

Final Review Report ISVSej_12.03.04_Ihun
Compiled from Two Reviews

Please use this number to identify the revision.

Title of paper: Thermal Comfort Framework for Contemporary Buildings: Adapting Passive Design Strategies from Colonial and Tropical Architecture Movement Styles

General

This paper examines an issue related to how the 'principles' of colonial and tropical architecture can be adapted to create a framework for producing thermal comfort in buildings. The paper is reasonably well written. However, it has some issues that need to be resolved.

Title: The title needs revision. Following title is suggested "A Framework for Thermal Comfort in Contemporary Buildings in Nigeria: Adapting Passive Design Strategies from Colonial and Tropical Architecture. Current title does not indicate where the research is located. There is no need to refer to styles and movements either, which are not presented.

Language: Language is reasonably good. However, there are some issues of language in terms of grammar and sentence style. Write short and meaningful sentences and construct a narrative. Start a new paragraph when the idea being talked about changes. It is also necessary to construct a good flow of argument.

Formatting: This paper has major issues in formatting. The abstract must be indented from both sides. All the text must be fully justified, except the lists which must be indented from the left and left-justified. Text within the tables must be 10 points. First line of every paragraph must be indented from the left. Do not leave any space between the paragraphs. Do not leave any space between a sub-title and the paragraph below. Figure titles must be Fig. and not Figure. Keywords must be left-justified. All the tables must be composed to be within the margins. When more than one author is cited in the references, remove the comma after the initials of the author before &: the last. List of references must be with single line spaces.

Abstract

Abstract is not written well. The first paragraph must introduce the fact that they use passive design strategies to gain thermal comfort in most traditional buildings and then present the issue of these not being adopted in modern buildings. This abstract starts by saying that "passive design strategies have been used as architectural solutions to combat the negative climatic conditions that impede optimal thermal comfort". This is a negative sentence made of verbatim: 'combat' is an unnecessarily loaded word. Say this in a simple straightforward way. Similarly, it says 'embarked on a comparative analysis' why embark? Just say that this study examines. This last statement is 6 lines long, which is linguistically poor. An abstract must be succinct. After introducing the issue, say what the paper examines in a simple way.

Second paragraph must be about the research methods and the third paragraph must be about the conclusions.

Current second paragraph says what the research method is, after talking about the sample size. This is not proper. Say that it employs a quantitative approach comprising of case studies. Then say that it uses observations and a questionnaire to gain data. Although in the text, a questionnaire is mentioned, the abstract does not say so. It also seems to use literature survey to generate secondary data, which is not mentioned here: not even in the research methodology. Be precise and clear.

The last paragraph makes the conclusions clear. However, these conclusions are too detailed with temperatures being unnecessarily mentioned. There is no need to present the data and findings here. The conclusions are the framework.

Paper

- 1. The introduction:** Introduction is written well. It introduces the issue of the contemporary buildings facing problems of thermal comfort because of not using proper strategies. It then introduces passive design strategies and active design strategies. It points out that traditional buildings in hot climates provided satisfactory indoor thermal environments long before the invention of modern mechanical cooling systems. They are now not used. This is all written well. However, it is unnecessarily detailed about these strategies listing them in the introduction. It is not necessary to do so.

After introducing the issue, say what exactly is examined: “the passive design strategies employed in the traditional, tropical buildings and colonial architecture in Nigeria”. Strangely, this introduction does not say where this is being investigated in, until it comes to the ‘study area’. Simply say that the issue is investigated in the local government areas in Rivers State, Nigeria. No need to provide details here.

Please remove all the contents about the study area from here and place it after the research methodology under the sub title: Study Area and the Case Studies.

Here, end the introduction with the aims and objectives. An introduction must introduce the issue as related to the title, and as claimed in the abstract. It must then say what this research examines, followed by the aims and objectives, and stop.

Currently, its aim is not clear although the objectives are written well.

Please note that aims are noble, unmeasurable, long term, almost-impossible-to-fully-achieve expectations while the objectives are practical, measurable, short term, achievable intentions. Objectives must be always listed starting with ‘To’. The introduction must end with them.

Current introduction ends without aims and the objectives.

2. **Theoretical Framework:** This paper has the potential to present a good theoretical framework for the study. However, instead of producing the framework, it presents a discussion under the sub title ‘literature review’. This is not proper. Since the paper examines specific issues as related to ‘passive design strategies for producing thermal comfort, derived from examining the traditional, tropical architecture and colonial architecture’. it should first offer a theoretical discussion about ‘passive and active design strategies’, ‘traditional’, ‘tropical’ and ‘colonial architecture’ presenting their definitions first, employing theoretical interpretations. It should also discuss other theoretical notions relevant to this research if any such as ‘temperate climates’ etc.

Moreover, a theoretical framework must be produced employing the voice of the authors with statements such as ‘according to Godman (1999), or Lawarence (2000) argues, instead of the authors making statements and putting references within brackets. The authors of this paper cannot theorize because they are not theoreticians. Currently, the materials exist, but because the ideas are fused with a discussion about the history of colonial architecture in Nigeria, this is not a proper theoretical framework. Please produce a proper theoretical framework by referring to the outstanding theoreticians as having been identified currently and also by referring to Susan Denyer, Rapoport and Oliver as related to traditional architecture. Define the terms first. What is written under this title are good introductions but must stop after identifying the principles as identified by the theoreticians. The last of these is ‘Shading’. The rest does not belong here.

What is written after that, while introducing tropical architecture and colonial architecture is what this paper claimed that it will find out through research into the case studies. If they are known already, then there is no need to do this research and the case studies.

This is an issue for the next section which should be sub titled as ‘Review of Literature’. The current sub title ‘Review of Literature’ must be replaced with the sub title ‘Theoretical Framework’. The material written there are a theoretical discussion.

3. **Review of Literature:** There is no review of literature in this paper. A research paper must have a review of literature which should discuss the major research that has examined the issue previously to show the status of current knowledge, and where the gaps of that knowledge exist. The issue here is the ‘adaptation of passive design strategies from colonial and tropical architecture to gain thermal comfort in contemporary buildings.’ However, no research related to this issue is being critically reviewed, although the sub title exists and there is some theoretical discussion introducing principles.

The review should critically examine previous research that has examined adaptation of passive design strategies from colonial and tropical architecture to gain thermal comfort in contemporary buildings globally first, Nigeria afterwards and finally discuss any research that exist related to the River State in Nigeria, not only or necessarily related to this issue, but related to architecture.

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A review of literature must be produced employing the voice of the authors with statements such as 'according to Oliver (1999), or Rapoport (2000) points out, instead of the authors making statements and putting references within brackets. It should be a 'critical review'.

Please see 'how to write a review of literature' in the ISVS e-journal web site and follow suit. Write in the present tense because it discusses current knowledge. Sum up at the end and show the status of current knowledge and where the gaps of that knowledge exist. 12-15 references are needed. Current writing is theory: it is all about passive design principles and does not establish the status of knowledge on this issue and where the gaps of that knowledge exist.

The review must not refer to buildings except in terms of 'projects like the University of Lagos and the Nigerian External Telecommunications (NET) building which it claims to exemplify the application of these passive design strategies.

4. **Research Methodology:** This is reasonably well done. However, to begin with, it must mention that it employs the quantitative paradigm and case study as a method. Within this, a number of data gathering techniques have been employed and mentioned: some within the case studies, some outside. This is great. However, some issues exist.
- a. It says that 'a structured survey approach was adopted, utilizing a close-ended questionnaire to gather information on demographics, building characteristics, and thermal conditions within a descriptive and cross-sectional research design'. There is nothing said afterwards about this questionnaire. Whom were they administered to, when and where? How were the respondents chosen? These details must be presented.
 - b. Case studies have been done in the River State. It says different things at different times. At the beginning it says that 'Purposive sampling, also known as judgmental sampling, was used to intentionally select 51 buildings based on specific criteria relevant to the study'. The 'specific criteria' are not mentioned. Moreover, the originality test has been performed on 51 buildings and 48 has been chosen. Nevertheless, it says that 'while recording data in BEFI, temperature and relative humidity readings were taken for all 42 sample buildings.' How the 48 became 42 is not clear.

Please list all the techniques and explain them. Present the data gathering techniques and tasks in detail: say when where and how. After saying that the research employs case study as a method, explain the basis upon which the case studies were chosen. Some details exist in terms of screening out 3 from the 51 using the originality text. However, how the 51 were chosen is not stated. For the questionnaire, how the respondents were chosen, how many, when etc. are not presented too.

Some of the techniques of data collection are listed and explained well. For some techniques, however, the details are inadequate. What is needed is not either theory (although some theoretical explanations are useful) or what data was gathered but how the techniques were implemented. Say what was employed (Case studies) (Use present tense nevertheless) then the data gathering techniques. List them first and explain how each was carried out, with full details. They must be explained in such a way that another independent researcher can repeat them and see if they will get the same results. That is the test of science.

Tables are well done; however, they should be presented in the findings with data in terms of what was found. Please make sure that they are composed to be within the margins.

- c. **Case studies:** Before the findings, introduce the case studies where the actual research was conducted. What has been presented after the introduction, under the sub title 'Area of the Study' must be here. Show the locations of the 51 buildings where the research was conducted and identify each one of them. There should be an introduction to two types of architecture: Tropical and Colonial as to where they exist. Maps of the area and detailed maps of the locations of the 51 buildings are needed.
- d. **Findings:** Findings are not presented well. Provide an introduction to the issue and data from all the techniques including completed tables claimed to have been employed under the sub title 'research methodology': Findings from the questionnaire must be included as a summary. Nothing exists.

Moreover, some data have come from literature although a survey of literature was not a research method. It says 'Window design and landscaping also contribute to thermal comfort. Studies suggest that maintaining a window-to-wall ratio (WWR) between 30% and 40% ensures ample daylight while limiting heat gain (Olgay & Olgay, 2015). These are not acceptable; what is written under 'secondary data' have come from a technique that was not mentioned in the research methods.

Please list all documents examined and say what data was taken from each. The statement 'Studies suggest...' is not acceptable. The studies must be listed.

Findings are thus presented inadequately and not organized well. It lists the 44 features. There are questions here. Some of the features identified are questionable. For example, corrugated sheets do not contribute to thermal comfort. Are they used in traditional tropical architecture? How did that become No 1.? Same question arises with asbestos.

At the same time, can a thermal comfort framework be a list of features? This is questionable. Fig. 2 is not clear. Fig. 1 says 'comparison'. There is no such a word.

Why are the checklists comprised of only 20 features each and how were they chosen. Not clear.

- e. **Discussion:** There is no discussion presenting the findings of this research comparing them with other research that have examined the same issue. It should discuss the findings and their similarity or difference with other research and if different explain why
- f. **Conclusions:** Some of the conclusions are problematic. It says that 'integrating these traditional design approaches'. Well, this research did not examine any design approaches and therefore, it cannot claim this as a conclusion. Then it refers to 'principles' which were not derived. Please list those principles as the conclusions and show where and how they were derived.

Finally, discuss the strengths and weaknesses of this research.

References: References are reasonably well-done. However, issues exist. When there is more than one name, there should be '&' before the last name but no comma after the initials before that. No comma after the last initial of the last author too. Some of the page numbers are missing. Books require the place of publication and the publisher. Some references are incomplete without the places of publications. Pay attention to details and be consistent. Use the Harvard system as per the template. Follow the template to the last dot.

Final Decision: Major Revisions

Summary of the overall observations of the paper:

This is a potentially very valuable paper that could make a significant contribution to knowledge about adapting passive design strategies from colonial and traditional tropical architecture to produce thermal comfort in contemporary buildings in Nigeria. However, it needs major revisions to bring the argument to be cohesive supported by clear findings.

The abstract needs to be succinct but must have sufficient details to introduce the issue, the research methods and the specific conclusions, it is not written well; introduction, research methods as well as the conclusions are problematic. It should be succinct but must also have sufficient details.

Introduction needs to be presented articulating the issue. It should end with proper aims and objectives in keeping with the issue, without a detailed discussion about the principles of passive design.

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Introduce a proper theoretical framework using citations to major research defining the critical concepts such as 'thermal comfort' and 'traditional architecture', 'tropical architecture' and 'colonial architecture' as well as 'temperate climate' and other significant theoretical concepts establishing their relationships. Do not refer to architecture of Nigeria. Write a proper review of literature afterwards: again, do not refer to buildings but review previous research to demonstrate the status of current knowledge and where the gaps of that knowledge exist. The research methodology must be organized well with the list of techniques employed to gather data and explanations of how each was carried out. Introduce the case study area and the case studies afterwards (not after the introduction) including the locations of the 51 buildings. Present the detailed findings from each of the techniques and not just the 'features' as has been done. A questionnaire survey has been mentioned but there are no findings.

A discussion should present the findings and discuss the similarities and differences of the findings with other research examining the same issue.

Finally, present only the specific conclusions arising from the findings substantiated by evidence presented under the sub title 'findings.' Conclusions must be derived and substantiated by data presented under the sub title 'Findings.' It cannot say things about 'design approaches' which was not examined.

Re-examine and reproduce the references to be complete and compatible with the ISVS e-journal template.