



# JTMAE

The Journal of  
Technology,  
Management, and  
Applied Engineering

## REVIEW CRITERIA FOR PEER-REFEREED ARTICLES

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**The intent of this document is to provide definitions of and review criteria for articles submitted for “refereed” review to the Journal of Technology, Management, and Applied Engineering (JTMAE). Submitted articles are categorized into four (4) areas of investigation. These four (4) categories of investigation are provided in the JTMAE Board Bylaws [Section IV.A. Aim and Scope] as follows:**

*The recognized quantitative and qualitative methods of investigation for manuscripts considered for inclusion in the JTMAE will be categorized as follows: (1) applied papers; (2) research papers; (3) pedagogical papers; and, (4) perspective (meta-analysis) papers (e.g., sound literature reviews to update the state-of-the-art).*

### **Applied Papers**

#### **Criteria for Applied Papers:**

- Article focus is useful to the JTMAE and industrial technology audience.
- Clearly defined topic and purpose, including a specific statement as to the nature of the problem and the significance of the study/investigation.
- Literature review containing relevant information that builds the case for the study.
- Detailed explanation of investigative methods and procedures.
- Investigative results of each procedural step in the development of the study, “facts” of the findings, and proof that results obtained from the study are important to be known and disseminated.
- Statement of conclusions, implications, and recommendations.
- Article conforms to the style and format guidelines of the journal and is written in an appropriate style. Latest version of the APA style guidelines used in manuscript.

#### **Potential questions for applied paper referees:**

- Significance of the problem
  - Is the article’s focus in congruence with the mission and foci of the journal? Specifically, does the article focus on the development and application of applied innovative methodology (technical or managerial) that improves a process or product?
  - Usefulness (How useful is this material to the Industrial Technology profession? For example, would you encourage a colleague or associate to read this article? Would you encourage college and/or university students to read this article? Could you use this material at your place of employment?)
- Scholarship and objectivity

## JTMAE Review Criteria (cont.)

- Is the applied investigative methodology described in the article well developed, clearly articulated, and appropriate given the expressed problem and literature support? The description should be clear enough that others who may wish to adopt the applied methods described may do so.
- Are the conclusions discussed by the author(s) in the article supported by the paper's findings? In particular, are the conclusions logically consistent and do they logically follow from the problem statement, the literature, the applied methodology, and the findings?
- Is the quality of the article sufficient? (Is the content and format of the article of sufficient quality for the JTMAE?)
- Does the article conform to the organization, style, and format guidelines set forth by the journal (APA)?
- Clarity of presentation
  - Does the article clearly state and explain the problem or issue that is to be addressed? This statement of the problem or issue should be directly linked with and in alignment with the subsequent review of the literature.
  - Is the article organized in accordance with currently accepted formats for reporting applied practitioner type papers? In particular, is there a logical flow to the ideas presented therein?
- Insight and perspective
  - Does the paper take an original approach?
  - Does the author(s) demonstrate original insights into the topic or material discussed in the paper?
  - Do the conclusions, implications, or outcomes of the paper make an original contribution in either the application or the solution itself to the field?
  - Does the paper acknowledge its own limitations?

### **Research Papers**

***Qualitative research*** may be defined as systematic study to gain knowledge or understanding necessary to determine the means by which a recognized and specific need may be met.

***Quantitative research*** may be defined as systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind.

[\[http://www.fas.org/learn/intl\\_rev/definitions.htm\]](http://www.fas.org/learn/intl_rev/definitions.htm)

### **Criteria for Research Papers:**

- Article focus is useful to the JTMAE and industrial technology audience.
- Clearly defined topic and purpose, including a specific statement as to the nature of the problem and the significance of the study/research.
- Literature review containing relevant information that builds the case for the study.
- Detailed explanation of research methods and procedures.
- Research results of each procedural step in the development of the research, “facts” of the findings, and proof that results obtained from the research are important to be known and disseminated.
- Statement of conclusions, implications, and recommendations.
- Article conforms to the style and format guidelines of the journal and is written in an appropriate style. Latest version of the APA style guidelines used in manuscript.

### **Potential questions for research paper referees:**

## JTMAE Review Criteria (cont.)

- Significance of the problem
  - Was the research problem clearly defined and explained?
  - Was the application of the research relevant to the industrial technology field?
  - Usefulness (How useful is this material to the Industrial Technology profession? For example, would you encourage a colleague or associate to read this article? Would you encourage college and/or university students to read this article? Could you use this material at your place of employment?)
- Scholarship and objectivity
  - Did the literature review provide logical and clear links with the methods and analyses that followed?
  - Were the research methods and procedures clearly explained?
  - Did you agree with the choice of testing and analysis? (Where might you have taken a different approach to improve the testing and analysis?)
  - If statistical analyses utilized, did you agree with the choice(s) of statistical analyses methods?
  - Is the quality of the article sufficient? (Is the content and format of the article of sufficient quality for the JTMAE?)
- Clarity of presentation
  - Were the results of the research clearly presented and explained?
  - Were the conclusions logically related to the overall methodology?
  - How well did the author(s) relate their conclusions to industrial technology/educational practice or practical applications?
- Insight and perspective
  - Does the paper take an original approach?
  - Does the author(s) demonstrate original insights into the topic or material discussed in the paper?
  - Do the conclusions, implications, or outcomes of the paper make an original contribution in either the application or the solution itself to the field?
  - Does the paper acknowledge its own limitations?

### **Pedagogical Papers**

**Pedagogical** papers investigate the art and/or science of teaching. As applied in this context, pedagogical papers examine and evaluate teaching, curriculum, and educational issues in the industrial technology field.

### **Criteria for Pedagogical Papers:**

- Article focus is useful to the JTMAE and industrial technology audience.
- Problem clearly stated and explained in sufficient detail.
- Literature: manuscript identifies prior methods used to address the instructional problem at hand and indicates how the manuscript adds to the body of knowledge to address the problem.
- Pedagogical methods explained, well developed, and appropriate. Description of pedagogy in the manuscript clearly addresses the instructional problem at hand.
- Cross-disciplinary: The manuscript, either through the nature of the problem or the discussion of the results, goes beyond a single discipline or domain and addresses the applicability of the pedagogy and results to higher education pedagogy, in general.
- Conclusions supported by literature review and analysis.
- Article is appropriately organized with content presented logically.

## JTMAE Review Criteria (cont.)

- Article conforms to the style and format guidelines of the journal and is written in an appropriate style. Latest version of the APA style guidelines used in manuscript.

### Potential questions for pedagogical paper referees:

- Significance of the problem
  - Is the article's focus in congruence with the mission and foci of the journal? Specifically, does the article focus on the study, development, application, and evaluation of pedagogy for education and industry (training)?
  - Usefulness (How useful is this material to the Industrial Technology profession? For example, would you encourage a colleague or associate to read this article? Would you encourage college and/or university students to read this article? Could you use this material at your place of employment?)
- Scholarship and objectivity
  - Is the pedagogy described in the article well developed, clearly articulated, and appropriate given the expressed problem and literature support? The pedagogy description should be clear enough that others who may wish to adopt the pedagogy may do so.
  - Are the conclusions discussed by the author(s) in the article supported by the analysis? In particular, are the conclusions logically consistent and do they logically follow from the problem statement, the literature, the pedagogy, and the analysis?
  - Is the quality of the article sufficient? (Is the content and format of the article of sufficient quality for the JTMAE?)
  - Does the article conform to the organization, style, and format guidelines set forth by the journal (APA)?
- Clarity of presentation
  - Does the article clearly state and explain the problem or issue that is to be addressed? This statement of the problem should be directly linked with and in alignment with the subsequent review of the literature.
  - Is the article organized in accordance with currently accepted formats for reporting pedagogical methods? In particular, is there a logical flow to the ideas presented therein?
- Insight and perspective
  - Does the paper take an original approach?
  - Does the author(s) demonstrate original insights into the topic or material discussed in the paper?
  - Do the conclusions, implications, or outcomes of the paper make an original contribution to the field?
  - Does the paper acknowledge its own limitations?
  - Are future directions for the field stemming from the study indicated?

### **Perspective (Meta-Analysis) Papers**

Broadly defined, "**Meta-analysis** refers to the analysis of analyses." (Glass, G. 1976. Primary, secondary, and meta-analysis of research. Educational Researcher, 5, 3-8.). Meta-analysis can be described as an organized synthesis of the analytical techniques of independent sources and their findings. Meta-analysis articles typically summarize the results of previous research on a topic. Classic meta-analysis techniques use statistical techniques to combine the results from many studies. Contemporary meta-analysis approaches also include the summary of investigations in a topic area with the intent to propose a direction where the author believes the field should expand and alter direction. This approach might be classified as a "perspective"

## JTMAE Review Criteria (cont.)

article. For that purpose, this category of investigation will be referred to hereafter as meta-analysis/perspective articles.

### **Criteria for Perspective (Meta-Analysis) Papers:**

- Article focus is useful to the JTMAE and industrial technology audience.
- Clearly defined topic and purpose, including a specific statement as to the nature of the problem and the significance of the study/research.
- Literature review containing relevant information that builds the case for the study.
- Clear statements of questions to be examined.
- Appropriate methods of research collection and organization used.
- Methods of examination and evaluation sound, robust, and appropriately applied.
- Relationship between study features and outcomes clearly explained.
- Statement of conclusions, implications, and recommendations plainly affirmed.
- Article conforms to the style and format guidelines of the journal and is written in an appropriate style. Latest version of the APA style guidelines used in manuscript.

### **Potential questions for perspective paper referees:**

- Significance of the problem
  - Is the topic or issue significant to the field?
  - Does the treatment of the material demonstrate this significance?
  - Usefulness (How useful is this material to the Industrial Technology profession? For example, would you encourage a colleague or associate to read this article? Would you encourage college and/or university students to read this article? Could you use this material at your place of employment?)
- Scholarship and objectivity
  - Are all relevant sources and information reviewed?
  - Are sources and materials used accurately and effectively?
  - Are interpretations of theoretical perspectives and research findings appropriately critical, accurate, and cogent?
  - Are investigative methods, data analyses and procedures appropriate and accurate?
- Clarity of presentation
  - Are the issues, points of view, findings and conclusions presented clearly?
  - Is the overall organization of the paper appropriate and effective?
  - Is the paper well-written and readable?
- Insight and perspective
  - Does the paper take an original approach?
  - Does the author(s) demonstrate original insights into the topic or material discussed in the paper?
  - Do the conclusions, implications, or outcomes of the paper make an original contribution to the field?
  - Does the paper acknowledge its own limitations?
  - Are future directions for the field stemming from the study indicated?