

## The Research Project Canvas

### What is the Research Project Canvas and how can you use it?

The Research Project Canvas is a tool you can use to plan your research project. It provides a simple, quick way to summarize the big picture without having to write long documents or summaries. Based on the [Business Model Canvas](#), the Research Project Canvas is designed to provide a snapshot of the main components of your research project. It is meant to be a living document that you can come back to as your plan matures and changes.

The Research Project Canvas prompts you to think about the different aspects of your research project. You can use the canvas to start planning the components you will need for a successful project and grant application before writing your proposal. You can share your canvas with your internal peer review committee and use it to guide a test your concept, chalk talk or pitch session. You can also share it with your research team and use it to collaboratively plan a team project.

### How to complete your canvas

The Research Project Canvas includes guiding questions to help you think about each section of the canvas. Complete the canvas in point form using Adobe (template provided on p.3) or [PowerPoint](#), use sticky notes on an enlarged printed copy, collaborate with your team using a virtual whiteboard, or draw a canvas on a actual white board. See our [Guide to File Sharing and Online Collaboration](#) for more information about online brainstorming and remote collaboration. Remember, the canvas should be a simple, living document that encompasses a high-level overview of your project plan.

### What to do once you complete your canvas

As you develop your project plan you can use other resources from our [Project Management Toolkit](#) to further design and effectively present different components in a research grant application. The Research Project Canvas guide on page 2 contains links to other section(s) of the Toolkit that contain related resources. The guide also indicates (in brackets) where you might use the information on your canvas in a grant application.

### Other ways to use a canvas

Our Research Project Canvas is just one version of a canvas. While we designed our canvas to be flexible and incorporated the key components of most research projects, you may find a different version that better suits your needs. Many other canvases exist, including ones that help you:

- **Create your Equity, Diversity and Inclusion plan**
  - *The EDI Canvas* ([guide and template](#); created by the OADR Grant Development Office)
- **Create your research team, onboard new team members and manage relationships**
  - *The Team Canvas* ([instructions/example](#); [template](#))
- **Create a commercialization/business plan**
  - Business Model Canvas ([template](#))

### Related Resources

- OADR Grant Development [Project Management Toolkit](#)
- [Guide to File Sharing and Online Collaboration](#)

# THE RESEARCH PROJECT CANVAS (guide)

## Key Partners

(research team, experience and expertise; letters of support)

- Who do you need on your research team?
- Who do you need to engage?
- Who do you need support from?
- What will each provide? What **key activities** will they perform? What **strengths** do they bring?

**Related:** [Theme 3 - Governance](#)

## Key Activities

(specific aims, research approach, scope of work)

- What are the key activities you will need to complete?
- What experiments and methods will you employ?
- What data will you collect?
- Are there other activities that are part of your project? (e.g., HQP training, community outreach)

**Related:** [Theme 2 - Milestones, Timelines & Deliverables](#)

## Research

### Question/Hypothesis

- What is your research question, hypothesis and specific aims?
- What are your short-term and long-term goals?

### Value Propositions

(importance and significance, outcomes)

- What is the value proposition(s) for each of your target groups?
- What problem or gap are you addressing and why is it important to each of your target groups?
- How will your research help?

## Relationships & Engagement

(governance, engagement, HQP training plan, research team)

- Do you have relationships with your key partners and target groups?
- How do you interact and communicate with each group? How frequently?
- How will you nurture and manage these relationships?
- How do you consider principles of equity, diversity and inclusion in these relationships?

**Related:** [Theme 3 - Governance](#)

## Target Groups

(knowledge translation plan)

- Who will be interested in or impacted by your research?
- At what point will they be interested/impacted?
- Are there groups who may be negatively impacted?

## Key Resources & Strengths

(experience, expertise and research environment)

- What is your unique advantage?
- What resources do you have? (e.g., equipment, expertise, experience, data, samples)
- What resources will you need to acquire?

## Risks and Constraints

(risks/limitations & mitigation strategies)

- What are the risks, challenges and limitations?
- What are the constraints within which you need to work?
- How will you deal with these?
- Are there debates, controversies or trends in the field that you need to contend with?

**Related:** [Theme 4 - Risks & Limitations](#)

## Knowledge Translation & Sharing

(knowledge translation plan, data management plan)

- How will you share information, data and/or results with each of your target groups, with your research team and partners?
- How will you make your data findable, accessible, interoperable and reusable (FAIR)?

(funders, peer review information, suggested/excluded reviewers)

- Who might fund this work? Which funders/competitions? Which review committees would be interested in this project? Are there funders or reviewers who would not be receptive to your research?

## Costs (budget)

- What are the financial costs?
  - Personnel, materials/supplies, equipment, infrastructure, knowledge translation, travel, other
- What is the opportunity cost to you and your partners, professionally and personally? (e.g., time, energy, staff, personnel)

## Performance Indicators

(performance measurement plan, governance, milestones)

- How will you track progress and measure success? How frequently will you measure?

**Related:** [Theme 2 - Milestones, Timelines & Deliverables](#)

## Benefits & Outputs

(deliverables, HQP training plan)

- What are the **benefits** to you and your key partners? Why are your partners/team members motivated to participate?
- What are the **anticipated outputs**? What will your research “produce” (e.g., knowledge, tools, publications, highly qualified personnel)

**Related -** [Theme 2 - Milestones, Timelines & Deliverables](#)

**THE RESEARCH PROJECT CANVAS** (fillable PDF)

**Key Partners**

**Key Activities**

**Research  
Question/Hypothesis**

**Relationships &  
Engagement**

**Target Groups**

**Value Propositions**

**Key Resources &  
Strengths**

**Risks and Constraints**

**Knowledge Translation  
& Sharing**

**Costs**

**Success Indicators**

**Benefits & Outputs**

**THE RESEARCH PROJECT CANVAS** (Example 1) – This is a hypothetical example that demonstrates how to use the canvas.

<p><b>Key Partners</b></p> <p>Dr. X - collaborator; mouse models</p> <p>Dr. Y – collaborator; imaging expertise, access to microscope facility</p> <p>Dr. Z – collaborator; disease/clinical expertise &amp; relevance</p> <p>Dr. B – collaborator; reagents/vectors</p>	<p><b>Key Activities</b></p> <ul style="list-style-type: none"> <li>Identify which channels are involved and colocalize with Protein A</li> <li>Determine how the channels control neuronal firing</li> <li>Determine how Protein A’s localization is controlled and how this affects firing</li> </ul> <p>Microscopy &amp; biochemistry for colocalization; electrophysiology; mouse studies</p>	<p><b>Research</b></p> <p><b>Question/Hypothesis</b></p> <p>How does Protein A contribute to calcium-dependent control of neuronal firing?</p> <p><b>Hypothesis:</b> Protein A colocalizes with calcium-dependent ion channels to downregulate firing.</p> <p><b>Value Propositions</b></p> <ul style="list-style-type: none"> <li><b>Neuroscientists, neural coding researchers</b> – improved understanding of neuronal firing</li> <li><b>Ion channel researchers/cell biologists/neuroscientists</b> – New methods to visualize ion channels; new mouse models</li> <li><b>Pharma</b> – new drug targets, repurpose existing drugs</li> <li><b>Patients/families</b> – future treatments; better understanding of their condition</li> </ul>	<p><b>Relationships &amp; Engagement</b></p> <ul style="list-style-type: none"> <li>Existing contract with pharma company A; bi-monthly meetings</li> <li>No existing relationships with patients/families but Dr. Z could assist when/if appropriate</li> <li>Attend annual neuroscience meeting</li> <li>Member of neuroscience association (meet 4x per year, mailing lists, committees)</li> <li>Trainees: weekly 1-on-1 &amp; lab meetings; visit lab daily</li> </ul>	<p><b>Target Groups</b></p> <p><b>Immediate users</b></p> <p>Researchers studying:</p> <ul style="list-style-type: none"> <li>Neural coding</li> <li>Calcium-dependent processes</li> <li>Ion channels</li> <li>Neuroscientists, cell biologists</li> <li>Patients/families with neurodegenerative disease, cognitive impairment</li> <li>Pharma</li> <li>CIHR Project Grant or appropriate priority competitions (focus on health implications)</li> <li>Institute of Neurosciences, Mental Health and Addiction</li> <li>Neurosciences A or B committee</li> <li>Brain Canada</li> <li>NSERC (if framed as basic neuroscience question)</li> </ul>
<p><b>Key Resources &amp; Strengths</b></p> <ul style="list-style-type: none"> <li>Preliminary data showing . . .</li> <li>Customized imaging protocols</li> <li>Specialized microscopes</li> <li>Track record studying protein A and electrophysiology (many publications)</li> <li>50% protected research time</li> <li>Experience collaborating/publishing together</li> <li>Existing trained Ras, PDFs and students</li> <li>Can access core microscopy in Edmonton if needed.</li> </ul>	<p><b>Risks and Constraints</b></p> <ul style="list-style-type: none"> <li>Antibodies don’t perform well; need to test additional commercially available antibodies and optimize conditions</li> <li>Can only get 5 hours of microscope time/week; may need to use core facility in Edmonton as well</li> <li>Trainee 2 may go to med school – would need to recruit/train new student</li> </ul>		<p><b>Knowledge Translation &amp; Sharing</b></p> <ul style="list-style-type: none"> <li>Open access publications in neuroscience journals</li> <li>Data deposited in open access databases</li> <li>Present at Society for Neuroscience meeting</li> <li>Will set up shared drive for team</li> <li>Will keep data in CSV and TIFF files; reports in PDF</li> <li>Will submit manuscripts to preprint servers</li> </ul>	
<p><b>Costs</b></p> <ul style="list-style-type: none"> <li>3 trainees (2 PhDs, 1 PDF); reagents – antibodies, cell culture; mice; microscopy fees; publications; travel and conference fees</li> <li>~half of my protected research time; will need to reassign trainee 1 to this project so genetic project will take 2x as long or will need to recruit new trainee for that project</li> </ul>	<p><b>Performance Indicators</b></p> <ul style="list-style-type: none"> <li>Number of ion channels screened (20 screened by year 2)</li> <li>Publications in years 2, 3, 5</li> <li>Students graduated in Year 3 and 5</li> </ul>	<p><b>Benefits &amp; Outputs</b></p> <ul style="list-style-type: none"> <li>~3 publications</li> <li>Training of 3 HQP (2 PhDs, 1 PDF)</li> <li>New reagent (antibodies, mouse models) for future studies</li> <li>Increased microscopy proficiency</li> <li>Trainees: learn how to do super resolution microscopy and statistics; animal handling; oral skills from presentations; build network)</li> </ul>		

**THE RESEARCH PROJECT CANVAS** (Example 2) – This is a hypothetical example that demonstrates how to use the canvas.

<p><b>Key Partners</b></p> <ul style="list-style-type: none"> <li>• Physicians – Dr. A, B, C (recruitment)</li> <li>• Clinical Coordinators in Calgary, Edmon., Van., Paris</li> <li>• Dr. X (biostatistician)</li> <li>• Dr. Y (health economics)</li> <li>• Dr. Z &amp; AbSPORu (patient engagement)</li> <li>• Ms. Q – patient advisor</li> <li>• Data safety &amp; monitoring committee</li> <li>• Clinical Research Unit</li> <li>• Department of Cardiology</li> <li>• Cardiologists in Calgary, Edmonton, Vancouver, Paris</li> <li>• AHS</li> </ul>	<p><b>Key Activities</b></p> <ul style="list-style-type: none"> <li>• Enroll patients</li> <li>• Monitor patients for blood markers, ECG, hospitalization, death</li> <li>• Patient reported outcomes</li> <li>• Collect, clean and analyze data</li> <li>• Conduct cost-effectiveness analysis</li> </ul>	<p><b>Research Question/Hypothesis</b></p> <ul style="list-style-type: none"> <li>• Does drug A improve cardiovascular outcomes in heart failure?</li> <li>• Is drug A cost-effective?</li> </ul>	<p><b>Relationships &amp; Engagement</b></p> <ul style="list-style-type: none"> <li>• Existing relationships/collaborations with Dr. A, B, C</li> <li>• Haven't worked with Drs. X, Y, Z or AbSPORu; will need in person kid-off meeting, regular virtual meetings</li> <li>• Cross paths with Dr. X, Y at Libin functions</li> <li>• Will co-supervise trainees with Dr. Z; will meet monthly</li> <li>• Presented rounds to cardiologists in Edmon. And Van.; participated in studies led there.</li> <li>• See patients with heart failure in clinical; will continue to present to local patient groups</li> <li>• Dr. Y has worked with Alberta Health, AHS and Health Canada</li> </ul>	<p><b>Target Groups</b></p> <ul style="list-style-type: none"> <li>• Cardiologists &amp; heart failure specialists</li> <li>• Patients with heart failure</li> </ul> <p><b>Funding</b></p> <p><b>CIHR</b></p> <ul style="list-style-type: none"> <li>• Randomized clinical trials committee</li> <li>• Clinical investigation D committee</li> </ul> <p><b>Heart &amp; Stroke Foundation</b></p> <p><b>NIH</b> (if we expand to include US sites)</p> <p><b>VPR Catalyst Grant</b> (for pilot data)</p> <p><b>Industry?</b></p>
<p><b>Key Resources &amp; Strengths</b></p> <ul style="list-style-type: none"> <li>• Clinical expertise</li> <li>• Trial experience</li> <li>• Patient population</li> <li>• Administrative data sources</li> <li>• IT infrastructure</li> <li>• Experienced coordinators</li> </ul>	<p><b>Risks and Constraints</b></p> <ul style="list-style-type: none"> <li>• COVID-19</li> <li>• Supply chain issues</li> <li>• AHS restructuring</li> <li>• Poor enrollment or retention</li> <li>• Adverse events</li> </ul>	<p><b>Value Propositions</b></p> <ul style="list-style-type: none"> <li>• <b>Physicians/Patients:</b> More convenient drug (1/week oral vs. standard of care daily dosing) with fewer side effects and better outcomes</li> <li>• <b>Patients:</b> improved quality of life; less expensive drug</li> <li>• <b>Reviewers/funder:</b> will be the definitive study on this topic</li> </ul>	<p><b>Knowledge Translation &amp; Sharing</b></p> <ul style="list-style-type: none"> <li>• Clinicaltrials.gov</li> <li>• NEJM/Lancet: 1) Publish study justification and methods. 2) Study results</li> <li>• Presentations &amp; infographics for patient groups/Heart and Stroke Foundation</li> <li>• Media Interviews</li> </ul>	<p><b>Benefits &amp; Outputs</b></p> <ul style="list-style-type: none"> <li>• Publications/citations</li> <li>• Become world leader in heart failure</li> <li>• Improve future research by gaining experience with patient engagement and health economics</li> <li>• Better treat my patients</li> <li>• New collaborators</li> <li>• High impact publications for team members</li> </ul>
<p><b>Costs</b></p> <ul style="list-style-type: none"> <li>• 3 coordinators</li> <li>• Data storage</li> <li>• Clinical Trial Insurance</li> <li>• Patient honorariums</li> <li>• Publications (2)</li> <li>• Patient costs (drug, study tests)</li> <li>• Site visits; team meetings; conferences</li> <li>• IT/data infrastructure, linkage, programming</li> </ul>	<p>• Reduced time for clinical practice</p> <p>• Large administrative burden for RCTs</p>	<p><b>Performance Indicators</b></p> <ul style="list-style-type: none"> <li>• Site start-up</li> <li>• Study enrollment, recruitment rate</li> <li>• Data completeness, retention</li> <li>• On budget</li> <li>• Safety</li> </ul>		