titled "Study of Black-Scholes Model and its Applications" provides a comprehensive overview of the Black-Scholes option pricing model. The paper discusses various definitions and derivations that are useful for further development of the Black-Scholes formula and partial differential equation. The authors also provide an application of the model by obtaining the solution to the Black-Scholes equation and representing it graphically using Maple software.

The article appears to be well-researched, with references cited from reputable sources such as Cambridge University Press, Springer-Verlag, and Sheldon Ross's "An Introduction to Mathematical Finance." However, there are some potential biases in the article that should be noted.

Firstly, the article focuses solely on the Black-Scholes model without exploring other option pricing models or discussing their advantages and disadvantages. This one-sided reporting may lead readers to believe that the Black-Scholes model is the only viable option pricing model when this is not necessarily true.

Additionally, while the authors briefly mention critiques of the Black-Scholes model in reference [5], they do not explore these critiques in-depth or present counterarguments. This lack of exploration may lead readers to believe that there are no valid criticisms of the Black-Scholes model.

Furthermore, while the authors provide an application of the Black-Scholes model using Maple software, they do not discuss any potential risks associated with using this software or relying solely on mathematical models for financial decision-making. This omission may lead readers to believe that mathematical models are infallible when this is not necessarily true.

Overall, while the article provides a thorough overview of the Black-Scholes option pricing model and its applications, it does have some potential biases and limitations that should be considered when interpreting its findings.

# Topics for further research:

* Criticisms of the Black-Scholes model in option pricing
* Alternative option pricing models to Black-Scholes
* Limitations of using mathematical models in finance
* Empirical testing of the Black-Scholes model
* Sensitivity analysis in option pricing models
* Historical development of option pricing models

# Report location:

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