

Criteria for Assessing Internal & External Funding Applications

Criteria 1: NOVELTY

1. The applicant shows the uniqueness and novelty aspect of the research in terms of new product/techniques/process, modification of existing product/process, additional applications, and cutting edge technology.
2. The applicant also shows:
 - ✓ Supporting data from basic research and literature review on the related research;
 - ✓ End product/platform technology;
 - ✓ Relevant research; and
 - ✓ Prior background search on the study or review of what previously researched (benchmark).

Note:

The above may not apply to Socio-Economic projects. Socio-Economic projects are mainly surveys which involve secondary/primary data and the scientific merit may not be apparent.

3. High impact research : clear and measureable output and outcome in terms of:
 - ✓ Human capital development
 - ✓ Economic contribution;
 - ✓ Societal and environmental well-being.
4. Clearly define the type of R&D:
 - ✓ Basic research: a research that can develop theories, concepts and new ideas towards knowledge development.
 - ✓ Exploratory Research: a research that solves the questions of “what” and “where”. Basically, exploratory research aims to generate new ideas that have not been fully explored. Besides driving towards generating new disciplines, this research can also identify problems related to the specific areas.
 - ✓ Applied Research: an original work undertaken primarily to acquire new knowledge with a specific application in view. It is undertaken either to determine possible use for findings of basic research or to determine new ways of achieving some specific and pre-determined objectives.

Example of FAQ for evaluators:

Is the project proposal doing something new or re-inventing the wheel?
What is/are the expected output(s) and what are their potential applications, if any?

Criteria 2: VIABILITY OF PROJECT TITLE AND OBJECTIVES

1. The project title is:
 - ✓ Precise and specific;
 - ✓ Reflect key idea(s)
 - ✓ Concise (15 words or less);
 - ✓ Clear on what is to be achieved;
2. Objectives are the goals set out to be attained in the research work. Objectives are:
 - ✓ SMART - Specific, Measureable, Achievable, Realistic, Timely;
 - ✓ Parallel with the intended aim of the project;
 - ✓ Clearly but concisely explain **WHAT** is to be done and achieved in the project;
 - ✓ Clear demarcation between objectives and activities;
 - ✓ Correspond to research methodology.
3. The objectives of the project are in-line with the research methodology and the project title.

Criteria 3: PROJECT SUMMARY

1. Project summary has briefly described the problem statement, methodology, expected output and conclusion.
2. Research background covers:
 - ✓ Summary of project proposal;
 - ✓ Problem to be addressed and the necessity of the problem to be resolved;
 - ✓ The relationship of research output with funding provider's objectives;
 - ✓ Overview of current status of existing research work.
3. Specific definitions on the research necessity:
 - ✓ Enhancing national revenue;
 - ✓ Improving social well-being;
 - ✓ Meeting national target in key areas;
 - ✓ Value-adding to existing product;
 - ✓ Development of cutting edge technologies;
 - ✓ Creation of new businesses.

Example of FAQ for evaluators:

What does the researcher attempt to address or what is the research question/problem statement? Is the scope achievable within the project's time frame?

Answer: The scope of the project is focused and achievable within the project time frame. Alternatively the scope of the project is too broad, should focus on objective 1, 2 and 3 only.

Criteria 4: LITERATURE REVIEW SUMMARY

1. Literature Review Summary has:

- ✓ Explained clearly WHY the applicant is proposing the research project by zooming into the problem statements; and
- ✓ A thorough review on all relevant research done in the past and those presently being undertaken around the world.

2. The applicant has:

- ✓ Provided a thorough and up-to-date literature review on the proposed research topic;
- ✓ Indicated clearly where he/she stands and how he/she positions himself/herself for the proposed research topic as compared to other relevant/similar past or on-going research; and
- ✓ References to all major relevant publications including the applicant's own.

Criteria 5: TECHNICAL FEASIBILITY

1. The applicant is evaluated with respect to the applicant's ability to successfully complete the project such as:

- ✓ Methodology is not complicated;
- ✓ Materials are easily available and not be too expensive;
- ✓ Achievable within timeframe;
- ✓ Measurement of parameters has been identified;
- ✓ Background literature review is comprehensive;
- ✓ Has problem statement;
- ✓ Research design has been properly addressed;
- ✓ Has potential for further development and commercialisation.

Criteria 6: PROJECT TEAM COMPETENCY

1. **The Project Leader** has the relevant technical background and professional qualifications necessary for satisfactory performance of the proposed project and shows:

- ✓ Adequate commitment in terms of man month of the project team [excluding Research Assistant (RA)] – 60% minimum;
- ✓ Relevant professional/academic qualifications/research experience necessary for satisfactory performance of the proposed project;
- ✓ Experience (min of 3 years of research experience), Master and PhD are an added advantage for project leader;
- ✓ Project leader is technically fluent & competent in the related project.

2. Research Team Competencies:

- ✓ The research team have the knowledge and competencies to carry out the research successfully to completion;
- ✓ Teams consist of qualified and competent technical members.
- ✓ Project have at least one domain expert as a member;
- ✓ Listing of past projects and achievements; and
- ✓ Provide *curriculum vitae* (CV) as supporting documents.

3. External collaborator:

- ✓ Collaboration will be a merit;
- ✓ Engagement of collaborator with specific scope of work and targeted outcomes / deliverables;
- ✓ Collaborator has detailed out the contribution in term of technical and/or financial assistance, directly involved with the project and technology provider and/or commercialization of project output;
- ✓ Technical services and consultancy cannot be considered as collaborator.

4. Core business of external collaborator is related to area of research.

Example of FAQ for evaluators:

Does the project leader/team have the relevant expertise to carry out the project? If no, please specify the requirements.

Answer: The project leader and the project team have the relevant expertise. Alternatively, the project team should- include food technologist.

Criteria 7: RESEARCH APPROACH

1. Research Methodology is about HOW the applicant achieves the project objectives.
2. The applicant provided sufficient information (clear sequence of stages & phases of the proposed methodology) to determine whether the chosen methodology (new or established methods/techniques) is appropriate to achieve the project objectives.
3. The research methodology clearly demonstrates how the applicant plans to tackle the research problem. It has details such as:
 - ✓ Analytical techniques;
 - ✓ Research design and description of research activities;
 - ✓ Specialized equipment, facilities and infrastructure, whether new or existing, required for the project, are identified;
 - ✓ The research problem is clearly formulated;
 - ✓ Approaches are developed to achieve objectives;
 - ✓ The research design including a sample design;
 - ✓ Collection of data;
 - ✓ Analysis of data;
4. The applicant compared the methodology with alternative methods and justify why the approach chosen is the most appropriate.
5. Tangible milestones are established for monitoring and measurement of work performance.
6. The work plan and the list of activities necessary for the project to meet its objectives and, the transfer of research results to customers /beneficiaries are provided.
7. There are at least two (2) milestones per calendar year. The timeline of the research activities and each milestone are reflected in the Gantt chart.
8. It outlines the sequence of the proposed activities and identifies them in numbered stages, steps or phases. Research activities including all timelines are reflected in the Gantt chart:

Note:

- ✓ *Milestone is a marker of project progress and comprise of a set of activities.*
- ✓ *Milestone should be in sequence where applicable;*
- ✓ *The deliverables / indicators of milestone have to be declared;*
- ✓ *Must clearly differentiate between milestones and activities.*
- ✓ *Submission of “project report”, “literature review” and “project completion” could not be considered as milestones.*

9. The applicant stated the possible risks (technology, financial and time risks) that may affect the implementation or completion of the project, including:
- ✓ Element of risks are well defined;
 - ✓ Strategic and regulatory risks (procurement restriction in certain country) are stated;
 - ✓ A Risk matrix table to elaborate the level of risks and its impact to stakeholders;
 - ✓ A Risk mitigation plan.

Example of FAQ for evaluators:

Does the project have scientific merit and is the methodology sound? If yes /no, please specify

Answer: The project has scientific merits and the methodology is sound or appropriate. Alternatively, if methodology is not sound, panel need to specify e.g. sample size inadequate, outdated techniques, need to provide sufficient details such as materials, treatments, controls experimental design, need to repeat for more than 1 season for field trials etc

Criteria 8: PROJECT DELIVERABLES

1. The applicant was able to indicate clearly the type of output expected, market size and demonstrate its potential for commercialisation of new/innovative technologies and/or new IPs derived from the project (if any).
2. The project deliverables (for ScienceFund project) included a functional prototype, which can later be up-scaled and developed for commercialization.
3. The expected Output are in the form of:
 - ✓ Workable prototype, benchmarking against existing method, technique, product, device, process, software, material, service, IPR;
 - ✓ Records of Scientific knowledge;
 - ✓ Technologically / scientifically skilled manpower;
 - ✓ Potential basis for formulation of Malaysian standards;
 - ✓ For Research Institutes, human capital indicators should considers new specialization areas by researchers;
 - ✓ Economic contribution - The indicators are as follows - import substitution, royalties from licensing, revenue from consultancies, cost savings time savings, others.

Example of FAQ for evaluators:

What is/are the expected outputs and what are their potential applications (if any)?
Panel required to state in which sector of the economy the application is intended for.

Criteria 9: SCOPE OF FUNDING (BUDGET)

1. The scope of funding/budget is in line with the respective funding body's rules and guidelines.
2. The budget is justifiable and do not exceed the quantum amount/percentage stated in the funding body's guidelines.
3. Costing of the project is calculated in relation to requirements such as specifications/hardware/software/people/expertise etc.

Sample of FAQ for evaluators:

Is the costing appropriate? If there's a reduction/addition in budget, please specify.