



ADOPT
PREDICT. INFORM. ENGAGE.

The adoption and diffusion outcome prediction tool

Adoption report for:
EID Reader

Report Authors:
Irish NWS group

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For more information about ADOPT contact adopt@csiro.au



Project Details

MODEL

Standard

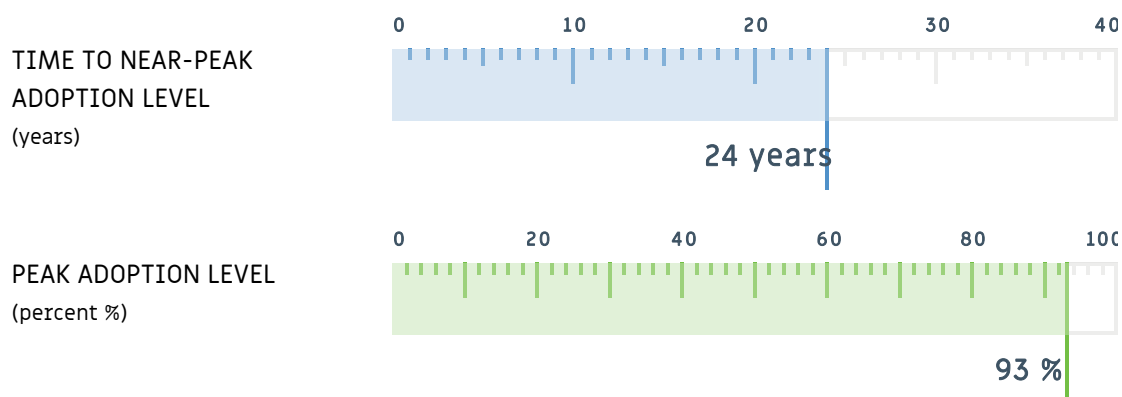
YOUR INNOVATION

Use of EID readers on farms

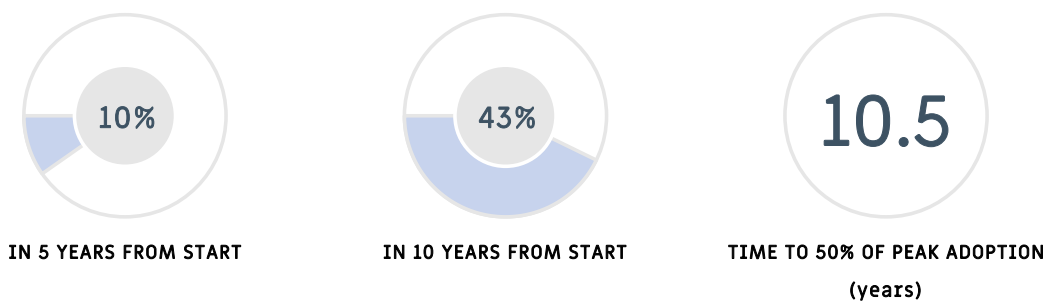
YOUR POPULATION

Smart stakeholders in Ireland

Adoption Level



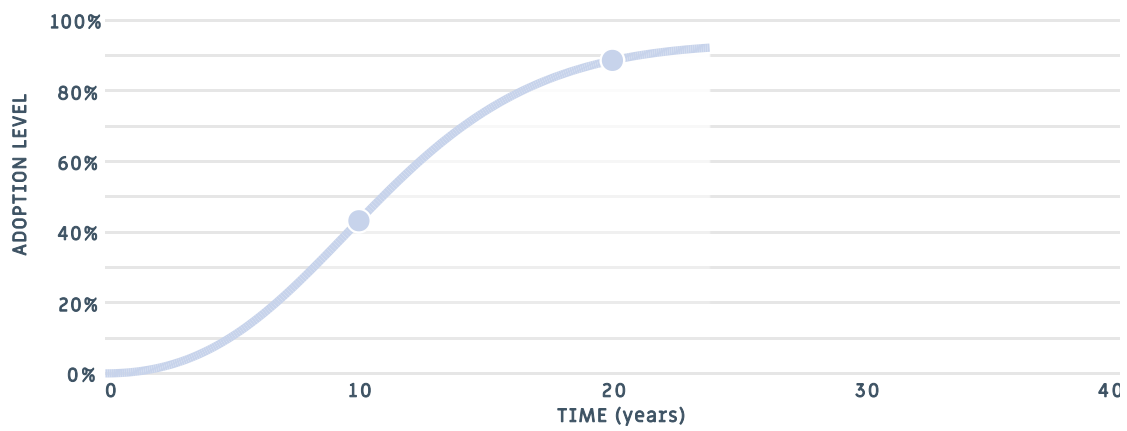
Predicted adoption levels



NOTES: The predictions of Peak Adoption Level and Time to Peak Adoption Level are numeric outputs that are provided to assist with insight and understanding and like any forecasts should be used with caution. Time to Near Peak Adoption represents the time to 99% of the maximum predicted adoption level.

Adoption level S-Curve

The following chart shows how the level of adoption in the relevant population of farmers changes over time.



Yearly Adoption Levels

Year	Adoption %
1	0
2	1
3	3
4	6
5	10
6	16
7	22
8	28
9	36
10	43
11	51
12	57
13	64
14	69
15	74
16	78
17	82
18	85
19	87

20	89
21	90
22	91
23	92
24	93

(Peak Adoption)

Changing the adoption levels

Many of the factors can be changed by activities such as extension. Based on the data entered, the ADOPT model suggests that changing the following factors would have the biggest effect on adoption.

Changing the peak adoption level

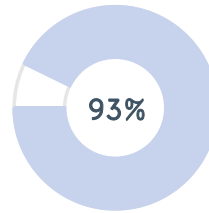
MOST SENSITIVE QUESTION

- 16 Profit benefit in years that it is used

To what extent is the use of the innovation likely to affect the profitability of the farm business in the years that it is used?

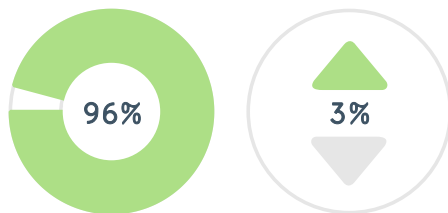
YOUR RESPONSE

Moderate profit advantage in years that it is used



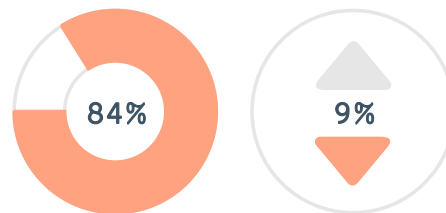
STEP UP RESPONSE

Large profit advantage in years that it is used



STEP DOWN RESPONSE

Small profit advantage in years that it is used



Changing the time to peak adoption level

MOST SENSITIVE QUESTION

- 8 Innovation complexity

Does the complexity of the innovation allow the effects of its use to be easily evaluated when it is used?

YOUR RESPONSE

Difficult to evaluate effects of use due to complexity



STEP UP RESPONSE

Moderately difficult to evaluate effects of use due to complexity



STEP DOWN RESPONSE

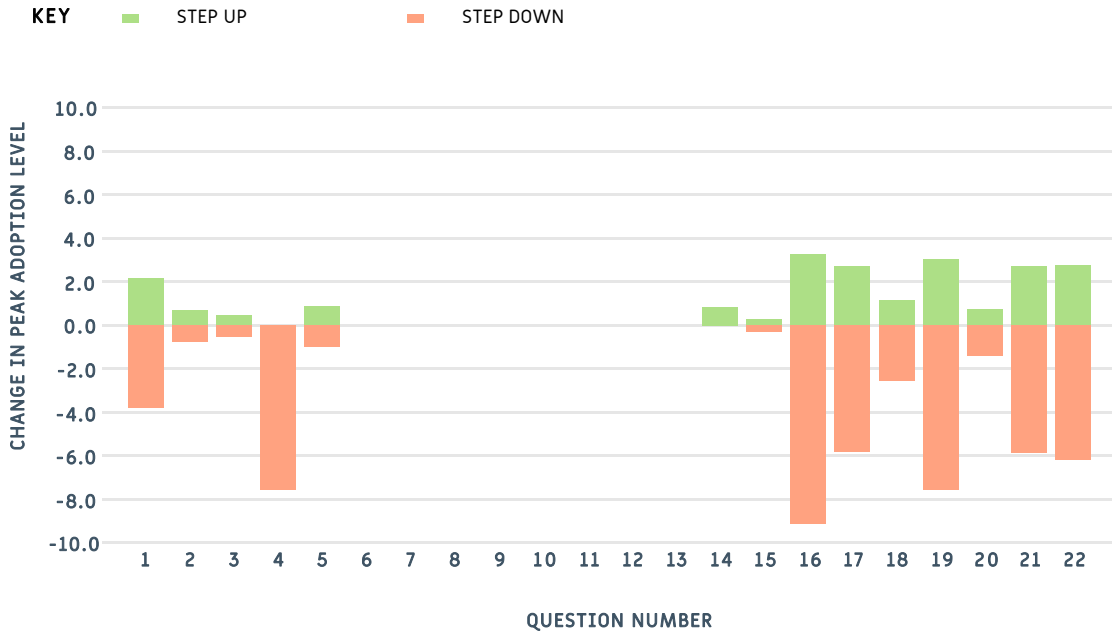
Very difficult to evaluate effects of use due to complexity



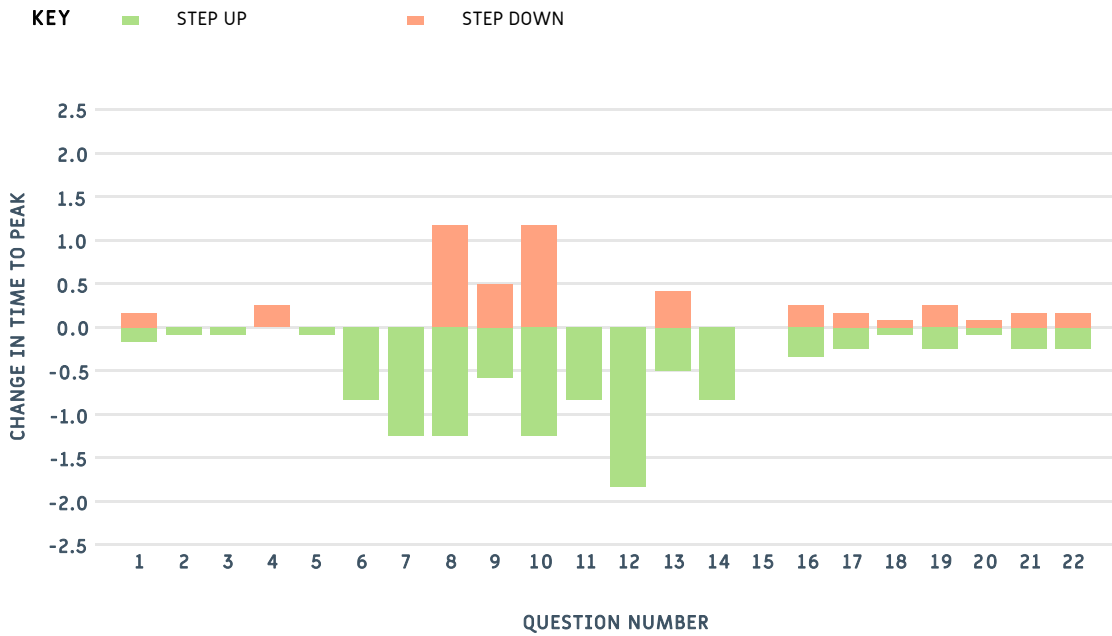
Sensitivity Analysis

The following charts show the effects on Peak Adoption Level and Time to Peak Adoption of single step changes up and down for all questions.

Peak level, sensitivity analysis

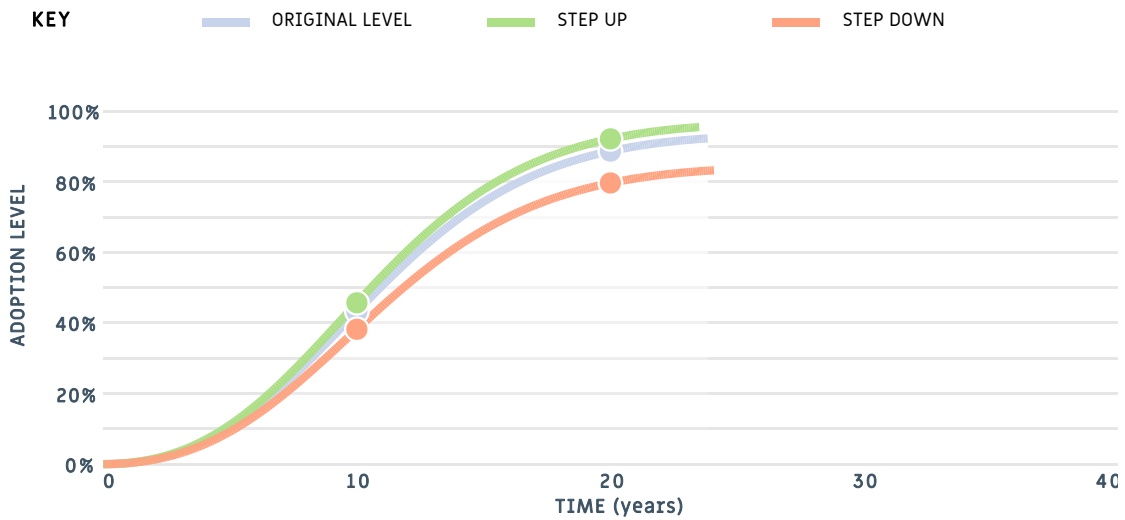


Time to peak, sensitivity analysis

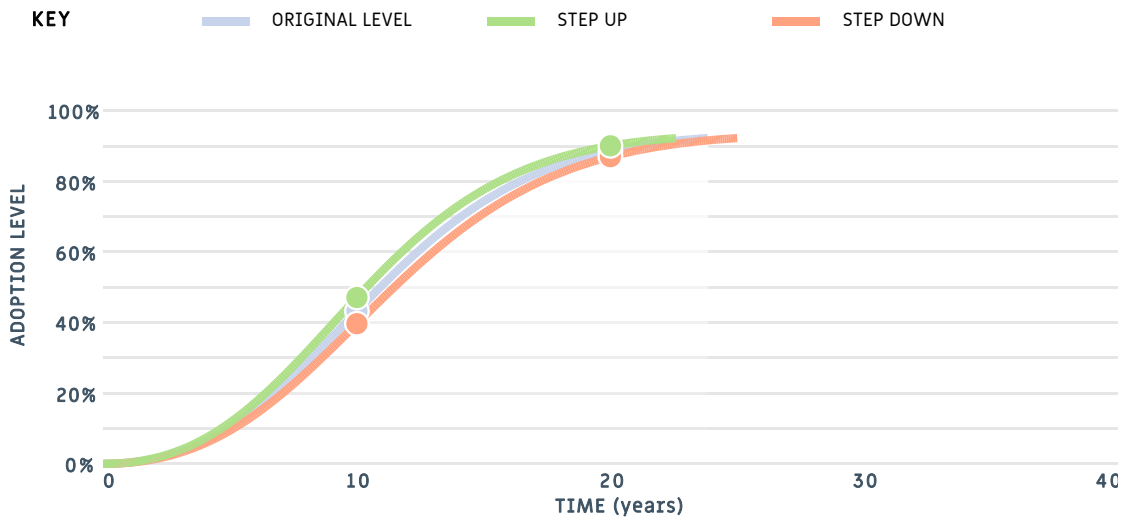


S-Curve Sensitivity

The following chart shows how the S-Curve is predicted to change when a single step change is made to the most sensitive question(s) with respect to Peak Adoption Level



The following chart shows how the S-Curve is predicted to change when a single step change is made to the most sensitive question(s) with respect to Time to Near Peak Adoption.



Responses

Question	Response	Reasoning
Relative Advantage for the Population		
1. Profit orientation	A majority have maximising profit as a strong motivation	
2. Environmental orientation	A majority have protection of the environment as a strong motivation	
3. Risk orientation	About half have risk minimisation as a strong motivation	
4. Enterprise scale	Almost all of the target farms have a major enterprise that could benefit	
5. Management horizon	A minority have a long-term management horizon	
6. Short term constraints	Almost all currently have a severe short-term financial constraint	
Learnability Characteristics of the Innovation		
7. Trialable	Not trialable at all	
8. Innovation complexity	Difficult to evaluate effects of use due to complexity	
9. Observability	Moderately observable	
Learnability of Population		
10. Advisory support	A minority use a relevant advisor	
11. Group involvement	Almost none are involved with a group that discusses farming	
12. Relevant existing skills & knowledge	Almost all need new skills and knowledge	
13. Innovation awareness	A minority are aware that it has been used or trialed in their district	

Relative Advantage of the Innovation

14. Relative upfront cost of the project	Very large initial investment
15. Reversibility of the innovation	Difficult to reverse
16. Profit benefit in years that it is used	Moderate profit advantage in years that it is used
17. Future profit benefit	Moderate profit advantage in the future
18. Time until any future profit benefits are likely to be realised	3 - 5 years
19. Environmental costs & benefits	Small environmental advantage
20. Time to environmental benefit	3 - 5 years
21. Risk exposure	Small reduction in risk
22. Ease and convenience	Moderate increase in ease and convenience

ADOPT can be cited as: Kuehne G, Llewellyn R, Pannell D, Wilkinson R, Dolling P, Ouzman J, Ewing M (2017) Predicting farmer uptake of new agricultural practices: A tool for research, extension and policy, *Agricultural Systems* 156:115-125
<https://doi.org/10.1016/j.agsy.2017.06.007>

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