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REVIEWER'S REPORT

Manuscript No.: IJAR- 59799

Title: *On Both Sides of Web-Based Exchange Platforms: Knowledge Circulation and Open Communication for Addressing Emerging Crop Pathologies in South-Eastern Benin.*

Recommendation:
Accept as it is .....
Accept after Minor revision.....
Accept after Major revision
Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality		✓		
Clarity			✓	
Significance			✓	

Reviewer Name: Dr. ANAPANA GOPAL

Reviewer's Comment for Publication.

1. General Comments
The manuscript examines the role of web-based exchange platforms in facilitating agricultural knowledge circulation, communication and advisory support among vegetable farmers in the Ouémé Valley of south-eastern Benin. The study focuses on three platforms: Action-PAIA-VO, FeNOMa-Bénin and Ouémé-Maraîchers. It addresses a relevant topic, particularly the growing importance of digital communication in agricultural extension, disease management and farmer-to-farmer knowledge sharing.
The manuscript has several strengths, including its mixed-method approach, consideration of three different institutional platforms, and attention to economic, substantive and relational dimensions of digital communication. The qualitative accounts and examples of farmers using photographs, audio messages and local languages provide useful insights into how digital platforms are incorporated into everyday agricultural practices.
However, the manuscript requires substantial revision before it can be considered for publication. The most important concerns relate to inconsistencies in the reported sample and data tables, insufficient explanation of the social network analysis, unclear statistical denominators, and limited evidence supporting some of the conclusions about knowledge appropriation and the resolution of crop pathologies. The methodology also requires additional details concerning sampling, data processing, ethical considerations and the verification of disease diagnoses.
The authors should address these issues carefully to improve the transparency, reproducibility and scientific reliability of the study.

2. Content and Originality
The study addresses an important research gap concerning the contribution of digital communication platforms to agricultural knowledge exchange and advisory services in

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developing-country contexts. Comparing platforms with different institutional arrangements is particularly valuable because it allows the authors to examine how organizational structures influence communication and participation.

Nevertheless, several aspects require clarification and strengthening.

1. **Clarification of the research contribution:** The introduction identifies a research gap concerning the contribution of web-based platforms to knowledge circulation, learning and collaboration. However, the specific theoretical or conceptual contribution of the present study remains insufficiently distinguished from previous research. The authors should clearly explain what new understanding this study provides beyond the existing literature on digital agricultural extension and social networks.
2. **Definition of emerging crop pathologies:** The manuscript repeatedly refers to emerging crop pathologies, including late blight, bacterial wilt, fall armyworm attacks and other diseases or pests. However, the term *emerging* is not clearly defined. The authors should explain whether these are newly introduced diseases and pests, recently increasing problems, or previously existing crop-health problems that have become more severe.
3. **Verification of crop disease identification:** The manuscript discusses disease diagnosis through photographs, audio messages and recommendations shared on digital platforms. However, it is unclear whether the reported diseases were confirmed by agricultural experts, laboratory testing or field observations. The authors should distinguish between suspected diagnoses reported by farmers and scientifically confirmed diagnoses.
4. **Knowledge circulation versus knowledge adoption:** The manuscript provides useful evidence about information sharing, reading, posting questions and exchanging experiences. However, these activities do not necessarily demonstrate that farmers understood, adopted or successfully applied the knowledge received. The authors should distinguish clearly between information access, knowledge acquisition, knowledge appropriation and actual adoption of recommended practices.
5. **Evidence of effectiveness:** The manuscript suggests that digital platforms accelerate diagnosis and support the resolution of crop pathologies. However, there is limited quantitative evidence demonstrating improvements in disease control, crop productivity, yield or reduction of crop losses. The authors should moderate these claims or provide supporting evidence from the collected data.
6. **Comparison of the three platforms:** The distinction between open communication on Action-PAIA-VO and FeNOMa-Bénin and more centralized communication on Ouémé-Maraîchers is interesting. However, the authors should provide a clearer explanation of how the different institutional objectives, membership structures and management practices influence these communication patterns.
7. **Commercial interests and knowledge sharing:** Ouémé-Maraîchers is associated with ABC-Grower, a commercial supplier of agricultural inputs. This institutional relationship is important because recommendations about biofertilizers and phytosanitary products may be influenced by commercial interests. The authors should discuss this issue and explain how the reliability and neutrality of shared recommendations are assessed.
8. **Limitations of the study:** A separate limitations subsection should be included. It should address the geographical scope, selection of the three platforms, self-reported information, possible recall and response biases, and the limitations of using platform

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communication records to assess actual knowledge adoption and disease-control outcomes.

3. Technical Quality

The technical quality of the manuscript requires considerable improvement, particularly in the presentation and interpretation of quantitative data.

1. **Inconsistency in interview numbers:** Section 1.3 reports that semi-structured interviews were conducted with 29 respondents, including 21 farmers and eight other stakeholders. However, Table 1 reports a total of only 20 interviews (12, 3 and 5 across the three platforms). The authors must clarify whether the table presents only farmer interviews or all interviews and ensure that the numbers are consistent throughout the manuscript.

2. **Inconsistencies in Table 1:** The totals presented in Table 1 do not correspond to the sum of the individual platform values. For example:

- Interviews: 12 + 3 + 5 = 20, which agrees with the reported total of 20, but not with the 29 respondents described in the methodology.
- Screenshots: 187 + 54 + 102 = 343, whereas the total is reported as 1,053.
- Recorded explanations: 7 + 4 + 5 = 16, whereas the total is reported as 43.
- Communication materials: 562 + 193 + 320 = 1,075, whereas the total is reported as 3,814.

These discrepancies are substantial and must be checked against the original dataset. The authors should correct the table and explain precisely what each category represents.

3. **Clarification of survey sample distribution:** The study reports a total of 140 farmers, distributed across Action-PAIA-VO (81), FeNOMa-Bénin (24) and Ouémé-Maraîchers (35). These values appear consistent with the percentages shown in Figure 1. However, the authors should explain how farmers belonging to more than one platform were classified. Since the manuscript indicates that some farmers participate in several platforms, the possibility of overlapping membership should be addressed.

4. **Insufficient explanation of sampling procedures:** The authors state that 140 farmers were selected through simple random sampling. However, the sampling frame, total eligible farmer population, selection procedure and number of farmers approached are not clearly described. The authors should provide these details to establish the representativeness of the sample.

5. **Social network analysis requires greater methodological detail:** Network density is a major analytical component of the study. However, the manuscript does not sufficiently explain how the nodes and relationships were identified, how connections were recorded, or how the density values were calculated. The authors should specify whether the networks are directed or undirected, how multiple interactions were treated, and whether the analysis was based on all registered members or only active participants.

6. **Interpretation of network density:** The reported density values of 89.01%, 78.20% and 41.70% are central to the comparison between the three platforms. The authors should provide the actual numbers of nodes, observed links and possible links for each platform. The statement that a density above 75% indicates a highly interconnected and active network also requires stronger justification and should not be treated as a universal threshold without adequate methodological support.

7. **Clarification of Table 2:** The table presents percentages for reading information, publishing constraints, sharing experiences and active interaction according to

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education level. However, the denominators and calculation procedures are not provided. The authors should include the number of respondents in each educational category and explain how the variable *active interaction* was calculated. The reported 100% values for university-educated farmers should be interpreted cautiously because the group appears to be small.

8. **Minor concern regarding Table 3:** The total number of responses reported in Table 3 is 242 (26 + 168 + 48), although the overall survey included only 140 farmers. This may indicate that the table uses multiple responses or another unit of analysis. The authors must explain the meaning of *responses reported (n)* and clarify whether the percentages are calculated using farmers, responses or platform activities as denominators. The current presentation makes the results difficult to interpret.

9. **Statistical analysis of relationships:** The manuscript discusses the relationship between education, experience and participation in digital platforms. However, the analysis is mainly descriptive. If the authors intend to establish statistically significant relationships, they should provide appropriate statistical tests, test statistics, p-values and, where relevant, confidence intervals. Otherwise, the conclusions should be expressed as descriptive associations rather than statistically demonstrated effects.

10. **Calculation of digital expenditure:** The average digital expenditure is reported as 2.20% of vegetable-farming income. However, the period of expenditure and income measurement is not sufficiently described. The authors should explain whether the calculation is based on monthly, seasonal or annual expenditure and income, and clarify how average percentages were calculated.

11. **Figure quality and presentation:** Figures 1–4 require improvement. Figure 1 should clearly show the sample distribution with readable labels and percentages. Figure 2 should provide exact values, a clear legend and appropriate axis labels. Figures 3 and 4 should be sufficiently detailed to support the interpretation of network structure and density. The authors should ensure that figures are numbered consistently and referred to correctly in the text.

12. **Ethical considerations:** The study includes interviews, photographs, screenshots and records of private and group communications. Although consent for saving screenshots is mentioned, a clear ethical statement is required. The authors should explain how informed consent, participant confidentiality, anonymization of messages and protection of personal information were ensured. Ethical approval or an explanation of the applicable institutional procedures should also be provided.

4. Language and Presentation

The manuscript contains useful information, but the language and presentation need careful editing.

1. The manuscript contains several long and complex sentences, particularly in the Introduction, Methods and Discussion. These should be shortened to improve readability.

2. Some expressions are repetitive, especially the repeated use of *plateformes d'échanges web*, *exploitants maraîchers* and *savoirs agricoles*. The authors should improve sentence construction while retaining the scientific meaning.

3. The manuscript should be carefully proofread for grammatical errors, punctuation, spacing and typographical inconsistencies.

4. The English title and abstract are followed by a predominantly French manuscript. The authors should ensure that the language of the main text complies with the

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journal's publication requirements. If the journal requires an English manuscript, a complete and scientifically accurate translation is necessary.
5. The English abstract should be revised for clarity and precision. In particular, terms such as *knowledge circulation*, *open communication*, *interaction intensity* and *network density* should be used consistently with the definitions and measurements in the main text.
6. Some technical expressions require more precise wording. For example, the terms *pathologies émergentes*, *savoirs appropriés* and *communication ouverte* should be clearly defined and consistently applied.
7. The authors should check the formatting of scientific and technical terminology, abbreviations, institutional names and platform names throughout the manuscript.
8. The quotations from farmers are useful and provide qualitative depth. However, their presentation should be standardized, and the authors should clarify whether the quotations have been translated or edited for readability.

5. Structure and Organization

The manuscript follows a conventional scientific structure, but some sections need reorganization and additional information.
1. **Introduction:** The introduction provides a reasonable background and identifies the research question. However, it is lengthy and contains some repetition concerning the importance of digital platforms. The authors should streamline the discussion and conclude with clearly stated research objectives and, if appropriate, specific research questions.
2. **Description of platforms:** The descriptions of Action-PAIA-VO, FeNOMa-Bénin and Ouémé-Maraîchers are informative. However, the authors should consider presenting a concise comparative summary of their institutional affiliations, objectives, membership and communication arrangements to make the differences easier to understand.
3. **Analytical framework:** The three analytical dimensions—economic, substantive and relational—are relevant. However, the authors should explain more clearly how each dimension was operationalized and which variables or indicators were used to measure it.
4. **Data collection and analysis:** This section should be expanded to include the sampling frame, questionnaire structure, interview procedures, coding of qualitative data, statistical software and procedures used for social network analysis.
5. **Results:** The results section contains useful qualitative and quantitative findings. However, the presentation should be reorganized to avoid repetition and improve the connection between the tables, figures and written interpretation.
6. **Discussion:** The discussion is extensive and refers to relevant literature. Nevertheless, some paragraphs repeat findings already presented in the Results section. The authors should focus more on interpreting the findings, comparing them with previous studies and explaining their theoretical and practical significance.
7. **Conclusion:** The conclusion summarizes the main findings but should also include the principal limitations of the study and specific recommendations for agricultural extension services, farmer organizations and digital platform administrators.
8. **References:** The reference list appears incomplete in the supplied manuscript text. The authors should ensure that all cited references are included and that the complete reference list is presented according to the journal's prescribed style.

6. References and Citations

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The manuscript cites relevant literature on digital agriculture, agricultural extension, social networks and knowledge sharing. However, the references require careful verification and standardization.

1. The authors should verify that every in-text citation corresponds to a complete entry in the reference list and that every listed reference is cited in the manuscript.
2. The reference list should be checked for missing publication details, including journal volume, issue, page numbers, article numbers, publisher information and DOI, wherever applicable.
3. The references should be formatted consistently according to the journal's prescribed citation style. There are visible inconsistencies in spacing, punctuation and journal-title formatting.
4. Recent literature on digital agricultural extension, farmer knowledge networks, digital inclusion, participatory disease diagnosis and social network analysis should be considered to strengthen the discussion.
5. The authors should verify the bibliographic details and publication status of the 2026 references, including Ahodakin et al. (2026) and Bellon-Maurel et al. (2026).
6. Some cited works provide general information about social media or digital agriculture, but their direct relevance to the specific claims should be checked. The authors should ensure that references support the statements for which they are cited.
7. The use of online sources, such as Cavazza (2022), should be justified where relevant, and the full publication or access details should be supplied according to journal requirements.
8. The authors should include DOI information wherever available and verify all bibliographic details before resubmission.

7. Overall Recommendation

The manuscript addresses a relevant and timely research topic and offers useful insights into the role of digital exchange platforms in agricultural knowledge circulation and communication among vegetable farmers in Benin. Its comparative approach, qualitative evidence and consideration of different forms of digital participation are valuable.

However, the current version has significant methodological and presentation-related weaknesses. In particular, the numerical inconsistencies in Table 1, the unclear denominators in Tables 2 and 3, and the insufficient description of the social network analysis affect the reliability and interpretation of the findings. Furthermore, the manuscript needs to distinguish more carefully between information exchange, knowledge adoption and demonstrated improvements in crop disease management.

The authors should undertake a substantial revision, verify the original dataset, correct all numerical discrepancies, strengthen the methodological explanations and moderate conclusions that are not directly supported by the evidence.

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8. Final Decision

Minor Revision

The manuscript has potential for publication after substantial revision. The authors should carefully address the methodological concerns, verify and correct the quantitative results, improve the social network analysis, strengthen the discussion of limitations and revise the language and presentation throughout the manuscript. Particular attention should be given to the inconsistencies in Table 1 and the unclear statistical denominators in Tables 2 and 3, as these issues must be resolved before the findings can be reliably evaluated.