

# Workshop

**Writing manuscripts for Official Statistics journals: Guidelines for practitioners and researchers:  
8, 10 and 15 February 2022**

**ISI/ISR, IAOS/SJIAOS IASS/SS, StatisticsSweden/JOS, Statistics  
Canada/SMJ, Wiley, IOSPress**



## Session 1: February 8, 2022

### THE OVERALL STRUCTURE - OUTLINE

- Why am I writing a paper?
- What makes my paper publishable?
- How to Structure the paper
  - IMRAD Format
- Additional sections of a paper
- General comments



## Session 1: February 8, 2022

### THE OVERALL STRUCTURE – WHY AM I WRITING A PAPER?

- Following what Stephen closed with, a good question to ask is
  - Is the message important and who is it for?
- Important messages include
  - Solutions to an important issue/problem
  - Sheds additional light on a subject of interest
  - Reviews the current state of understanding
  - Describes a novel approach
- Types of potential audiences
  - Colleagues in my organization
  - Employees of other National Statistical Offices
  - Researchers



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### THE OVERALL STRUCTURE – WHY AM I WRITING A PAPER?

- Reflecting on this hopefully leads you to conclude

I want to share my work because it deals with an important problem that many organizations are facing



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### THE OVERALL STRUCTURE – WHAT MAKES MY PAPER PUBLISHABLE?

- First question is what type of paper will it be?
- A review paper
  - It reviews an important topic where lots of work has been done recently, e.g. producing valid inference from non-probability samples
  - What has changed that means the topic should be revisited? For example, NSOs are modernizing due to budget challenges, reduced response rates, etc.
- Original work or research
  - Amazing new theory that solves an important problem – very rare!
  - New results which help solve an ongoing problem faced by multiple organizations



## Session 1: February 8, 2022

### THE OVERALL STRUCTURE – WHAT MAKES MY PAPER PUBLISHABLE?

- An expository paper
  - Describes a subject/situation in certain detail to inform the audience about the subject/situation
  - The purpose is to give deeper insight into the subject/situation
- A technical note
  - A short note describing novel aspects of a technique, procedure, etc.
- This reflection will help you decide what is your audience, how to structure the paper and also what journal is appropriate



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### THE OVERALL STRUCTURE – STRUCTURE OF A PAPER

- You are going to write a paper but how should it be structured?
  - Goal is to create a connection between you (the author) and the reader (audience)
- One tool to help achieve this is the IMRAD format
  - Introduced as a standard by the American National Standards Institute in 1979
  - More appropriate for original research, technical notes and perhaps expository papers
- What follows are general suggestions for writing papers
  - Which ones and how you incorporate them will depend on the type of manuscript you are writing and the intended audience
  - They are only guidelines as there is no magic recipe to get your paper published



## Session 1: February 8, 2022

### THE OVERALL STRUCTURE – STRUCTURE OF A PAPER

IMRAD corresponds to:

- Introduction
  - Why did you do the work?
  - This is KEY since if it is not well done, readers will not continue
  - Explains the motivation for the work and what problem is being solved
- Methods
  - How you propose to solve the problem and why it works



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### THE OVERALL STRUCTURE – STRUCTURE OF A PAPER

- Results
  - What you find out about your proposed solution
    - Did it solve the problem? Does it do a better job than other solutions?
  - Want to show why is your work important
- And
  - Filler for a nice acronym
- Discussion
  - Summarize what it all means
  - Explain why people have to use your proposed method
- These are the main sections of a paper, additional sections will be mentioned later



## Session 1: February 8, 2022

### THE OVERALL STRUCTURE – INTRODUCTION

- This sets the stage, so take the time required to do it right
- Clearly state what are you investigating/what problem are you solving
- Be crystal clear why the problem is important
- Include what has been done in the past and why these methods haven't solved the problem
  - This is the literature review
  - Doesn't have to be exhaustive but has to be thorough
  - If you haven't covered the most recent and relevant work, the EiC may decide to reject outright – you have to show that you know what you are talking about
- Kept it relatively short
  - One to one-and-half pages?



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### THE OVERALL STRUCTURE – METHODS

- Describes how the problem was solved
  - Include enough details so that someone else can implement the method
    - Reproducibility
  - Detailed proofs can be included in appendices or supporting material
  - Clearly define notation and use commonly accepted notation
- Include information on what work was done by others to solve the problem
  - Do not include all the details of what was done by others
  - Do include why you feel their methods don't solve the problem
- Compare the new method with existing methods (if applicable)
  - Try to understand why one method may be better than the other theoretically or mathematically



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### THE OVERALL STRUCTURE – RESULTS

- Report what you have found
- The proposed method should be compared with existing ones
- You are **STRONGLY** encouraged to include empirical or simulation results to back up theoretical developments
- If using simulated data, provide all models used to generate the data
  - Code can be shared in supporting material
- Show how the methods solve the problem
- If possible include examples using real life data in addition to simulated data
  - Avoid data that is generated to favour one method over another



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### THE OVERALL STRUCTURE – DISCUSSION

- Explain what the results mean
- Compare and contrast results obtained by the different methods
- Be honest
  - If your method doesn't behave well in certain circumstances, report those results as well
  - If other methods don't behave well because of assumptions made, then mention that as well
- DO NOT state that someone else's results are wrong unless it can be shown theoretically and empirically
  - The goal is to illustrate your method, not shoot down someone else's



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### THE OVERALL STRUCTURE – ADDITIONAL SECTIONS

- Title
  - Not too long and certainly not boring
  - Needs to be interesting enough to get people to at least read the abstract
- Abstract
  - This is where you have to catch the readers' attention.
  - What is the problem, why it is important, how you have solved it and what is new
- Conclusions
  - Rehash what was presented
  - Don't introduce new results
  - It is OK to talk about future work or directions



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### THE OVERALL STRUCTURE – ADDITIONAL SECTIONS

- Acknowledgements
  - You should acknowledge the editors and reviewers at a minimum
- References
  - Make sure that they are complete
  - If they are not referred to in the paper, don't include them
  - DON'T include only your work
- Keywords
  - Keep the list short but to the point



## Session 1: February 8, 2022

### THE OVERALL STRUCTURE – GENERAL COMMENTS

- Make sure that the paper is readable
  - If English (or language of the journal) is not your first language, ask a native speaker to review the paper for typos, grammar, etc.
  - There is nothing more frustrating than having to read a sentence multiple times to understand it because it is poorly written
- The emphasis should be on the statistical methodology, not the statistical program or the organization
- Do not include pages and pages of formulas
  - Proofs belong in an appendix or supplementary material
  - Too many formulas make it hard to read and review



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### THE OVERALL STRUCTURE – GENERAL COMMENTS

- The structure will hopefully allow you (the author) to connect with the reader (the audience)
- The other stakeholders in the process (the editors, reviewers and publisher) will assess the message, the content and the also structure in a strict process
  - Is the message an important one?
  - Is the content clear, correct and of high quality?
  - Does the structure achieve the connection between author and audience?



## Session 1: February 8, 2022

### THE OVERALL STRUCTURE – REFERENCE MATERIAL

- I referenced the following material to create this presentation
  - How to prepare a manuscript for international Journals by Angel Borja
    - Part 1: [Six things to do before writing your manuscript \(elsevier.com\)](#)
    - Part 2: [11 steps to structuring a science paper editors will take seriously \(elsevier.com\)](#)
    - Part 3: [Writing the first draft of your science paper — some dos and don'ts \(elsevier.com\)](#)