Archival Journals and Peer Review

Jyrki Kontio

SoberIT/HUT

Contribution of Your Research

❑ Your scientific contribution can take many forms:
  ❑ Improved understanding of a phenomenon
    ❑ Improved analysis
    ❑ Better characterization, taxonomies
  ❑ Development of a new construct
    ❑ A new solution to a problem
    ❑ A method, concept, model, algorithm, …
  ❑ Validation of a construct

❑ You can also contribute by
  ❑ Synthesizing past research results
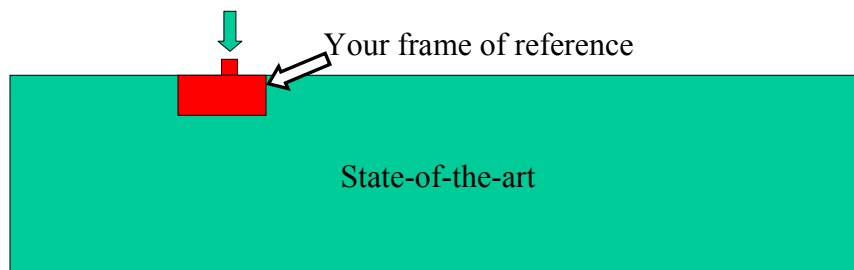 ❑ Improving research methods or approaches

State-of-the-art and Your Contribution

❑ Your contribution should add to what is known now

❑ Once it's published, it becomes known

Your contribution

Your frame of reference

State-of-the-art

Scientific Fora

❑ There are several different fora for publishing your work
  ❑ "Local" workshops (summer schools, etc.)
  ❑ Open workshops
  ❑ Practitioner conferences
  ❑ Archiving conferences
  ❑ Business /practitioner journals
  ❑ Scientific journals

T-76.640 Software Business, © jyrki.kontio@hut.fi

Scientific Publication

❑ Scientific publication should be
- ❑ Peer refereed, i.e., it is objectively reviewed
- ❑ Archiving, i.e., the paper is accessible forever (it has an established publisher)

❑ In principle, you can publish your results only <u>once</u> in an archiving forum
- ❑ Once it's published, it becomes known and your new paper will need to have their own added value

Scientific Fora: archiving and peer reviewed

❑ "Local" workshops (summer schools, etc.) [†]

❑ Open workshops [*] [†]

❑ Practitioner conferences

❑ Archiving conferences [*] [†]

❑ Business /practitioner journals [*] [†]

❑ Scientific journals [*] [†]

*Archiving fora   [†] Peer reviewed

3

A Dictionary of Useful Research Phrases

- It has long been known...
- A definite trend is evident...
- Of great theoretical and practical importance...
- While it has not been possible to provide definite answers to these questions...
- Three of the samples were chosen for detailed study...
- Typical results are shown...
- These results will be shown in a subsequent report...
- The most reliable results are those obtained by Ms Leino...
- It is believed that...
- It is generally believed that...
- It is clear that much additional work will be required before a complete understanding of the phenomenon occurs...
- Correct within an order of magnitude...
- It is hoped that this study will stimulate further investigation in this field...
- Thanks are due to Mr. Nieminen for assistance with the experiment and to Dr. Soininen for valuable discussions...
- A careful analysis of obtainable data...

- I didn't look up the original reference.
- These data are are practically meaningless.
- Interesting to me.
- An unsuccessful experiment, but I still hope to get it published.
- The results of the others didn't make any sense.
- The best results are shown.
- I might get around to this sometime if I'm pushed.
- She was my graduate assistant.
- I think.
- A couple of other people think so too.
- I don't understand it.

- Wrong.
- This is a lousy paper, but so are all the others on this miserable topic.
- Marko did the work and Timo explained to me what it meant.
- Three pages of notes were obliterated when I knocked over a glass of beer.
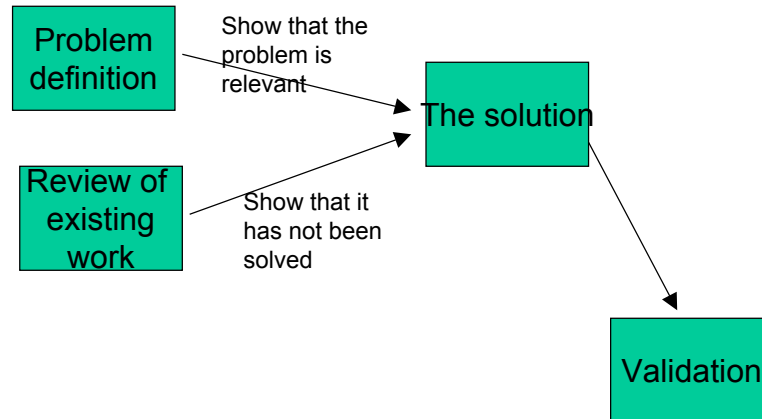

Good Paper Criteria

- Motivate why the problem is important
- Show that you know what has been done before in this area
- Show that there is something new
- Show that it works: (empirical validation)
- Additional points:
    - Keep it focused
    - Match the needs of the audience
    - "pre-empt" referee criticisms (find your own limitations)
    - write it well (grammar, style, even layout)

Good Paper Flow

| Problem definition |
| Review of existing work |

Show that the problem is relevant

Show that it has not been solved

The solution

Validation

T-76.640 Software Business, © jyrki.kontio@hut.fi

Example Review Criteria: ECSQ

Relevance to the conference themes:
> Degree to which the paper corresponds to the conference themes and listed topics.

Novelty of the contribution:
- How novel and new are the contributions in the paper?

Industrial significance:
- How big an impact will the contributions potentially have in the industry in the long run?

Empirical validation of the results:
- How well are the results validated in practice?

Positioning with other work:
- How well are other relevant approaches referenced and positioned?

Writing style and correctness:
- How well is the paper written?
  - Structure and clarity
  - Grammar and spelling

T-76.640 Software Business, © jyrki.kontio@hut.fi

Example Review Form: IEEE Computer

Section I. Overview
  A. Reader Interest
    1. Which category describes this manuscript?
    2. How relevant is this manuscript to the readers of this periodical? Please explain your rating.
  B. Content
    1. Please explain how this manuscript advances this field of research and/or contributes something new to the literature.
    2. Is the manuscript technically sound? Please explain your answer.
  C. Presentation
    1. Are the title, abstract, and keywords appropriate? Please comment.
    2. Does the manuscript contain sufficient and appropriate references? Please comment.
    3. Does the introduction state the objectives of the manuscript in terms that encourage the reader to read on? Please explain your answer.
    4. How would you rate the organization of the manuscript? Is it focused? Is the length appropriate for the topic? Please comment.
    5. Please rate and comment on the readability of this manuscript.

Section II. Summary and Recommendation
    A. Evaluation (rating of paper)
    B. Recommendation (publish or not)

Section III. Detailed Comments
    A. Public Comments (these will be made available to the author)
    B. Confidential Comments (authors will not see these comments)

T-76.640 Software Business, © jyrki.kontio@hut.fi

Details, examples

A. Reader Interest
    1. Which category describes this manuscript?
        ___Practice/Application/Case Study/Experience Report
        ___Research/Technology
        ___Survey/Tutorial/How-To

    2. How relevant is this manuscript to the readers of this periodical? Please explain your rating.
        ___Very Relevant
        ___Relevant
        ___Interesting - but not very relevant
        ___Irrelevant

B. Content
    1. Please explain how this manuscript advances this field of research and/or contributes something new to the literature.

    2. Is the manuscript technically sound? Please explain your answer.
        ___Yes
        ___Appears to be - but didn't check completely
        ___Partially
        ___No

T-76.640 Software Business, © jyrki.kontio@hut.fi

Details, examples

A. Reader Interest

    1. Which category describes this manuscript?

        ____Practice/Application/Case Study/Experience Report

        ____Research/Technology

        ____Survey/Tutorial/How-To

    2. How relevant is this manuscript to the readers of this periodical? Please explain your rating.

        ____Very Relevant

        ____Relevant

        ____Interesting - but not very relevant

        ____Irrelevant

B. Content

    1. Please explain how this manuscript advances this field of research and/or contributes something new to the literature.

    2. Is the manuscript technically sound? Please explain your answer.

        ____Yes

        ____Appears to be - but didn't check completely

        ____Partially

        ____No

T-76.640 Software Business, © jyrki.kontio@hut.fi

Details, examples cont'd

C. Presentation

    1. Are the title, abstract, and keywords appropriate? Please comment.

        ____Yes

        ____No

    2. Does the manuscript contain sufficient and appropriate references? Please comment.

        ____References are sufficient and appropriate

        ____Important references are missing; more references are needed

        ____Number of references are excessive

    3. Does the introduction state the objectives of the manuscript in terms that encourage the reader to read on? Please explain your answer.

        ____Yes

        ____Could be improved

        ____No

    4. How would you rate the organization of the manuscript? Is it focused? Is the length appropriate for the topic? Please comment.

        ____Satisfactory

        ____Could be improved

        ____Poor

    5. Please rate and comment on the readability of this manuscript.

        ____Easy to read

        ____Readable - but requires some effort to understand

        ____Difficult to read and understand

        ____Unreadable

T-76.640 Software Business, © jyrki.kontio@hut.fi

Details, examples cont'd

Section II. Summary and Recommendation

A. Evaluation

Please rate the manuscript. Explain your choice.
____Award Quality
____Excellent
____Good
____Fair
____Poor

B. Recommendation

Please make your recommendation and explain your decision.
____Accept with no changes
____Accept if certain minor revisions are made
____Author should prepare a major revision for a second review
____Reject

Section III. Detailed Comments

A. Public Comments (these will be made available to the author)

B. Confidential Comments (authors will not see these comments)

Example Abstract

Title:

Visualizing and Formalizing Risk Information: An Experiment

Abstract:

An essential element of software engineering risk management is the conceptualization of potential risks to a project. It is the basis of risk analysis and, even more importantly, it strongly influences how risks are communicated and understood by participants in a project. This paper reports the results of a study where different risk visualization and documentation methods were compared in a controlled experiment with students. The study indicated that a defined and sufficiently expressive visualization approach can help capture more of the risk information than less formal methods. At the same time, participants felt that the more formal approaches were not more difficult to neither learn nor use than less formal ones. The SEI risks statements turned out to be inferior to other methods in most comparisons.

Exercise: Referee report

❑ Select a workshop or a small conference paper

❑ Review the paper: use the IEEE computer form

❑ Submit the review by email

❑ Instructions:
  ❑ Be constructive in your comments: it is easy to "complain", try to suggest how the shortcomings could be fixed