Parker Derrington Ltd
33 Dovecot Road
Edinburgh
EH12 7LF
T: 07952 154999
E: enquiries@parkerderrington.com
W: www.parkerderrington.com

Grant Application Writing Workshop

Bath Spa University
Business School
July 21 2017

Programme

Introduction

This workshop is designed to start you working on an extremely efficient 'recipe' for an application for a research project grant, such as a research council standard grant. The morning session is to discuss the things you need to know. The afternoon session is to get you working on the things you need to do to start writing.

If you have a project in mind at the start of the day and you can answer these questions about it, you should have a rough draft of the skeleton of the case for support, in the form of 10 key sentences, by the end of the day. If you don't have a suitable project in mind at the start of the day you can practise the skills of writing the 10 key sentences with a dummy project.

There are two things you need to do to prepare for the workshop.

- First, it is essential for several of the exercises that you come prepared to talk about a research project. Ideally this will be a project for which you intend to write a grant application but you can use a piece of research that you have already done.
- The workshop is aimed at mainstream UK project funders like the research councils (AHRC, BBSRC, EPSRC, ESRC, MRC, NERC), the Leverhulme Trust and the Wellcome Trust. Find out which is best for you

My delivery style is interactive, so feel free to ask questions throughout the day. This handout contains all the visual material to be used during the day with clickable links to the main sections in the programme (above) and to the full contents slide-by-slide (below).

Andrew Derrington

Contents

Do you have a fundable project?

1. How many aims or research questions do you have? (The correct answer is 3).
2. For each aim or question:-
   - State the aim or question
   - Describe how the research will answer this question or meet this aim.
   - Say what makes it important to answer this question or meet this aim in the context of your project.
3. Say what your project aims to achieve in terms intelligible outside your research field.
4. How will your project achieve its overall aim?
5. Give an example of your success with this research approach.
6. What makes the project suitable for the funder (and scheme) you are targeting?
7. Impact

- Who will benefit most from this research?
- How will they benefit?
- What will you do to ensure that they benefit?

If you start writing a grant application without answering these questions, you might never finish.

What a Grant Application has to Achieve

Why you need a magic Formula

Andrew Derrington

Back to Programme

A good case for support is designed for the decision process

1. What do funders want to know?
2. How do funders make decisions
   - What are the implications?
   - The Case for Support as Sales Pitch
   - The Magic Formula

Back to Programme

Grant Funders have 4 Questions about the Project

1. IS THE PROJECT IMPORTANT (to Them)?
   - Direct Outcomes (discoveries)
   - Indirect Outcomes (training, career development, mobility…)
2. WILL THE PROJECT BE SUCCESSFUL?
   - Will it produce the direct outcomes?
     - Will they be put to use?
   - Will it produce the indirect outcomes?
3. ARE THE APPLICANTS COMPETENT?
   - Can they carry out the project?
   - Can their institution support it?
4. WOULD A GRANT BE VALUE for MONEY?
   - Are the resources requested Necessary, Sufficient, and Proportionate (for the project)

Back to Programme

Answers to Funders' Questions

- IMPORTANCE (evidence)
  - Evidence about direct outcomes in literature review
  - Evidence about indirect outcomes in details of project, institutions, & investigators
- SUCCESS (project details)
  - Research activities in relation to outcomes?
  - Impact and dissemination plans..
- COMPETENCE (evidence)
  - Evidence that the team has the necessary skills in publications (quality and authorship).
  - Evidence that PI and institution can deliver the project in track record & facilites.
- VALUE for MONEY (project details)
  - Mention how grant resources will be used in the project.
  - Mention institutional resources needed for the project.

Back to Programme

The Decision

. . .

- Who decides?

. . .

- Committee of successful researchers
  - Very busy people
  - Very successful
    * Have their own grants
    * And research groups
    * And jobs
  - Not knowledgeable about your particular research area.
- May have 'user' representation
- Supported by secretariat

The Decision: what information do they have?

- Applications
  - Usually a set of 50-100 per meeting.
  - Arrive 3-6 weeks before meeting.
  - Everybody delays reading them as long as possible.

. . .

- Expert referees' reports
  - Written reports with evaluation and score.
  - Usually 2-5 per application
  - Usually arrive before the meeting but often after the applications
  - Often conflicting

. . .

- Designated members' reports
  - Oral report by 2 or 3 members who have read the application.
  - Usually lasts $<$ 5 minutes

The Decision: what is the process?

- Designated members report on the proposal
  - Usually less than 5 minutes
  - Who, what, why, how, outcomes, strengths, weaknesses, summary of referees, how important and exciting, suggested score
  - One person may have to do this for 10 or more grants in a day.
  - Probably based on 30-60 minutes preparation.

. . .

- Discussion by all members of the committee.
  - Even though some of them may be reading it for the first time during the discussion.
    * They will probably have read the summary beforehand.

. . .

- All members in the discussion can influence the score.
  - No matter how little they know.
  - And how little time they have spent reading your proposal.

Implications of the decision process?

- Referees will analyse your grant in detail but:-
  - Most of the committee won't read it.
  - The ones who do read it won't know the field.
  - There will be about 100 other applications.
  - This imposes requirements on the case for support.

. . .

- It must make the four propositions and it must be:-
  - Easy to analyse at a deep level (Referee).
  - Know what's in it by skimming it (Committee Member).
  - Learn the subject by reading it (Committee Member).
  - Memorable and Distinctive (Designated Member).

. . .

- These properties need a magic formula

Back to Programme

The Magic Formula

- Key Statements
- Layout
- Tag Phrases
- Repetition

The Skeleton

10 statements define a (grant application) case for support

- KS1 States the overall aim, the specific approach & an example of success with that approach
- KS2 Says what makes the overall aim important
  - Linking 2-1 makes the Importance Proposition
- KS3,4&5 Say that we need the sub-project outcomes (AIMS) & why.
- KS6 Introduces the project
- KS7,8&9 Summarise the research activities in the sub-projects (OBJECTIVES) and their outcomes.
  - Linking 3-7, 4-8 and 5-9 makes the success proposition.
- KS10 Says what will happen when research is done (Impact?)

. . .

- Use the key statements as the summary.

. . .

- Re-use the key statements to introduce the case for support

. . .

- Use a key statement to begin each subsection
- Then follow it with the detail
  - that convinces the referee

Magic Formula

Use Layout to Communicate with Skimmers and Speed-Readers

- Message on first line of paragraph (ASSERT then JUSTIFY)
  - First sentence of para ASSERTS (topic sentence)
  - Remainder of para JUSTIFIES
    * This is where you cite literature
    * This is how you avoid citing too much literature.

. . .

- White space above each paragraph

. . .

- Readers' eye movements land on blank lines.
  - Speed-readers will read first line of every paragraph.
  - Browsers will only read first lines.
  - Detail readers will know what to expect in each para

Magic Formula

Teach Terminology with Tag Phrases

KeySentences 3,4 & 5

- 'We need to know' + tag phrase because….
- We need to know the relationship between the performance of single neurons and the performance of the whole visual system in order to establish the likely contribution of single neurons to perception. . . .

KeySentences 7,8 & 9

- 'We will do this sub-project in order to discover' + tag phrase
- We will record single neurons during perceptual tasks and calculate sensitivity functions for neural responses and for task performance in order to characterise the relationship between the performance of single neurons and the performance of the whole visual system.

. . .

- Tag phrases provide meaning - link between aims and objectives
- Use them in headings (make them short enough)

Magic Formula

Tag Phrases in Use

The perceptual capabilities of single neurons in cortical area V1

We need to know the perceptual capabilities of single neurons in cortical area V1 in order to establish the potential contribution of V1 to perception. The potential contribution can be assessed using a range of perceptual tasks, such as visual pattern discrimination, object discrimination, and motion-detection. For any such task, we can infer the contribution of cortical area V1 to that task from the relationship between the perceptual capabilities of single neurons and the perceptual capabilities of the individual.

This is the start of a sub-section of the background. There will be a couple of pages of text (at least 3 subsections, each with its own heading) between it and the start of the corresponding sub-section of the description of the project, which follows here.

Measuring the perceptual capabilities of single neurons in cortical area V1

We will record in cortical area V1 during perceptual tasks and analyse how neural response varies with stimulus strength in order to measure the perceptual capabilities of single neurons. Stimuli from a set that covers a

range of strengths will be presented repeatedly in random sequences under computer control. The computer will record responses during the presentations, and during equivalent periods when no stimulus is presented, for off-line spike sorting and analysis…….

Magic Formula

Tag Phrases in Red

The perceptual capabilities of single neurons in cortical area V1

We need to know the perceptual capabilities of single neurons in cortical area V1 in order to establish the potential contribution of V1 to perception. The potential contribution can be assessed using a range of perceptual tasks, such as visual pattern discrimination, object discrimination, and motion-detection. For any such task, we can infer the contribution of cortical area V1 to that task from the relationship between the perceptual capabilities of single neurons and the perceptual capabilities of the individual.

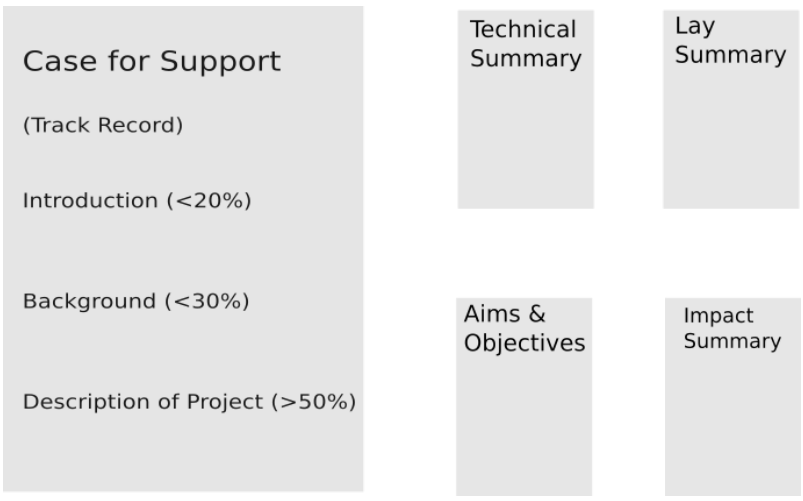
This is the start of a sub-section of the background. There will be a couple of pages of text (at least 3 subsections, each with its own heading) between it and the start of the corresponding sub-section of the description of the project, which follows here.

Measuring the perceptual capabilities of single neurons in cortical area V1

We will record in cortical area V1 during perceptual tasks and analyse how neural response varies with stimulus strength in order to measure the perceptual capabilities of single neurons. Stimuli from a set that covers a range of strengths will be presented repeatedly in random sequences under computer control. The computer will record responses during the presentations, and during equivalent periods when no stimulus is presented, for off-line spike sorting and analysis…….

Magic Formula

Re-cycle Text From Case for Support



- Repeat key sentences and tag phrases
  - to provide common structure, and
  - to link

- Maintain structure and order

Magic Formula

Resources

What's been funded?

- Research Council Project Summaries
  - http://gtr.rcuk.ac.uk
- ERC Summaries
- Leverhulme Awards 2016

Advice on writing:- www.parkerderrington.com/blog

- How to construct a project
- The key sentences
- Catalogue

Magic Formula

Back to Start

The Recipe

- Make sure you have a fundable project
- Prepare your Ingredients
  - Success Proposition
  - Project Intro & Outtro
  - Importance Proposition
- Build the Structure

The Key Statements

Sentences 7, 8 & 9 and 3, 4 & 5

- Sentences 7, 8 & 9: "This will tell us" (One per Subproject)
  - Summarise the research activities and state the outcome of a sub-project.
  - "We will do X and this will tell us Y"
  - Structures the Research Plan/Methodology. Introduces a subsection.
  - States an OBJECTIVE (and the aim it will deliver).
-

. . .

- Sentences 3, 4 & 5: 'We need to know' (One per subproject)

  - Say why we need the outcome of the sub-project.
  - "We need to know Y because Z"
  - Structures the Background: Introduces a subsection
  - States an AIM
  - Can be paraphrased as a Research Question
-

. . .

- Rookie mistakes
  - Failing to mention research activities in 7, 8 & 9
  - Describing the research activities instead of outcomes in 3, 4 & 5

Example

Sentences 6 & 10

Sentence 6 (Project Intro)

- Sentence 6 introduces the introductory part of the description of the project.
  - Summarise the distinctive aspects of the project in fewer than 40 words.

Sentence 10 (Project Outtro)

- Sentence 10 introduces your discussion of what will happen after the research is complete
- It will depend to a certain extent on whether the importance is academic or practical or both.
  - State in about 40 words what you will do to maximise the benefit from the project.

Sentence 1 & 2

The Elevator Pitch (Makes the Importance Proposition)

1. Sentence 1 should have 3 parts:-
    1. What the project will achieve, in 'big picture' terms.
    2. How it will achieve it (your research approach).
    3. An example of your achievements using that approach, to show you are competent.

. . .

2. Sentence 2 says what it is that makes the outcome important. For example….
    1. Quantify the real-world problem it will help to solve.
    2. Say what it will allow us to do that we can't do now.
    3. Prepare to say which named priorities of your funder it contributes to, and how?

Build the Structure with Key Sentences

Standard Structure: Key sentences as Introduction and Skeleton

Alternative Structure for BBSRC

EPSRC Structure

Standard Structure

Key Sentences form the Intro and the Skeleton

1. Introduction - Key Sentences 1-10
   - May structure KS 3-5 as research questions or aims
   - May structure KS 7-9 (6 and 10 optional) as Objectives.
   -
2. Background - 4 subsections - sells the project outcomes.
   - KS2 Say what makes the overall outcome important.
     - Then justify in detail
   - KS3,4,5 Say why we need each research outcome (AIMS) & add detail after each
   -
3. Methods. Describes the Project
   - KS6 Summarise the project. Then add detail.
   - KS7,8,9 Summarise each sub-project (OBJECTIVE) & the AIM it achieves. Add detail after each.
   - KS10 Say what happens after the project (impact?). Then add detail.
   -
4. A separate section on track record is required by some funders (e.g. MRC, BBSRC, EPSRC, NERC)

Alternative Structure

Aim and Objectives introduce the Programme (BBSRC requirement)

1. Background - 5 subsections - sells the project outcomes.
   - Introduction to Background
     - Key Sentences 1-5
   - KS2 Say what makes the outcome important. Then justify in detail.
   - KS3,4,5 Say why we need each research outcome (AIMS) & add detail after each
   -
2. Programme and Methodology - 5 Subsections - Describes the Project.
   - Introduction to Project
     - KS1 & 6-10; then link to project.
   - KS7,8,9 Summarise each sub-project (OBJECTIVE) & the AIM it achieves. Add detail after each.
   - KS10 Say what happens after the project (impact?). Then add detail.
   -

3. Track Record (used to be section 1, can now be anywhere)
   - Concentrate on the achievements that show the team can complete the project
   - Used to be 2 pages, saving can be used for the rest of the case for support.

EPSRC Guidance

- Previous Track Record (up to 2 sides)
- Description of proposed research and its context (6 sides)
  - Background
    * Introduce topic and explain academic and industrial context
    * Demonstrate understanding of related work
  - National importance
    * Contribution to other disciplines, economy & society.
    * Long term effects; relation to national strategic needs.
    * Fit with UK research & EPSRC's portfolio, research areas & strategy.
  - Academic impact
    * Describe academic impact
    * Explain collaborations; justify Visiting Researchers
  - Research hypothesis and objectives
    * Set out your research idea or hypothesis
    * Explain why the proposed project is novel and timely
    * Identify the overall aims of the project, and the measurable objectives
  - Programme and methodology
    * Detail and justify research methodology
    * Describe the work programme & milestones for each member of the team,
    * Explain how the project will be managed.

AMD's Suggested Structure for EPSRC

- Track Record
  - You probably don't need 2 pages: use some of it for pilot data
- Background
  1. Introduce topic and explain academic and industrial context
  - Research hypothesis and objectives
    * Set out your research aim, idea or hypothesis (KS-1)
    * State the aims and / or objectives using KS 3-5 or 7-9 or both
  2. National importance
     - KS 2; followed by project-level specifics.
  3. KS 3; Why this aim is important & feasible
  4. KS 4; Why this aim is important & feasible
  5. KS 5; Why this aim is important & feasible
- Programme and methodology
  6. General intro; justify research methodology
  7. KS7; Details of subproject
  8. KS 8; Details of subproject
  9. KS 9; Details of subproject
  10. KS 10; This section can be about impact or follow on. Should tie up loose ends
      - Explain how the project will be managed.

The Success Proposition

The Success proposition:- Sentences 3,4,5 combine with 7,8 and 9 to convince the reader that the project will tell us what we need to know.

3. We need to know A (because B).
4. We need to know C (because D).
5. We need to know E (because F).

. . .

-

7. We will do X and it will tell us A.
8. We will do Y and it will tell us C.
9. We will do Z and it will tell us E.

. . .

-
- Avoid:-
- 7. We will discover A (No subproject).
- 3. We need to do X (No outcome)
- 4. Because of D we need to know C (Use the same sentence structure if possible)

- 7. We will do X and it will tell us a. (Reader won't know that a=A)

The Elevator Pitch

Makes the Importance Proposition

1. Sentence 1 should have 3 parts:-
    1. What the project will achieve, in 'big picture' terms.
    2. How it will achieve it (your research approach).
    3. An example of your achievements using that approach, to show you are competent.

. . .

- EG
- This project will develop a potential treatment for stroke, using an in vitro brain slice model to optimise synthetic metabolic inhibitors discovered in my laboratory.

. . .

2. Sentence 2 says what it is that makes the outcome important. For example….
    1. Quantify the real-world problem it will help to solve.
    2. Say what it will allow us to do that we can't do now.
    3. Prepare to say which named priorities of your funder it contributes to, and how?

. . .

- EG
- Caring for the 1.2M UK stroke survivors costs over £1.7 billion a year.

Writing Guidelines

- Should repetitions use the same words or different words?

. . .

- Same words: NO SYNONYMS

. . .

- Key statement at the start of every section
- Re-use tag phrases across key statements & in headlines

. . .

- Punchline at top of para (~6 paras per page)

. . .

- Strong Verbs (no adverbs, no nominalisations)

. . .

- Short sentences
    - Health Check

. . .

- Avoid value claims (state evidence instead)

. . .

- Bullet lists good, lists in sentences bad.

. . .

- NIUTEIISPOU

. . .

- – No initialisations unless the expansion is in the same paragraph (or unnecessary)

Back to Programme

Nominalisations

- A nominalisation is a noun phrase constructed from a verb,

. . .

- which can be used with a general purpose verb to create a flabby, pompous, long-winded way of saying something simple.

. . .

- We will investigate X
  - We will carry out an investigation into X
- We will analyse
  - We will undertake an analysis of

Aims & Objectives

. . .

- Nobody is sure what Aims & Objectives mean, so you can hijack them to reiterate the sales pitch.

. . .

- Background/Literature review
  - Explains how 3 research outcomes are really important.
  - Make achieving the outcomes the AIMS
  - You could also couch them in terms of hypotheses or research questions.
- Description of Project/Methods/Research Plan
  - Describes the research activities in each of 3 sub-projects and makes it clear that they will produce the 3 important outcomes.
  - Make the subprojects the OBJECTIVES.
  - You could also call them Work Packages.

. . .

- The AIMS and OBJECTIVES deliver the sales pitch.
  - Use Tag Phrases so Aims match Objectives

  - Order them so they match the structure and the wording of the case for support.
  - Always try and give both, even if you are only asked for one.

Subprojects

What is a sub-project?

- You break your project into components (subprojects) to make it easier to explain.
  - The sub-projects can be sequential
  - Or parallel
  - Or even different analyses of the same data
  - The only requirement is they produce different, important outcomes.

. . .

- Each sub-project produces an important outcome
  - The outcomes map onto the aims or research questions.
    * Which you use to structure the background section of the case for support.
  - That way the explainer will give your sales pitch.
  - Because they will have read the background before the description of the project.

. . .

- The perfect number of sub-projects is 3, but 4 is OK.

. . .

- Don't create dependencies on uncertain outcomes (hostages)

Back to Programme

Presenter

Andrew Derrington has in-depth experience of the research funding process. He obtained his first research grant, a Beit Memorial Fellowship for Medical Research, while he was writing his PhD. His research was continuously funded by fellowships, project and programme grants for the next 30 years. He served on research grant committees for The Science and Engineering Research Council, the Medical Research Council and the Wellcome Trust. His book, *The Research Funding Toolkit*, which he co-wrote with Jacqueline Aldridge, research and enterprise associate in the School of Psychology at the University of Kent, is the definitive guide to grant writing for early career academics and research professionals. It is based on Andrew's analysis of how grants committees make funding decisions.

Andrew has worked in eight Universities including two in the world top ten.

He has also worked as a journalist. Over several years he wrote two successful columns in the Financial Times. *The Nature of Things* covered science - from astrophysics to zoology. *Psych Yourself Up* was a guide to the different psychotherapies available in the UK.

Andrew set up Parker Derrington Ltd in 2013. He now works as a consultant, writing research grant applications and providing strategic advice and training to individuals and organizations.

Testimonials

I had a fantastically useful time attending your recent workshop at Leicester University. Writing the 10 key sentences was a very useful exercise and I have, since, worked on them to discover they are a fab tool for any kind of writing really.

Dr Ranjana Das, University of Leicester

Andrew blends easy authority and extensive experience with humour and approachability. The result is a workshop full of practical, memorable advice on how to compete more successfully for research funding.

Professor Peter Clegg, Institute Institute of Ageing and Chronic Disease, University of Liverpool

I attended one of Andrew's workshops when I was a senior lecturer. The hands on advice about how to structure my applications in a really appealing fashion enabled me to win a grant of nearly ¬£600K the next year. I still implement the advice that I received in that workshop, and pass it down to junior colleagues. I find that Andrew's advice has a high success rate!

Prof Theresa Gannon, University of Kent

I still use the tips you gave me for my successful Wellcome SRF application. Your advice on "12 key sentences" is spot-on and helps people focus on the aspects of the proposal that are critical to success instead of getting bogged down in reams of text.

Prof Mark Baxter, Mount Sinai School of Medicine

Andrew's grant-writing workshops teach you how to convince the world that it needs your research. They are the most useful training events I have ever attended. His advice about how to sell the big idea without compromising on the science was critical to the success of our ¬£9.3 million ESRC application.

Prof Julian Pine, University of Liverpool