

## Comments from the reviewers:

### -Reviewer 1

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I have read carefully the manuscript and I regret to inform you that the manuscript cannot be recommended for publication.

The scope of this journal is the publication of original research and development work in the field of ocean engineering, and the topic of the manuscript seems far from the topics reported in the guide for authors.

Comments: I have tried my best. It is about naval architecture for traditional fishing boats in Indonesia. It is necessary for the standardization of traditional fishing boats in Indonesia.

Overall, the manuscript is weak and needs to be rearranged in all the sections reported to include more complete description of the data collection methodology, (how many boats investigated, how much are they representative of the fleet, what are the measurement error due to manual approach, etc.).

The number of data collected is not reported and it is not possible to identify the dimension of the study.

Comments: In this study, I have collected 14 traditional fishing boats with all the same hull construction type i.e. ijon-ijon and the same fish catching tool i.e. cantrang. All the data are representatives of ijon-ijon with cantrang. The minimum is 16 GT and the maximum is 64 GT. In this study, we use seven data of traditional fishing boats as a regression model. Subsequently, we validate the model with other data of 7 traditional fishing boats with the same hull construction and fish catching tool. The error of a simple linear regression model between GT size and man hours is 6.06%.

Subsequently, we validate the model with other data and the error is 5.78%.

Meanwhile, the error of a multivariate linear regression model between GT size and the number of wood materials is 8.90%. After validating the model with other data, we obtain the error of 5.72%. It can be concluded that the models are not over fitting.

The section 3.2 is basically a description of the boat architecture more than a result that needs to be described).

Comments: I have moved the boat architecture to the research methodology section

The formula  $GT = k_1 \times V$  is commonly adopted to relate vessel size to the tonnage. Unfortunately, I cannot find online the cited Abu Jami et al. (2016), but I strongly believe that this formula has been defined earlier.

Comments: We have changed the reference from Abu Jami et al to the International Conventions on tonnage measurement of ships (London, 23 June 1969).

I would suggest to read carefully the guide for authors to find useful references on how to develop each section of the manuscript.

Comments: I get difficulties in the analysis of results and discussion section. I should do benchmarking with other papers. However, there are limited resources of traditional fishing boats, especially in naval architecture. Is it okay to do benchmarking with Indonesian journals?

Finally, the paper should be revised from a native speaker.

Comments: I have sent this paper to the language services for editing

## **-Reviewer 2**

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### **Summary**

The paper adds to the limited studies of traditional boats in Indonesia. It looks at the building process, the materials required, the associated costs and the man hours to construct the vessel. The paper studies four vessel sizes and then derives equations to predict the quantity of wood required for construction and the time till completion. This is done through multivariate and simple linear regression.

Comments: Yes, exactly. Thank you.

The paper has a sound methodology and it appears that the data gathering has been thorough. Whilst the data is presented, it is a little confusing at times and lacks discussion.

Comments: I have restructured the section of research methodology and I have sent this paper to the language services for editing

The methodology section is lacking and needs to be expanded upon.

Comments: I have expanded the explanation. I made the outcome of each process obviously.

The language is confusing at times and the paper would benefit from a language edit.

Comments: I have sent this paper to the language services for editing

It would also benefit from being restructured to ensure that the results and discussion section is more concise and clear, whilst containing more discussion and analysis. This

restructuring should ensure the appropriate material is moved to the methodology section and this is well explained.

Comments: I have restructured the sections such as moving the table of characteristics profile for each boat in the research methodology section. However, the table of wood material is put on the result and discussion section because we will calculate the total cost of material used.

The lack of analysis of the presented formulae is a little concerning, as is the lack of validation against data that wasn't used in generating them.

In this study, I have collected 14 traditional fishing boats with all the same hull construction type i.e. ijon-ijon and the same fish catching tool i.e. cantrang. All the data are representatives of ijon-ijon with cantrang. The minimum is 16 GT and the maximum is 64 GT. In this study, we use seven data of traditional fishing boats as a regression model. Subsequently, we validate the model with other data of 7 traditional fishing boats with the same hull construction and fish catching tool. The error of a simple linear regression model between GT size and man hours is 6.06%. Subsequently, we validate the model with other data and the error is 5.78%. Meanwhile, the error of a multivariate linear regression model between GT size and the number of wood materials is 8.90%. After validating the model with other data, we obtain the error of 5.72%. It can be concluded that the models are not over fitting.

**Main concerns:**

The language used can be confusing at times – the paper would benefit from a language edit.

Comments: I have sent this paper to the language services for editing

It lacks the depth and analysis that is required by a journal paper.  
The data and methodology is sound, however it requires more analysis.

Comments: I get difficulties in the analysis of results and discussion section. I should do benchmarking with other papers. However, there are limited resources of traditional fishing boats, especially in naval architecture. Is it okay to do benchmarking with Indonesian journals?

The methodology section is somewhat lacking. It contains a flow chart and a single paragraph on the approach that the authors follow. This should be far more detailed and descriptive. It could also contain some of the information contained in the results and discussion section.

Comments: I have expanded the explanation. I made the outcome of each process in the flow chart obviously.

The equations that are used are explained but there is little introduction made to them. It is very abrupt and doesn't fit well with the paper.

Comments: I have put explanation about the purpose of using each equation

The results are not compared against any data. A comparison can be made if the reader goes back and looks at the actual build times themselves but this is something that should be presented and discussed by the authors.

The results are not validated against any data that wasn't utilised in generating the regression equations. As regression equations fit to data points if all the data points are used in making them then of course they will be relatively accurate. They should be validated against data that wasn't used to generate them in order to show that they are accurate in all cases.

Comments: In this study, I have collected 14 traditional fishing boats with all the same hull construction type i.e. ijon-ijon and the same fish catching tool i.e. cantrang. All the data are representatives of ijon-ijon with cantrang. The minimum is 16 GT and the maximum is 64 GT. In this study, we use seven data of traditional fishing boats as a regression model. Subsequently, we validate the model with other data of 7 traditional fishing boats with the same hull construction and fish catching tool. The error of a simple linear regression model between GT size and man hours is 6.06%. Subsequently, we validate the model with other data and the error is 5.78%. Meanwhile, the error of a multivariate linear regression model between GT size and the number of wood materials is 8.90%. After validating the model with other data, we obtain the error of 5.72%. It can be concluded that the models are not over fitting.

There is a general lack of analysis contained within the paper. In the results and discussion section large portions of it consist of listing information that is previously displayed in tables. Sometimes this information is listed multiple times for different cases and could be made a lot more clear and concise. Whilst the results are presented there is little discussion upon them.

Comments: I have sent the paper to the English language services to be edited. Also, I have expanded the discussion section.

The conclusion states that the optimisation of building each vessel has been discussed however there is no section upon this.

Comments: I have revised the word of optimization to modeling. Optimization is our future work to select the optimum number of workers including beginner, intermediate, and expert skills.

## Specific Concerns

1. Page 1 – In the abstract what units are the errors show?

Comments: The errors are in the percentage

2. Page 3 – shapes used in flow chart but no key as to what each is

Comments: I have added some explanations in the flow chart

3. Page 3 – Equations presented with little introduction of discussion

Comments: I have added some discussions in each equation

4. Page 5 – Table slit onto two pages. Also as it is presenting images this may be better as figures

Comments: I have changed it into figures

5. Page 7 – explaining overall length and molded beam and heigh seems unnecessary

Comments: I have erased it

6. Page 7 – confusing language. driving machines = engines ?

Comments: Yes, it is engine

7. Page 7 – states that in full load condition the vessels will be faster than unloaded condition. Please check?

Comments: Yes, I have crossed checked and it reversed. Thank you for your advice.

8. Page 7 – confusing language. Unsure what 'aid of accu' means

Comments: It means accumulator

9. Page 7 – talks about ice blocks without introducing them

Comments: I have added explanation that they use ice blocks in order to preserve the fish.

10. Page 7 – confusing language. Hatchery = hatches?

Comments: Yes, they are hatches

11. Page 9 – what is boat capacity defined as?

Comments: boat capacity means boatload

12. Page 9 – RPM is revolutions per minute. Not what is displayed in this row

Comments: In this study, RPM is rotation per minute

13. Page 10 – The is missing the 'e'

Comments: Okay, thank you

14. Page 10 – confusing language – 'the type of catch fish'

Comments: I mean the type of fish catching tool

15. Page 11 – missing reference. The figure couldn't be found in the paper.

Comments: I have erased it.

16. Page 11 – why do they not construct the vessels following theory? Explain this more

Comments: In theory, the process should be frame installation prior to hull construction. However, they did not do in these orders in reality because they could not be able to do by following the theory. Their knowledge is a heritage from their ancestors, so they get used to do it. Moreover, they did not enroll any shipbuilding school or institute. They also did not do drawing before construction. Therefore, we represent the traditional boat building process in what workers did.

17. Page 12 – working hours varies between 7 & 8. This should be explained somewhere

Comments: I have discussed it in the explanation of each table.

18. Page 12 – explains fewer man hours through the use of less workers – man hours is the sum of the hours worked so the number of workers is irrelevant

Comments: Yes, man hours is the sum of the hours worked.

19. Page 12 – tables have (1 day = 7 hours). Include this somewhere that isn't on the table

Comments: I have discussed it in the explanation of each table.

20. Page 15 – text is written on a landscape page

Comments: I have revised it.

21. Page 15 – confusing language – number of people on skill

Comments: I mean that the skill levels of worker and the number of worker in each skill

22. Page 17 – missing reference

Comments:

23. Page 19 – confusing language – what is circle line?

Comments: the circle line is the perimeter of wooded logs

24. Page 19 – discuss the differences in wood types maybe?

Comments: I have discussed it in the explanation below the table of wood material price

25. Page 20 – image isn't captioned. Put details in table

Comments: I have revised it and put it in the table

26. Page 21 – what units is the error given in

Comments: the errors are given in percentage

27. Page 23 – image isn't captioned. Put details in table

Comments: I have revised it and put in the table

28. Page 24 – what units is the error given in

Comments: the errors are given in percentage





Reviewer#1

The authors made a great effort and the manuscript results improved. However, the level is still not sufficient to be eligible for publication in Ocean Engineering.

The aim of the manuscript is of interest as the information provided contribute to compensate a leakage of information in the field of shipbuilding of small and artisanal boats. It seems to be more focused on other journal categories, such as technical-economic business development.

Other specific notes:

Table 2:

Boat load is actually the displacement;

OUR RESPONSE: Thanks for your comment. We have revised it to "boat load is fish capacity".

RPM: what is silinder? RPM are expressed in revolutions per minute.

OUR RESPONSE: Yes, RPM are expressed in revolutions per minute.

Hours power? Maybe horse power? PK what does I mean?

OUR RESPONSE: PK is horse power in Indonesian abbreviation. We have changed it.

The speed: correct milles with miles

OUR RESPONSE: Thanks, we have revised it.

Manuver: what is intended exactly?

OUR RESPONSE: Thanks for your comment, we have changed it into Maneuvering radius

Accu: ?

OUR RESPONSE: Accu is abbreviation of accumulator. We have changed it into accumulator

The capacity of ice block: is could be better to express it in cubic meters

(volume) or in tonnes (weight)

**OUR RESPONSE:** Yes, we have expressed the weight using kilograms and the volume using cubic meters.

## Reviewer#2

The comments from the first review have all been well received and taken on board by the authors. Substantial changes to the paper have been made and the result is a far more informative piece of work. Far more discussion has been included which helps the reader understand and take in the large amount of information that is presented. The new layout and edited sections make the paper flow far better whilst being easier to follow. With the restructuring and addition of discussion the paper now presents a good overview of the practices used by traditional boat builders in east Java, as well as the equations used to model it.

**OUR RESPONSE:** Thank you very much for your positive evaluation.

### Main concerns from the prior review:

English – the English has been vastly improved, however a final read over and check by a native speaker prior to the final submission is advisable as whilst it all makes sense and reads okay now, there are still some sentences that that could do with restructuring etc.

**OUR RESPONSE:** We have restructured some sentences and seek the help of a native speaker to smooth the English.

Depth and analysis – far more included  
Methodology – explained better and in more detail  
Equations – better explained  
Validation – included and better explained  
Discussion – expanded

**OUR RESPONSE:** Thank for your constructive comments. We have improved the model based on your suggestions.

Optimisation – addressed

**OUR RESPONSE:** We have optimized the time consumption in the building of traditional boats and optimized the total labor cost by adding section 3.7

### New specific concerns

There are a few new things that I picked up on when reading through it this time:

Fig 1 still says hatchery instead of hatches

OUR RESPONSE: Thanks, we have revised it.

When talking about prop diameter no units are given

OUR RESPONSE: We have added units in the Table 2

Section 2.4 say 'manoeuvring radius' instead of manoeuvre

OUR RESPONSE: Yes, we have changed it. Thank you

Table 2 say 'manoeuvring radius' instead of manoeuvre

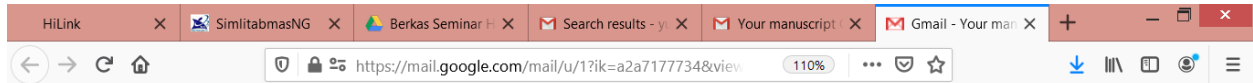
OUR RESPONSE: Thanks, we have changed it.

Table 2 – 'the' is missing an e in the second table

OUR RESPONSE: Thanks, we have changed it.

Section 3.2 – when talking about man hours the word 'salary' is used. Salary normally refers the amount of money a person is paid per year, however from looking at the tables I think what is meant is the amount that the workers are paid per day. If this is the case 'daily wage' is better terminology.

OUR RESPONSE: Thanks, we have changed salary into daily wage.



Yugowati Praharsi <watyugo@gmail.com>

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## Your manuscript OE\_2018\_1127\_R2 has been accepted

2 messages

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**Atilla Incecik (Ocean Engineering)** <EvisSupport@elsevier.com>  
Reply-To: atilla.incecik@na-me.ac.uk  
To: watyugo@gmail.com

Sat, Jul 20, 2019 at 6:36 AM

Ref: OE\_2018\_1127\_R2  
Title: Modeling a traditional fishing boat building in East Java, Indonesia  
Journal: Ocean Engineering

Dear Dr. Praharsi,

Thank you very much for revising your paper. I am pleased to inform you that your revised paper has been accepted for publication.

Your accepted manuscript will now be transferred to our production department. We will create a proof which you will be asked to check. You can read more about this [here](#). Meanwhile, you will be asked to complete a number of online forms required for publication. If we need additional information from you during the production process, we will contact.

Thank you for submitting your work to Ocean Engineering. We hope you consider us again for future submissions.

Kind regards,

Professor Atilla Incecik  
Editor-in-Chief  
Ocean Engineering