

Enhancing adoption of RIRDC's R&D investments

RIRDC seeks to maximize the adoption of its R&D investments. These notes are a guide to the principles of adoption for RIRDC Advisory Committees and managers, and for researchers to help them to plan their proposals.

Principles

Know and involve your target audience

- The time frame for adoption is shorter when the target audience drives the research agenda.
 - Involve industry /end users in the development of RIRDC Five Year Plans, in R&D Advisory Committees and Producer Initiated Research.
- The more of the stages of adoption covered by a research project / program, the more likely the results are to be adopted.
 - Involve end users (preferably influential “early adopters”) with scientists in project Steering Committees, local on farm trials and research symposia to assist the target audience through the evaluation and trial stages of an innovation.

Match adoption strategies with stages of adoption of target audience

The main stages of adoption are:

- Awareness
- Interest and motivation
- Understanding
- Evaluation / selection of accessible solutions
- Trial of solution
- Adaptation
- Adoption

If the target audience is at the adaptation stage then provide and advertise a “how to” manual; but if the audience is not yet aware that they have a problem, use the mass media to let them know that they do. If there are elements of the population at all stages of awareness, then all of their needs may need to be met with different strategies.

- Know, understand and involve the target audience and utilise this information and relationships to develop suitable adoption strategies.

Understand your target population and how information is communicated within it

Typically a target audience (of potential adopters) will contain:

- innovators
- early adopters
- the “majority”
- late adopters (usually there are also non-adopters too).

Decide which segments of the target audience you are targeting.

- Communication and adoption strategies will be quite different depending upon the “adopter category” being targeted.

Each Program Advisory Committee needs to make a conscious decision on the importance of reaching the “late adopters” and the need to bring them up to a higher level of operation.

- Some industries prefer to focus their limited resources on the top producers who often contribute most of the production and the levies. However, for National Rural Issues such as farm health and safety or environmental management, it is important to reach all farmers, which is much more resource intensive.
- If the full range of adopters is being targeted, sufficient resources need to be made available to implement appropriate adoption strategies.

Where there is a closely knit target audience with good internal communication processes, RIRDC's role in communication / adoption is less significant - the target population will manage the diffusion process quite efficiently and effectively.

Summary

Deciding on the most appropriate adoption processes depends upon the:

- level of understanding and awareness of the target audience
- likely speed of natural diffusion of innovations within the target population
- innovative nature of the target audience
- type of innovation
- external risks and how these can be managed

- Innovators are active information seekers and will access RIRDC reports.
- **Early adopters** have more contact with change agents, greater exposure to mass media communication, and seek information more actively than late adopters. They are also opinion leaders. Target them as industry or product “**champions**”.
- Late adopters are unlikely to seek new information, and considerable effort will be required to convince them of the need to adopt through influential peers and neighbours. They will also require demonstration of adaptation of research outcomes to their local situation.

Match the adoption strategy with the type of innovation

RIRDC funds many different types of R&D, ranging from breeding projects, development of new technologies, development of new management systems, projects which contribute to scientific knowledge and understanding and projects which aim to aid policy making.

The features of an innovation that affect the likelihood of adoption¹ are:

- expected profitability – highly profitable innovations are more quickly adopted.
- degree of certainty about the outcomes.
- scale and complexity of investment required for change.

Classify the type of research outputs according to these criteria, and determine their likelihood of adoption to inform the development of an adoption strategy.

- Cheap and more effective innovations that are easy to implement are adopted quickly and may not need much communication effort.
- Where there is no clear relationship between an innovation and a short term financial gain, there is little certainty about the outcomes, and the innovation is complex and expensive to implement, considerable effort and resources are required to convince the majority of target farmers to adopt.
- Check whether outputs from individual research projects will provide useful information for end-users. Outputs from a group of projects may need to be synthesised to provide knowledge that is helpful to the end user. Such projects may not require their own adoption strategies but may only need a communication strategy targeting other scientists.

Processes and planning

What processes are available to speed up adoption?

There are four main processes for increasing the pace of adoption. These must be selected and utilised in a **clear pathway/plan for adoption** which can be monitored and evaluated:

- commercialisation
- communication / media
- capacity building
- regulation, incentives / policy

Commercialisation

Commercialisation should only be pursued when it is the best way to promote adoption. Commercialisation should be considered as an adoption strategy under the scenarios below.

Consider commercialisation when:

- the research output is a new technology / product that needs to be manufactured / or a new process that is necessary to manufacture a product.
- the technology will “sit on a shelf” and not be easily accessible to users if it is not taken up by the private sector and sold (eg vaccine).
- the product needs to be manufactured and distributed by a private sector company.
- the research outputs lead to a new idea for another research project which leads to the development of a new product, plant variety, software, process.
- the research output takes the form of a new variety of plant.
- there is a business opportunity and likely partners / collaborators who could take on commercialisation of the IP.
- there is a significant market for the research output.

Commercialisation of intellectual property allows RIRDC to put the responsibility of achieving adoption in the hands of a commercial operator. This is an advantage to RIRDC in such cases and therefore this option should be seriously explored in cases meeting the above criteria. However, the transaction costs and time lags related to the commercialisation negotiation and process should not be underestimated.

¹ This is particularly relevant to farmers but could be modified to be relevant to policy makers.

Complex, expensive innovations with long term benefits:

- This is nearly always the case for RIRDC's *National Rural Issues Program* - in particular for innovations related to farm health and safety and environmental management.
- It can also be relevant to Established Industries - The Chicken Meat Program is experiencing this problem in relation to adoption of biosecurity research outputs. The Rice Program has a special “adoption project”, *Rice Check*, to enhance adoption of complex management practices.
- With respect to RIRDC's New Industries program, diversification into a new industry is a prime example of introducing a complex and uncertain innovation.

Communication / media

- A written publication of the research outputs should be produced to define, communicate and make available to target audiences what has been discovered.
- Fact Sheets and Short Reports as well as newsletters often simplify the message from a research report to make it more accessible to the target audience.
- Newspapers, magazines, newsletters and radio can advertise the availability of the research report and the associated innovation.
- These strategies are usually successful in reaching innovators and early adopters. Communication media are also particularly useful in the awareness and interest stages of adoption.
- Such media can also help to facilitate the person to person communication of farmers that is necessary for the evaluation and trial stages of adoption.

Capacity building

Capacity building involves building the capacity, skills and knowledge of the target audience to enable them to adopt and continue to seek out research results. It helps to build a culture of learning and a demand for research outputs. Five extension models are available which provide a suite of options for projects and programs developing a strategy for adoption which include:

- group facilitation/empowerment
- technological development (eg local trials, field days and on-site visits)
- programmed learning (training programs/workshops to increase specific skills)
- information access (eg website, information centre)
- personalised consultant.

Regulation, incentives and other Government policies

Sometimes the only way to ensure that an innovation is adopted, particularly by late adopters, or where it does not confer a high priority advantage to earlier adopters, is through regulation and /or incentive. In this case, RIRDC's role is to carry out the research that proves the innovation has the desired effect and to recommend and communicate it to the relevant agency. Examples of relevance to RIRDC might be safety equipment for farmers; food safety; and management of water tables. A communications strategy is often necessary for RIRDC to effectively communicate findings from such research to policy makers.

Managing factors beyond RIRDC's control

There are several factors affecting adoption success which are beyond the control of RIRDC. These include, but are not limited to changes in markets, the cost of implementing a desired innovation when there is a downturn in industry, whether government implements policies / regulation /incentives which elicit further adoption, industry politics, the lack of a cohesive industry organisation. These are risks of the research and their likelihood must be taken into account and managed appropriately when making investment decisions.

Monitoring and evaluation

Adoption is a long term process and evaluation of success may need to take place some years after project completion. There are many methods available to evaluate adoption processes. To evaluate adoption, it may be necessary to consult with an evaluation/ adoption specialist.