A Quick Checklist for a Research Paper

Richard Boateng, PhD

What are the elements of a good research paper? Most often than not we face the dilemma in seeking answers for this question. Challenge is becomes pronounced when you begin to evaluate the different requirements of the diverse academic journals in information systems. So what really makes a good research paper?

In this paper I attempt provide a general outline which may be considered as being essential for good research paper. Though this is not exhaustive, it will be of help, especially to young authors to reduce review cycles that submitted papers have to go through. The purpose is not to create a 'one best format', but to offer guidelines in the preparation of articles for submission to academic journals.

Getting Started

So why do we do research?
We do research to CREATE, EXPLAIN and/or PREDICT social or scientific phenomena. Through this process we may create and develop new knowledge or products, explain or attempt to make-sense-of what is happening in and or identify patterns which enable us to predict a particular social or scientific phenomenon.

Who needs to research?
Research feeds into future research, practice and policy. Thus, research is needed by researchers, practitioners and policy makers. In these broad categories, there are a number of stakeholders including organizations, communities’ government and non-governmental institutions and society in general. Research has feed into a body of knowledge or practice or policy. Without a connection to any of these, the readers and reviewers will ask “And so what?” meaning what can we do with your findings and what are its implications.

Research Paper Outline

Abstract
How do we write a good abstract? Emerald, the academic journal database (www.emeraldinsight.com), offers a set of guidelines for authors on how to write a good abstract. The guidelines advise that an abstract should summarize these key elements of the research paper or study.

- Purpose What are the reason(s) for writing the paper or the aims of the research? What concept do you want to present?
- Design/methodology/approach How were the objectives achieved? Include the main method(s) used for the research. What is the approach to the topic and what are the theoretical or key arguments of your presentation?
- Findings/Results/Observations What was found in the course of the work? This will refer to analysis, discussion, or results.
- Research implications (if applicable) What are the contributions to research? Which aspect of
your work changes current research? What can researcher do with your research? What is new and how will that shape future research?

- **Practical and Policy implications** What outcomes and implications for practice, policy, applications and consequences are identified? How will the research impact upon the business or enterprise? How is it influence policy? What changes to practice/policy should be made as a result of this research? What is the commercial or economic impact? Not all papers will have practical implications.

- **Originality/value** What is new in the paper? State the value of the paper and to whom.

### ABSTRACT EXAMPLE 1

**Advancing E-commerce Beyond Readiness in a Developing Country: Experiences of Ghanaian Firms**

This paper identifies factors affecting the assimilation of electronic commerce in Ghana and the solutions that Ghanaian firms have developed. Drawing from the elements of two electronic commerce readiness frameworks, the study analyzes the readiness of Ghana to support the conduct of electronic commerce at the firm-level. The study covers the government, technology, market and culture readiness factors. Findings suggest that social networks, managerial capabilities and government commitment have an attendant effect on adoption and use of tangible resources like electronic commerce applications. The findings imply that future research and practitioner efforts should focus on developing a broader perspective to address electronic commerce challenges encompassing issues such as how firms can advance to more complex forms of e-commerce after initial e-commerce adoption.

Article Citation


### ABSTRACT EXAMPLE 2

**E-Commerce and Socio-Economic Development: Conceptualizing the Link**

**Purpose**: E-commerce is diffusing into developing countries, and is assumed to help deliver the international development agenda. But how can we conceptualise the connection between e-commerce and socio-economic development? Our aim in this paper is to analyse that connection by drawing from the development studies discipline to take a broader perspective on e-commerce than that so far provided by firm-level research.

**Methodology/Approach**: We adopt a literature survey approach, drawing our conceptual foundations from development studies, and supplementing this from the e-commerce literature.

**Findings**: We develop a new, integrated model that explains the way in which e-commerce can contribute to socio-economic development. The model conceptualizes the link between existing development theories and e-commerce in DCs.

**Research Implications**: This new model can help provide a foundation for future research on ecommerce in developing countries; research on e-commerce policy as well as impact assessment research.

**Practical Implications**: The discussion and model provide development agencies, governments, consultants and business people working in developing countries with a clearer sense of the
Introduction
What is an introduction? In my research teaching seminars, I usually relate the introduction to “marriage introduction” done as part of marriage in African cultures. In essence, the family of the bride needs to learn about the groom and the groom or the man being introduced has to be able to convince the family of the bride on why he is best option for their daughter. Similarly, in the research paper, the introduction sets the tone for the whole research paper? Why should the reader read the research paper? What are theoretical and/or practical and policy motivations behind the research paper? The author has to:

1. Introduce the topic/theme
2. Highlight some of the research that has been done in the area of study (this should not be limited only to the country of study)
3. Identify the gaps in previous research—areas that have not yet been addressed.
4. Point out where your work is taking off from... why your study is still important and what new knowledge it will add to the existing knowledge (see point 2).
5. In the last paragraph state out: the main question or purpose of your paper and outline the structure of the paper.

Literature Review
You may use a relevant title instead of literature review
The literature review usually provides a detailed analysis of the research theme from the perspective of existing literature, and, further, critique and propose perspectives or ways of addressing the research problem. The author is required to:

1. Explain the concepts and issues
   - Discuss the main relevant arguments concerning the issues
   - Draw on existing and current research on the issues
   - Discuss their findings and how they help us better understand the issues
   - Review research in developing countries & Africa to highlight what has been done
2. Understand how previous research was conducted: which frameworks and methods were used
3. WHAT, WHY, HOW of the issue and WHERE you are going...Which gaps you need to cover

Research Framework (if applicable)
The research framework provides theoretical lens through which the author seeks to address the research problem. It may provide a process or factor model which guides the investigative process of
collecting data to answer the research questions. In some research papers, the research framework is developed or presented in the literature review. Others present it as an independent section or a sub-section of the research methodology. There is no wrong or right answer. The structure of the research paper and writing style of the author (logic and coherence of arguments) may determine the approach. The author is required to:

1. How do we solve the problem
2. How do we address the issue – which theory or conceptual framework do we use?
3. Develop hypothesis (Quantitative) or propositions (Qualitative) (if applicable)
   a) A Concept or set of factors
   b) A model of casual factors or interrelated factors
   c) A set of propositions/hypotheses


**Research Methodology**

In this section the author explains the scientific methods used to collect data to answer the research questions. The author is required to:

1. Identify and state Research Paradigm (optional, rarely stated but may be deduced from the data collection process)
2. What methods were used to conduct the study and why were those methods selected?
3. In systematic fashion you need to explain how data was collected (which you have began excellently already – just arrange it well)
   a) Context – where are study subjects located?
   b) Unit of Analysis – What level of Analysis – Meta, Marco, Meso, Micro or individual
   c) Data Collection Methods – Quantitative, Qualitative or Mixed Methods
4. You need to explain in brief how you analyzed the data and dag out themes or answers or key lessons from your findings.

**RESEARCH METHODS EXAMPLE**

*Advancing E-commerce Beyond Readiness in a Developing Country: Experiences of Ghanaian Firms*

This study intends to understand the dynamics of the readiness factors in the Ghanaian firms’ adoption and conduct of e-commerce. There was therefore a strong case for using an exploratory case study method since this supports the research objective set out at the beginning (Yin 2003). In order to get richness of experiences and undertake an in-depth investigation, multiple-case study method was followed (Yin, 2003). In a case study research, there is no universally acceptable number of cases and a case study research could be based on a single case or many cases (Walsham, 1993; Yin, 2003). This is because the validity of the case study has more to do with the “plausibility and cogency of the logical reasoning” (Walsham, 1993:15) and less with the number of cases. In addition, the validity of case studies can be enhanced by the strategic selection of cases rather than their number (De Vaus, 2001). Therefore, this study is based on evidence collected from 10 major cases and other 15 organizations.

The data collected consisted of personal interviews with 28 individuals, across 25 different Ghanaian companies, educational institutions and industrial associations involved in e-commerce development in Ghana. This was done in the interest of triangulating data sources. Triangulation provides a unique opportunity to identify inconsistent and contradictory evidences which researchers should analyse and interpret carefully (Mathison, 1988).
Concerning the interviews, organisations selected were obtained from The Ghana Club 100 and referrals from Internet Service Providers (ISPs), academics and ICT graduates from the Ghana-India Kofi Annan Centre of Excellence in ICT. The Ghana Club 100 is an annual compilation of the top 100 companies in Ghana to give recognition to successful enterprise building (GC100, 2004). 35 Ghana Club 100 organisations, covering manufacturing, trading services, and financial sectors, were selected. Only 10 of the 35 organisations responded when contacted. A total of 13 interviews were done across the 10 firms.

15 other organisations, who were not listed in the Ghana Club 100, contributed our remaining 15 interviews. They include 4 Internet Service Providers (ISPs); 4 ICT consultancies; the Ghana Export Promotion Council; 3 non-traditional export firms; the National Communication Authority (NCA) (the regulator of the telecommunication sector); and two academics from two Ghanaian tertiary institutions with expert knowledge on the Ghanaian ICT sector. The representative from NCA and the two academics were interviewed to verify and obtain other perspectives on data obtained from selected firms and ISPs.

The interviews were recorded and transcribed, with copies of transcribed interviews returned to interviewees to check and resolve discrepancies. The interviews were also collaborated with data from documentary materials including past e-commerce project documentation in the selected firms industry reports, verified media accounts and statistical databases. The interview transcription and analysis was done with the aid of ATLAS.ti® software, a qualitative analysis software. The software was used as a data administration and archiving tool for the thematic analysis of the transcribed interviews. Themes from our research framework guided the codification of the text in the transcribed interview. The interviews consisted of open-ended questions about the government, technology, market and cultural readiness factors which affect the implementation of electronic commerce in Ghana. Interviews were modified to be relevant to the industry in which the interviewee worked in. Interviewees identified the challenges relevant to their firms and experiences in e-commerce adoption and the ICT sector. Other questions inquired about how they addressed the challenges and suggestions to sustain e-commerce benefits.

Article Citation

Results or Findings
In this section the author presents the findings or results of the study. The author is required to:

- Use appropriate data analysis methods consistent to the data collection method. For example, in using a case study approach, quotes from your interviews should be evident and data should be triangulated from multiple respondents/interviewees.
- In a quantitative study, the appropriate statistical method has to be used and the choice of method should be justified.

Discussion or Analysis
In this section the author analyzes the findings or results from the study. The analysis may require the triangulation of data from various research methods to create, explain or predict social phenomena. The author is required to:

1. What do the findings tell you about your research?
2. How do the findings compare with previous studies highlighted in your literature review?
3. Are there any contradictions with previous research?
4. Why do these contradictions exist?
5. What are the key and new lessons?
6. How do the new lessons relate to the theoretical framework?
NB. Use this exercise to identify part of the literature review which is irrelevant to the study and thus need to be removed. Generally, literature that is not related to the discussion becomes irrelevant.

**Conclusion**
The conclusion covers three key sub-sections: summary of the paper and revisiting the research model/framework, research, practice and policy implications and future research directions. Some authors prefer to addresses these sub-sections as main sections. The author is required to:

1. What is the ‘takeaway’
   a) Summarize in few words what the study did and what has achieved
   b) Revisit the research model (this can be done in the discussion and analysis for a journal article but for a long essay or dissertation, it can be done in the conclusion).

2. Then discuss each of the following in a paragraph:
   a) Implications to research: how does it inform research area? This is an extension of the discussion on the research model.
   b) Implications to Practice (managers, practitioners, employees, organizations etc)
   c) Implications to Policy (if applicable)—what do your findings tell the organization, government, international community, development agencies etc.

3. In relation to your findings, what should future research do?
   a) Acknowledge the limitations of your research
   b) Highlight what new or future research should do
   c) Suggestions could be using new methods or new unit of analysis
   d) Suggestions should be relevant to your topic

**References**
Reference citations should follow the style recommended by the journal.
- For APA style. Please refer to: http://www.library.ubc.ca/home/about/instruct/apastyle.html
- For Harvard style. Please refer to:
  http://ctbus.files.wordpress.com/2010/10/havard-referencing-style.doc
- Read through your work - Presentation and Structure Counts

**In Summary**
Your work is going to be challenged, hence do not let the fear of other academics control your academic and professional career.

Though not exhaustive, the attempt by this paper to offer elements of a good research paper has outlined guidelines that can guide authors in future research.