

Review of: "Bank Customer Churn Prediction Using SMOTE: A Comparative Analysis"

Anthony Anggrawan

Potential competing interests: No potential competing interests to declare.

* In the Article title:

The article title is less effective: The article's title should represent the article's content and must implicitly "highlight" findings and method articles.

Note: You use not only SMOTE methods but also genetic algorithms and data mining classification algorithms. Please revise.

* In the Abstract subsection:

Authors must add the research objectives (explicitly) in the Abstract subsection. Please complete it.

* In the Introduction subsection:

- a. The background to why the topic/objective of this research was raised is still weak. The authors must further improve the discussion (in the background of the introductory subsection), which is referred to from previous related research, which reveals gaps that confirm the need for this research to be carried out. Reduce statements whose source comes from the words of the authors; instead, add statements whose source comes from citations of previous science.
- b. The author must clearly state the purpose of the research (after outlining the background or gap analysis of the reasons why this research is needed). Please improve it.
- c. It would be good for the author to explain further the reasons for choosing the research methods used.
- (d) At the end of the Introduction subsection, the authors should mention the systematic sequence or organization of the next subsections of the discussion in this manuscript.

* In the Review of Related Works subsection

- (a) There are too few related articles discussed in your manuscript. When discussing related articles, you should focus more on differences or comparisons of your work with previous related works to show that your work has never existed before and has novel findings. Please improve it.
- (b) Discussions in the Related Works or Literature Review subsection must first refer to the latest scientific publication sources and not to the authors' personal opinions without referring to related and recent scientific references. Please revise it.

*** In the Research Methodology subsection**

- a. The description of the features and categories of the data set should also be presented in a table.
- b. Please avoid using the word “as” or the phrase “as follows” to point out a formula. Instead, please replace the words “as follows” with “in Formula x”, where x is the serial number of the formula. Note: Each formula must have a serial number and be narrated in the body of the text.

*** In the Result and Discussion subsection**

- a. In your manuscript (in subsection 4. Results and Discussion), did a typo occur? Twice the subtitle "Classification Results Without SMOTE" appears, one of which should be "Classification Results with applying SMOTE." Please revise.
- b. Please present the amount of data per category for each class before and after the implementation of SMOTE (in a graph or table). Note: This means that the graph/table displays data imbalances and balances (changes in the amount of data that occur in each class category) before and after the application of SMOTE. Please add it.
- c. Please improve your presentation. Please present in the same table the performance of each model (classification method) before and after SMOTE, and what was optimized (accuracy, recall, precision, specificity, and F1 score). By presenting it in this way (comparison of classification performance in the same table before and after SMOTE), it will make it easier for readers to see/understand/examine it.
- d. The Results and Discussion subtitle must also be accompanied by a narrative of the research findings, correlating which are new discoveries (novelty) from your research and which strengthen previous research. Note: Remember, there is quite a lot of research related to treating uneven feature classes from data sets with SMOTE. Among them is: "Improving SVM Classification Performance on Unbalanced Student Graduation Time Data Using SMOTE." So you should narrate the novelty of your research.

*** In the Conclusion and Future Works subsection**

In the Conclusion subsection, the author no longer needs to carry out other discussions except discussing research findings (answering the research objectives), new things discovered from the research results, and limitations of the research conducted or suggestions for further research. Please rearrange (revise) the description in the Conclusion subsection.

*** In the Reference subheading**

The number of references used in the manuscript is too small. Generally, articles in scientific journals contain at least 15 references from recent journal articles or proceedings (within the last 5 years).