



# MIDI: Measuring Instrument Determinants of Innovations

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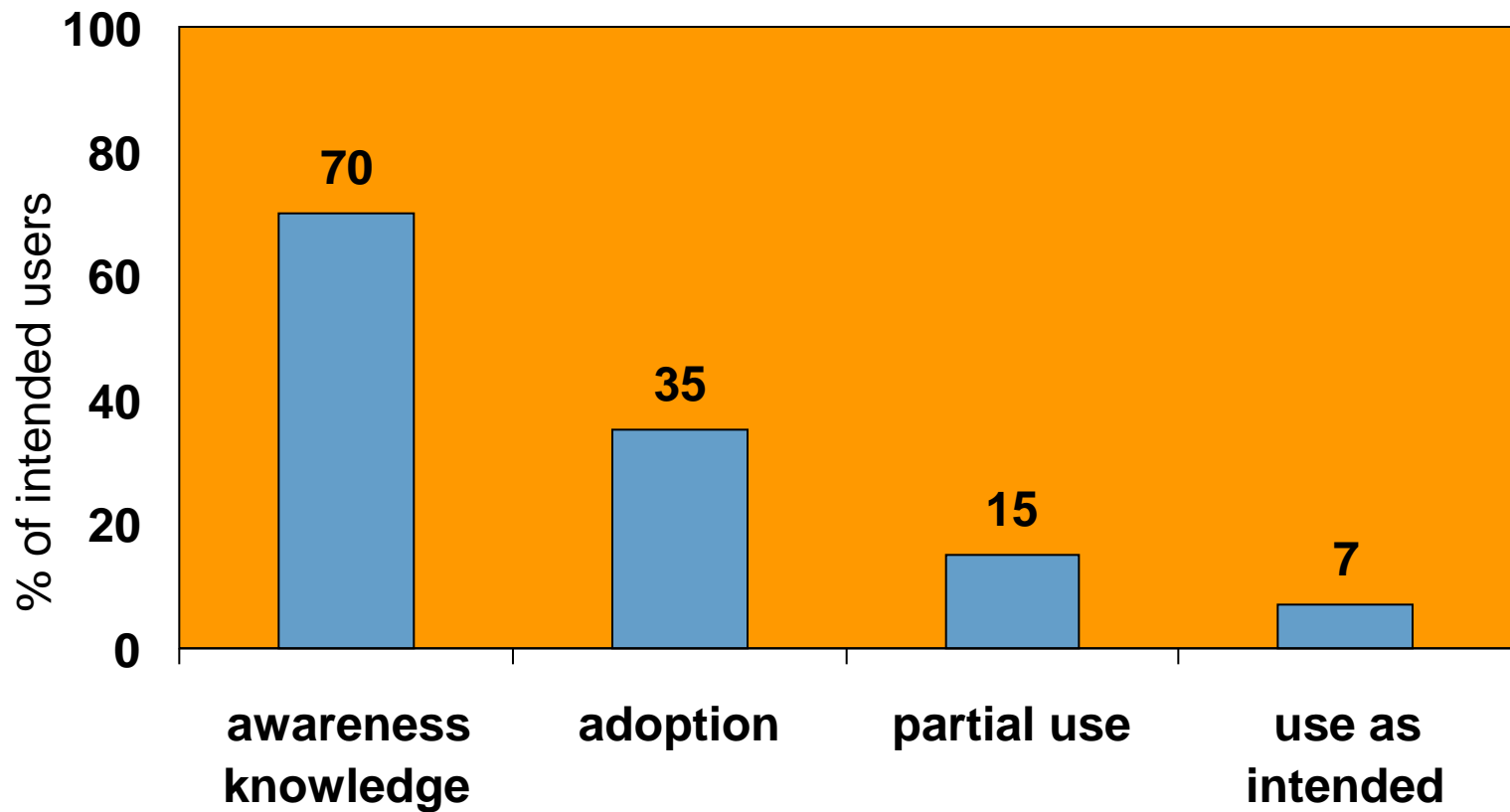
The idea that evidence-based innovations such as guidelines are self-implementing is a myth.





## Innovations in practice after one year

*(Paulussen 1994; Fleuren et al. 2002)*





## Innovation framework

*(Paulussen, 1994; Fleuren, 1997; Fleuren et al., 2004, 2006, 2010)*

### Determinants

innovation

adopting person

organisation

context

Innovation strategy

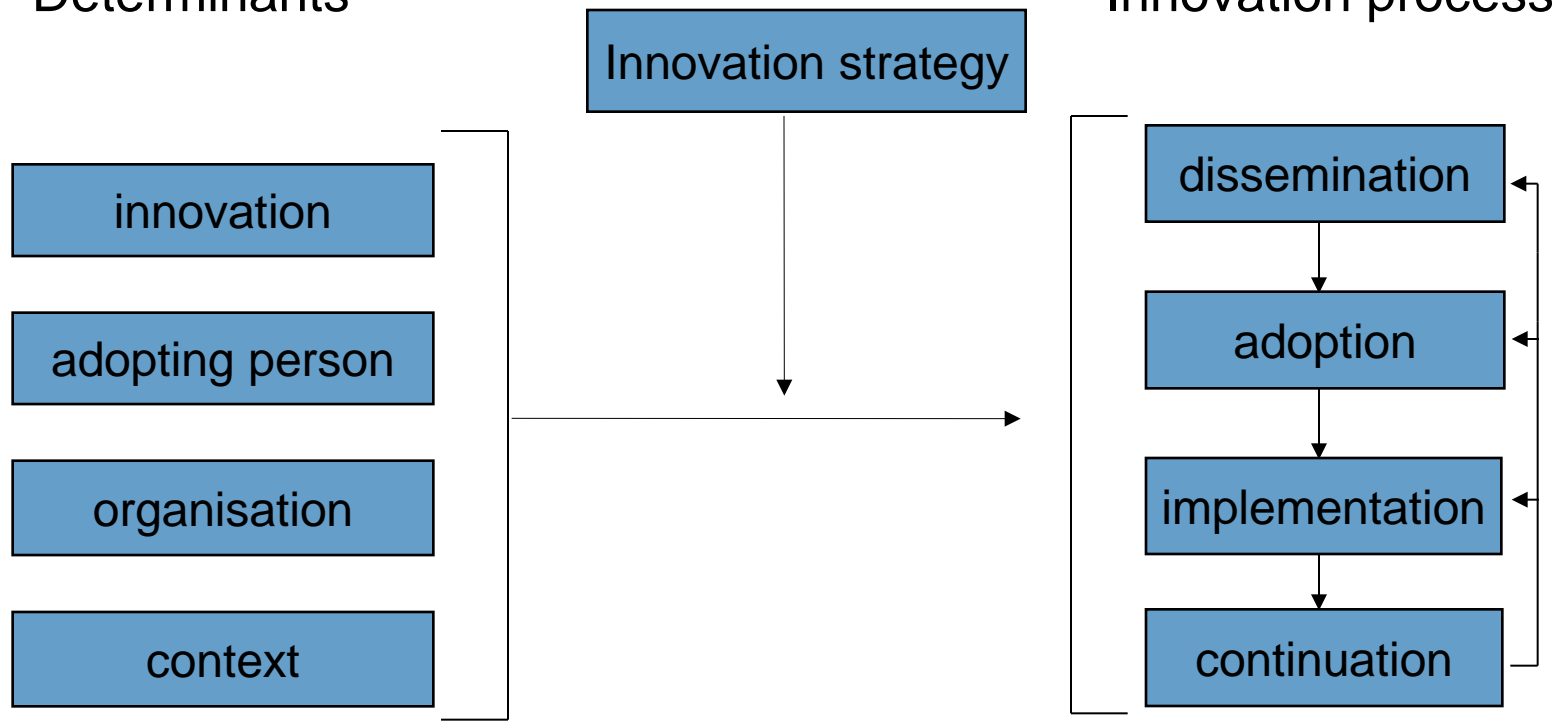
### Innovation process

dissemination

adoption

implementation

continuation





## Measuring determinants

- › Experts widely recognise:
  - › measuring determinants is essential
  - › the need to design innovation strategies
- › No validated instruments available





## Towards an instrument: 1999-2012

- › Systematic literature review and Delphi study
  - › list of 60 potentially relevant determinants in health care
- › List has been used since 2002 in eight empirical studies
  - › implementation of guidelines and programmes
  - › in health care and education



## Research questions

- › Which determinants predict the use of innovations?
- › How should each determinant be measured?





## Methods (1)

- › Meta-analysis of data from the eight empirical studies
- › Each study used a similar method to measure
  - › the level of use (% of core recommendation applied)
  - › determinants
- › The studies measured 39 determinants: 25 were included in the analysis.





## Methods (2)

- › Consultation of implementation experts (n=22) to validate the results of the meta-analysis
  - › operationalisation and response scales
  - › retaining determinants from original list
  - › adding new determinants





## Results

- › Twenty-two determinants were significantly associated with use
  - › explaining 51% of variance
- › Experts added six determinants from the original list
- › Experts proposed one determinant that was not present in the original list
- › MIDI: Measuring Instrument Determinants of Innovations
  - › Questions and answer scales
  - › [www.tno.nl/midi](http://www.tno.nl/midi)
  - › English translation available





## Overview of determinants

- › 7 associated with the innovation
  - › perceived complexity, relevance for client
- › 11 associated with the adopting person
  - › personal benefits/drawbacks, outcome expectations
- › 10 associated with the organisation
  - › formal ratification by management, materials and resources, replacement when staff leave
- › 1 associated with the socio-political context
  - › regulations and legislation

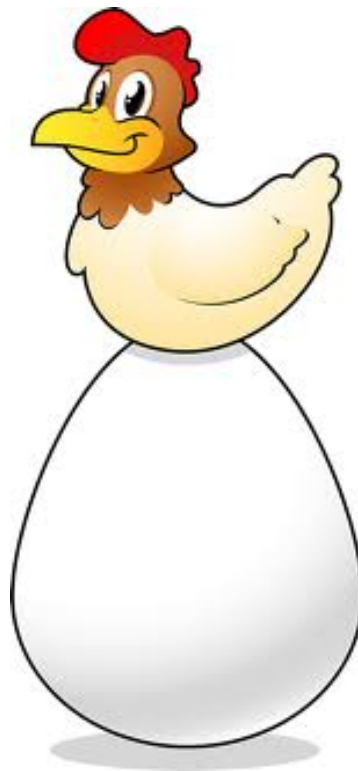


## Conclusion

- › MIDI is a practical tool that improves the understanding of critical determinants
- › Helps to target innovation strategies that can bring about actual use
- › Invitation to explore MIDI and share results
- › Refining the instrument



## Questions





## Determinants associated with the innovation

- > Procedural clarity
- > Correctness
- > Completeness
- > Complexity
- > Compatibility
- > Observability
- > Relevance for client





## Determinants associated with the user

- > Personal benefits/drawbacks
- > Outcome expectations
- > Professional obligation
- > Client/patient satisfaction
- > Client/patient cooperation
- > Social support
- > Descriptive norm
- > Subjective norm
- > Self-efficacy
- > Knowledge
- > Awareness of content of innovation



## Determinants associated with the organisation and the socio-political context

- > Legislation and regulations
- > Formal ratification by management
- > Replacement when staff leave
- > Staff capacity
- > Financial resources
- > Time available
- > Material resources and facilities
- > Coordinator
- > Unsettled organisation
- > Information about use of innovation
- > Performance feedback

