How to write funded research project proposals: A few thoughts

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Highlights of the Presentation at the Virtual Workshop organised by the Research Unit, Muscat College, Sultanate of Oman.
18 February 2021
Agenda...

- **Purpose / Focus** - The Research Council of Oman (TRC)’s key evaluation criteria – *competitive URGs & GRGs*

- **Format** = How = The S.M.A.R.T. approach = Quality of Grant Proposal

  ➢ *Contents* of a Grant Proposal

  ➢ *Common mistakes*

- **Closing thoughts & other resources**
The world is going to university…

✓ **Be relevant:** Get *S.M.A.R.T.-minded* ….

✓ Grantsmanship sounds more of an economic/business pitch. Scientific *Excellence* and socio-economic *Relevance* are critical to the success of your Proposal?

✓ **Be persuasive:** Therefore, let your Proposal “speak” to the Grantor – addressing *all* the explicit & implicit evaluation criteria in a cohesive, convincing manner is imperative. Polish your writing skills.

• **Be self-motivated:** *Create* the research time, don’t “manage” it!
Understand the “Research” in the “Proposal”...

• “Research” - a **scientific and systematic search** for relevant information on a specific topic

• The purpose of research is to discover answers to questions through the application of **scientific procedures**.

• The main aim of research is to find out the truth which is hidden and **which has not been discovered as yet**. (ISAR, 2021)

• **IMPORTANT NOTE:** You are writing, not to satisfy yourself, but to satisfy the scientific research and innovation needs of the funding agency.
TRC – Vision & Objectives

Vision

- Oman to become a regional hub for innovation, and a leader in producing new ideas, products and services
- Oman to have the largest research capacity in the region
- Omani research to excel in selected fields of national importance
- Oman to have a research culture that responds swiftly to local social and economic needs
- Oman to have a world-class infrastructure for evidence-based policy making

Objectives

- Building Research Capacity Mechanisms
- Achieving Research Excellence
- Building Knowledge Transfer and Value Capture
- Provide an Enabling Environment for Research and Innovation
### The previous TRC 2019 Call & prospects for 2020

*(Times of Oman, 2019)*

<table>
<thead>
<tr>
<th>Category</th>
<th>No of Proposals received</th>
<th>No Funded</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORG</td>
<td>172</td>
<td>74</td>
</tr>
<tr>
<td>GRG</td>
<td>43</td>
<td>27</td>
</tr>
<tr>
<td>URG</td>
<td>207</td>
<td>152</td>
</tr>
</tbody>
</table>

#### Approx. % funded

- **PHD HOLDERS**: 43%
- **MASTERS**: 63%
- **UNDERGRADUATES**: 73%
Muscat College – a Research Mission

MISSION

• To provide lifelong learning supported through teaching, research, training and community engagement.
The S.M.A.R.T. Approach …

- **Specific** – clarity of project’s purpose, problem, objectives, significance, scope, etc.…

- **Measurable** – the degree to which the criteria are achievable – Peer-Reviewers / Grant Committee / Budget Committee… **Scoring** system…

- **Attainable** – The Project Team’s capacity… feasibility of your Research Methodology, data-collection system, etc.…

- **Relevant** – Socially/nationally/ culturally/ internationally, economically/ scientifically, etc.…

- **Time-based** – Deadlines / realistic implementation plan
Key evaluation criteria...

**Excellence**
- Measurable
- Attainable
- Time-based
  - **Internal Evaluation (80%)**

**Relevance**
- Specific
- Relevant
  - **Institution Defined Criteria (20%)**
Measuring the Proposal’s Quality...

**Excellence**
- **A [score 5]** – All OK, no changes needed
- **B [score 4]** – needs *minor* changes
- **C [score 3]** – needs *major* changes
- **D [score 2]** – needs *serious* changes – requires another evaluation
- **E [score 1]** – *unsatisfactory* – decline approval

**Relevance**
- **A [score 5]** – Excellent
- **B [score 4]** – Good
- **C [score 3]** – Fair
- **D [score 2]** – Poor
- **E [score 1]** – Very poor
- **F [score 0]** - Incomplete
Excellence Criteria…

Clarity & Feasibility

- Team Capacity – Qualifications, Experience & Track Record
- Comprehensive Literature Review
- Research Problem, Significance, Methodology, Data Collection

Novelty & Originality

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Is your topic relevant?

Oman 2040 Vision Themes

• 1. People & Society
• 2. Economy & Development
• 3. Governance & Institutional Performance

Priority Sectors

• 1. Transport & Logistics
• 2. Energy & Mining
• 3. Agriculture & Fisheries
• 4. Manufacturing
• 5. Tourism /Hospitality
• 6. Labour & Finance
# How relevant is your topic?

## The National Priorities of Oman

1. Education, Learning, Scientific Research & National Talents.
5. Economic Leadership and Management.
6. Economic Diversification and Fiscal Sustainability
7. Labour Market & Employment.
8. The Private Sector, Investment & International Cooperation.
10. National Resources & Environmental Sustainability.
11. Legislative, Judicial & Audit System.
12. Partnership & Integration of Roles.
Is your topic “researchable”?

- Sources of potential topics – wide reading, news, magazines, observations, etc.
- Topic should be motivating/personally interesting, unique / original
- Is it researchable? Controversial? Will you be able to obtain moderate amount of data and good academic literature?
### Proposal
- Introduction and Statement of the problem/project
- Literature and Analysis of Related Works
- **Objectives**
- Research Methodology
- Academic, Scientific, and/or Innovation Significance
- Benefits to Oman
- References

### Budget
- Provide a list of the major categories in the project for which financial support is needed.
- **Clear justification for each category**
Your budget proposal...

• Bear in mind the caps – **URG**: 1,500 Ro.; **GRG**: 3,000 Ro.
• Common categories
  ➢ Materials and supplies (examples: tools, kits, chemicals and glassware)
  ➢ Equipment
  ➢ Data collection/analysis
  ➢ Local travel needed for the project work
  ➢ Administrative costs (examples: purchasing of literature, use of university facilities & miscellaneous issues)

❑ NOTE: Do NOT include printing of thesis
On budget proposal...

<table>
<thead>
<tr>
<th>Item</th>
<th>URG (OMR)</th>
<th>GRG (OMR)</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials and supplies</td>
<td>200</td>
<td>350</td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td>350</td>
<td>1000</td>
<td>Justification of each category can be linked explicitly to the specified objectives and milestones of your project proposal</td>
</tr>
<tr>
<td>Data collection/analysis</td>
<td>500</td>
<td>950</td>
<td></td>
</tr>
<tr>
<td>Local travel needed for the project work</td>
<td>240</td>
<td>350</td>
<td></td>
</tr>
<tr>
<td>Administrative costs</td>
<td>200</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1,490</strong></td>
<td><strong>2,950</strong></td>
<td></td>
</tr>
</tbody>
</table>
Contents of TRC Grant Proposal...
(Al-Shukaili & Al-Maniri, 2017)

- Title
- Executive Summary
- **Introduction and statement of the problem or project – research questions, hypothesis**
- Literature review and analysis of related work – with reference
- Description of the benefits to Oman
- Outline of proposed activities and research methodology
- Academic, scientific, and/or innovative significance
- Expected social, cultural, educational and welfare benefits
- Cost analysis – realistic research budget
- **Project Team - collaborations must be credible**
- Ethical considerations
- **Duration of the project – project implementation schedule**
Contents of TRC Grant Proposal…

- **Introduction and Statement of The Problem/Project:**
  - Describe the proposed research and the main problem to be addressed.

- **Literature Review and Analysis of Related Work:**
  - Outline the background leading up to the present status of the issue
  - Critically evaluate existing knowledge, and specifically identify the gaps that the project is trying to fill.
  - State what you intend to achieve with your proposed research. Link the specific aims of this particular research project to broader, long-term objectives.

- **Objectives:**
  - Describe the aim of the research project.

- **Research Methodology:**
  - Describe the research design
  - Conceptual framework
  - Procedures – e.g., how data/information will be collected, analysed, and interpreted.
  - Data analyses system to be used to accomplish the specific aims of the project

- **Academic, Scientific and/or Innovation Significance:**
  - State the importance of the research to your field of study and/or society.
  - Describe your overall career/academic goals and explain how the research grant will enable you to reach these goals.
  - Identify the skills, theories, conceptual approaches, etc. to be learned or enhanced in this project.

- **Benefits to Oman**
  - Example: Vision 2040 relevance/Covid-19/Graduate Employability

- **REFERENCES:**
  - State the sources of information/data presented in the proposal.
  - Also, make sure that the information is referred to accurately, essential and consistent with the references’ list.
Literature resources / databases / writing tools...

- University of Stirling Portal – Library Resources, Emerald Journals, S&P Capital IQ
- Turnitin.com
- Index cards

- Oman Virtual Science Library – Masader.om
- Grammarly.com
- Using paraphrasing tools?
Literature resources/databases...

- Science Direct
- IEEE
- ACM
- CiteSeerX
- JSTOR
- Emerald Insight
- EbscoHost
- Semantic Scholar

- Worldwidescience
- PubMed
- PubChem
- Cochrane Library
- CINHAL
- Researchgate & Google Scholar
- Web of Science
Referencing /citation & English style

❑ Referencing – be consistent

• APA (American Psychological Association) style?

• Harvard style?
  https://www.citethisforme.com/harvard-referencing

• Check (and double check!) to ensure that all your in-text citations are detailed (alphabetically) in the section listing your references.

❑ British or American style

✓ Choose one style and be consistent with it throughout your report
Research Methodology
What is the nature / type of your Research Project?

- **Descriptive research** - surveys and fact-finding enquiries of different kinds.
- **Applied research** - aims at finding a solution for an immediate problem facing a society or an industrial/business organisation.
- **Fundamental research** - mainly concerned with generalisations and with the formulation of a theory.

- **Quantitative research** is based on the measurement of quantity or amount Vs. **Qualitative research** - concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind.
Understand the Research Process…

- Formulating the research problem;
- Extensive literature survey;
- Developing the hypothesis;
- Preparing the research design (conceptual structure);
- Determining sample design (sampling);
- Collecting the data;
- Execution of the project;
- Analysis of data;
- Hypothesis testing;
- Generalisations and interpretation, and
- Preparation of the report or presentation of the results, i.e., formal write-up of conclusions reached.
• All the items under consideration in any field of inquiry constitute a ‘universe’ or ‘population’. A complete enumeration of all the items in the ‘population’ is known as a census inquiry.

• The researcher must decide the way of selecting a sample or what is popularly known as the sample design.

• In other words, a sample design is a definite plan determined before any data are actually collected for obtaining a sample from a given population.
What type of sampling system are you planning to use?

- **Probability Sampling**
  - Simple random sampling
  - Systematic random Sampling
  - Stratified sampling
  - Cluster sampling (one stage, two stage, multi stage)

- **Non-Probability Sampling**
  - Convenience sampling
  - Judgement sampling (expert)
  - Quota Sampling (interviewer Judgement)
How are you going to collect your data?

- Mostly collected data can be classified in two ways: **Primary and Secondary data**

- **Primary data** can be collected either through
  - Conducting an experiment or
  - Through a survey.
Methods for Collecting Primary Data

- By (researcher-participant) observation
- Through personal interviews / FGDs
- Through telephone interviews
- By distributing / mailing of questionnaires – electronically in the age of Covid-19?
- Through schedules
Secondary data...

- **Secondary data** refers to data that is collected by someone other than the user.
- Common sources of secondary data - information collected by government departments, e.g., **NCSI – National Centre for Statistics and Information**, publicly available corporate records and data that was originally collected for other research purposes.
Measurement Scales…

- Nominal – Categorical Data (No Arithmetic Operator)
- Ordinal – Ranking of Items (<, >, =)
- Interval scale – Differences (<, >, =, -)
- Ratio scale (All Operations)
Guidelines for Constructing Questionnaire / Schedule

• Clear & appropriate (simple but straightforward) form of questions
• Prepare a rough draft of the Questionnaire/Schedule – you may wish to attach a copy to your proposal
• Technical defects must be minutely scrutinised and removed.
• Pilot study
Data analysis / statistics

• Statistics is the science which deals with the method of collecting, classifying, presenting, comparing and interpreting numerical data

How Statistics helps your proposal/research

• It presents facts in a definite form
• It simplifies mass of figure
• It facilitates comparison
• It helps in formulating and testing of hypothesis
• It helps in prediction
• It helps in the formation of policies
Classification and tabulation…

• Classification is grouping of related facts into classes.
• Statistical tabulation is the logical listing of related quantitative data in vertical columns and horizontal rows of numbers with sufficient explanatory and qualifying words, phrases and statements in the form of titles, heading and notes to make clear the full meaning of data and their origin.
• The purpose of a table is to simplify the presentation and to facilitate comparisons.
• **Analytical packages to be deployed**  – SPSS / R Programming, etc.
Try to link your methodology with your project objectives…e.g.:

<table>
<thead>
<tr>
<th>Research Objectives / Key Data Sources</th>
<th>RO1</th>
<th>RO2</th>
<th>RO3</th>
<th>RO4</th>
<th>RO5</th>
<th>RO6</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Structured questionnaire</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>• Refereed literature review</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>• Desk review of accessible corporate information</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>• Audited financial statements of firms and stock market data</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>• Focal group discussions/workshop</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
Other aspects of proposal-writing...
Aspects of proposal-writing...

- Logical presentation and flow of reading from the title of the report to the end.

- **Sources of information MUST be acknowledged** - There must be a corresponding entry in your reference list for every in-text citation in your report.

- **Follow structured format**; e.g., title, sections, headings, sub-headings, etc. Generally: **INTRODUCTION / BODY / CONCLUDING REMARKS**

- **Proofreading** – Pay attention to details – ensure professional presentation, free from spelling/grammatical issues.
## Aspects of proposal-writing…/2

<table>
<thead>
<tr>
<th>Section</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title/topic page</strong></td>
<td>- Titles are labels, not sentences. Keep them simple, brief, explicit, and (perhaps) catchy!</td>
</tr>
<tr>
<td></td>
<td>- Avoid jargons and acronyms</td>
</tr>
<tr>
<td></td>
<td>- Word counts</td>
</tr>
<tr>
<td><strong>Executive summary – see next slide for hints</strong></td>
<td>- Purpose, scope, process/methodology/findings, conclusions/implications</td>
</tr>
<tr>
<td><strong>Body/content</strong></td>
<td>- Content page</td>
</tr>
<tr>
<td></td>
<td>- Number and list all sections/subsections/headsings/subheadings with traceable page numbers</td>
</tr>
<tr>
<td><strong>Introduction</strong></td>
<td>- Background information, purpose and significance of the report, state how your report is organised.</td>
</tr>
</tbody>
</table>
### Executive summary – The BPMFC mnemonic

(Ramadass & Aruni, 2014)

<table>
<thead>
<tr>
<th><strong>B</strong></th>
<th>Background information / underlying motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P</strong></td>
<td>Purpose – the report’s principal activity / goal</td>
</tr>
<tr>
<td><strong>M</strong></td>
<td>Methodology – explained in the next slide</td>
</tr>
<tr>
<td><strong>F</strong></td>
<td>Findings – the key results of your study / analysis</td>
</tr>
<tr>
<td><strong>C</strong></td>
<td>Conclusions – relevance/implications of your study</td>
</tr>
</tbody>
</table>

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## Aspects of proposal-writing…/3

<table>
<thead>
<tr>
<th>Section</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Literature review</strong></td>
<td>- Review of the body of knowledge / concepts / theories / empirical studies related to your topic and purpose.</td>
</tr>
<tr>
<td></td>
<td>- Make sure to align with the overall objectives of your report/research.</td>
</tr>
<tr>
<td></td>
<td>- The gap in knowledge to be filled.</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>- Document the study process/strategy, data sources, sampling system and data analysis approach and justification.</td>
</tr>
</tbody>
</table>
Literature review is about evaluating what has been done previously in your proposed topic area...

<table>
<thead>
<tr>
<th>Beginning [outline of the issues]</th>
<th>You don’t need to review everything! The key word is RELEVANCE - only pertinent literature is required</th>
</tr>
</thead>
</table>
| Middle [analysis and synthesis]  | -Identify key areas of interest about a topic  
                                -Evaluate the strengths and weaknesses of existing research  
                                -Highlight potential gaps in existing knowledge |
| End [summarising the issues, differences, paradoxes, dilemmas, and questions to be resolved] | Synthesises: Try to bring things together, cross referencing different sources/sections to create something new. |
Formatting aspects…

- **Script font and paper** - e.g., 12pt, Times New Roman or Arial?
- **Margins** – Subject to the recipient's specific requirements, the general rule for typed reports in A4 paper are: 3.81cm (1.5 inches) on the left and 2.5cm (1 inch) on all the other sides (Gurumani, 2010).
- **Spacing**: single- or double-spaced? Typing in double space is generally advised. O
- **Pagination. o Binding. □
- **Note: Follow all the relevant editorial / assignment/exam/proposal guidelines carefully**
12 common mistakes...

(Al-Shukaili & Al-Maniri, 2017)

1. Lack of novelty/originality.
2. Weak hypotheses/research questions.
3. Unrealistic/too many research objectives.
4. Unjustified research purpose – lack of clear socio-economic or scientific significance.
5. Incoherent/rambling (circular reasoning) narrative – lack of focus.
6. Inadequate literature review.
7. Technical (statistical) inadequacies in the Research Methodology/research design/data analysis.
8. Poorly written proposal – “that majors on minors and minors on majors” and lacks proof-reading.
10. Not following the TRC’s guidelines.
11. Host organisation not well prepared to accommodate the project.
12. The project team – lacks experience, no collaboration, etc.
Other cited common mistakes
(Mbarika, 2015)

- Generic proposals.
- Method(s) not matching the objective(s).
- Too much “why” and little “how”.
- Poor writing – lack of rigour.
- Lack of preliminary data.
TRC’s Call 2020 is due by the end of April 2021.

• **Q**: When should I *start* working on my Call 2020 Proposal?

• **A**: Yesterday!!
Closing thoughts…

✓ **Be relevant:** Get S.M.A.R.T.-minded ….

✓ Grantsmanship sounds more of an economic/business pitch. Scientific Excellence and socio-economic Relevance are critical to the success of your Proposal?

✓ **Be persuasive:** Therefore, let your Proposal “speak” to the Grantor – addressing **all** the explicit & implicit evaluation criteria in a cohesive, convincing manner is imperative. Polish your writing skills.

• **Be self-motivated:** Create the research proposal time, don’t “manage” it!
• “You never go wrong when you take the high road – it’s less crowded up there.”
  
  - Gayle King

❖ “Don’t wait your turn. Bet on yourself and have the confidence to stand up and say “My time is now”.

  - Robert F. Smith
Thank you ...

Questions...

- For further enquiries, you may contact: stephen@muscatcollege.edu.om
Further resources…
References


• The themes of Oman Vision 2040. [www.2040.om](http://www.2040.om).

References.../2

- *The Economist* (2015, March/April). The world is going to university, pp. 11-12.