Reviewer’s report

Title: Assessing factors militating against the acceptance and successful implementation of cloud based health center from healthcare professionals' perspective: A survey of hospitals in Benue state northcentral Nigeria

Version: 1 Date: 10 Sep 2018

Reviewer: Stefano Bonacina

Reviewer's report:

The authors have improved their manuscript; however, some aspects have to be clarified. Below, please find specific comments to the sections of the manuscript (i.e. Background, Methods, Results, Discussion, and References).

Comments to Background

In the background, statements have to be supported by references. Then, the term "inculcation" should be more reflected (e.g. "adoption" would sound better).

The following sentence, "Cloud based health knowledge (CBHK) of CBHP by users, is however necessary for sustainable implementations of cloud-based healthcare solutions", has to be clarified.

The categories of cloud computing services, Software-as-a Service (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS) have to be explained to the reader. Then, the sentence refers to Reference #12 has to be more elaborate, and accessible/available references have to be cited.

Then, data on internet accessibility and usage in Nigeria should have a reference; in fact, Reference #14 presents figures on Africa, but not on specific countries. Statements made on lines from 95 to 100 have to be supported by references. Then, the sentence on lines 103-104 has to be referenced. Studies are mentioned but not referenced. The different theoretical models have been proposed in the literature have to be briefly explained to the reader [i.e. Theory of Reason Action (TRA), Technology Acceptance Model (TAM 1 and TAM 2), Unified Theory of Acceptance and use of Technology (UTAUT and UTAUT2)]. Then a comparison among them can be introduced (lines 107-110).

It appears Reference #21 does not mention cloud and is not specific to Nigeria. Then, cloud-based health knowledge (CBHK) and Cloud-Based Health Systems (CBHS) should be defined and explained in the background.

On line 117, the expression "cloud-based health systems" has been introduced, but its meaning has not been explained to the reader. It has to be clarified whether it refers to a specific health information system (as referred to reference #66 - medical laboratory portals) or something more
extensive (e.g. as referred to reference #69 - eHealth programmes). I was wondering if some explanation could be added, starting from giving a shared definition of "Health system" (e.g. from the World Health Organization - WHO) and then adding the meaning of "cloud-based health systems", according to the authors' perspective.

The sentence on lines 129-131 has to be supported by references. Then, the "proposed system" should be included in the objectives of the study and in the research questions.

The sentence on line 144-146 has to be more elaborate and supported by references. Performance expectancy (PE), social influence (SI), self-efficacy (SE), perceived usefulness (PU), and perceived ease of use (PEOU) have to be explained to the reader.

Then, the following sentence (lines 160-164), "For instance, TAM is used in [33] to determine the intentions of hospital directors, nurses and other hospital physicians to use a healthcare system" has to be more explained, cloud based information systems are not the subject of research in [33]. Then please notice that a "healthcare system" is different from a "health information system" (see comment above, "On line 117 …").

It appears References #27, #28, and #34 do not investigate on cloud systems. As a consequence, "Table 1: Summary of cloud computing acceptance" has to be revised.

It appears Figure 1 is from an external source and it is copyrighted material. Please, follow the author instructions about copyrighted material.

The Cloud Based Health Center (CBHC) appears to be a result of a study, but it has been included in the Background section. In the description of the CBCH, in line 213, the word "sync" is informal and has to be reconsidered.

In Figure 2, Cloud Based Health Center (CBHC), it appears an automatic diagnosis of the patient is performed according to data entered by the patient. The legal basis of the possibility of an automatic diagnosis in Nigeria has to be explained. In addition, the concept of "satisfaction of the patient" about the results of the diagnosis has to be more explained.

The sentence on lines 215-218, says "Cloud Based Health Center is developed as a result of the relevant research studies and also to provide solutions to the research questions: taking into consideration the necessity of its benefits to healthcare professionals. The relevance of our proposed system to healthcare professionals' acceptance and use of CBHC is evident in that it addresses the issues mentioned earlier." It appears it has to be mitigated as the use of CBHC is not investigated in a study.

It appears "Data Security" is not mentioned in reference #45. I was wondering if the right references are #48 and #53, as specified in Table 2.

Then, as for the "Information Sharing" determinant some additional explanations should be added. It appears it affects the behaviour of users in a negative way. However, sharing healthcare data of patients among healthcare professionals could help in defining patient conditions with a greater amount of data and information.
Comments to Methods
====================
Table 3 presents the "characteristics of surveyed health institutions". It appears the doctors working at Mount Zion, Saint Monica, and Nazareth Hospital could be identified, as they are the only doctors participating in the research from those hospitals.

In "Data analysis" section, the following sentence (lines 335-336) "LISREL has been found to be user friendly; coupled with the fact that it does not require conditioning" should be clarified. The "conditioning" concept for software has to be explained to the reader.

Comments to the Results
========================
The details on the analyses have to be anticipated in the Methods section (e.g. the usage of the criterion of Fornell-Larcker, the intra-class correlation coefficients (ICC), the methods to test the hypothesis and the validation of model). Please, notice there is a missing "r" on line 382, in Larcker name.

Comments to the Discussion
==========================
The question on line 470, "3 - How can Nigeria and other developing countries adopt and use the CBHC?" has been answered for Nigeria only (Benue State), as there were not participants from outside Nigeria. In addition, the question has to be also rephrased on line 124.

Comments to References
=======================
Please revise the references. There is missing information. In addition, in the text the numbers of citation should be revised as well, to see if they are
Reference #7: Volume number and page numbers are missing.
Reference #10: Publication year is missing.
Reference #11: Publication year is missing.
Reference #12: It appears the link does not work, as it points to a "Not found page"
Reference #14: it appears it is not about Nigeria as main topic.
Reference #22: Journal name, volume, issue and page numbers are missing.
Reference #24: Volume, issue and page numbers are missing.
It appears the reference to a paper on "monitoring of patients with artificial hearts" is missing.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess
Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.
Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.
I recommend additional statistical reviews

Quality of written English
Please indicate the quality of language in the manuscript:
Needs some language corrections before being published

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?
2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?
3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?
4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?
5. Do you have any other financial competing interests?
6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors'
responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal