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SCREEN CAPTURE
WELCOME

Measuring the social impact of weather warnings with event-based surveys

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The **goal** of our warnings is

to help the population and affected organizations to take measures to minimize casualties, accidents and damage caused by severe weather.

→ How do we know, whether we are on track?

Looking at social impact measurement in the field of non-profit organizations and social entrepreneurship…

Impact measurement in non-profit organizations

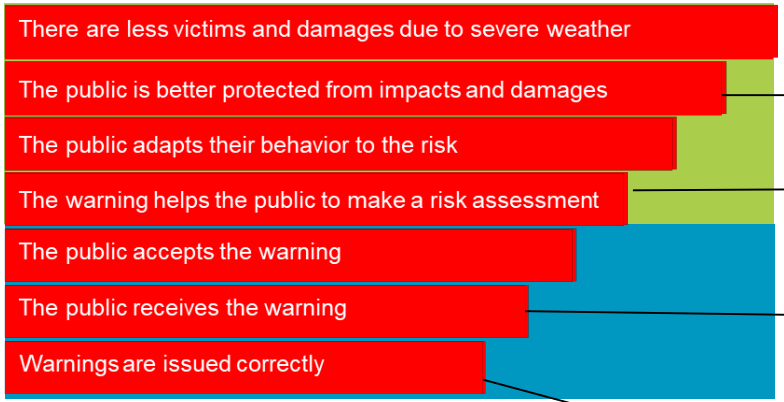
© PHINEO gAG 2016, www.phineo.org – Social Impact Navigator



…applied to public weather warnings



How could we measure social impact of weather warnings?



Examples

% of population that experienced negative impacts due to the severe weather event

% of population that report to have understood the risk and have known what to do due to the warning

% of population that has received our warnings (direct: via MeteoSwiss channels, indirect: via media/ social network / private weather services)

Hit rate, false alarm rate

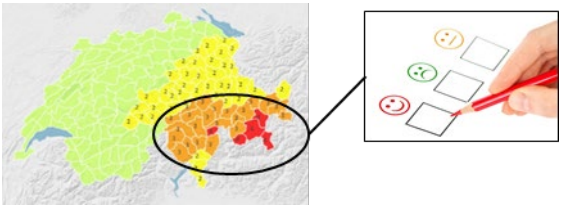
Measuring the social impact of weather warnings with event-based surveys

Challenges:

- Measuring the actual contribution (what would be without MeteoSwiss warnings)
  - Reduction of damage and casualties due to severe weather cannot be attributed to warnings only, but also to e.g. improvements in infrastructure, warnings of others, information campaigns, etc....

How to collect data for our indicators?

Event-based surveys («FlashPolls») @MeteoSwiss



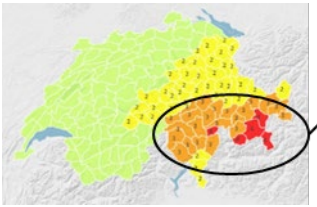
- Pilot phase for one year, starting in October ’22, 6-7 survey waves
- Population surveys 1-2 days after a severe weather event in affected regions
- Questions on different levels of the “impact staircase”:
  - Reachability
  - Satisfaction
  - Understanding
  - Behavioral Change
  - Experienced impact of event

Measuring the social impact of weather warnings with event-based surveys

Challenges:

- Measuring the actual contribution (what would be without MeteoSwiss warnings)
- **Respondents' self-assessment may be biased (e.g., due to social desirability, self-overestimation, memory distortion)**

Event-based surveys («FlashPolls») @MeteoSwiss





In the pilot-phase, we will compare different sampling methods:

Representative population sample of N = 500 per wave

vs.

convenience sample recruited via our channels (e.g., App, Twitter)





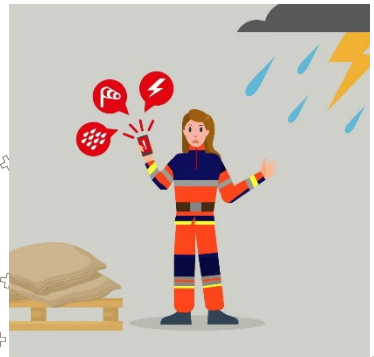
Link to the online survey

Mixed mode:

online vs. telephone

Outlook: One key performance indicator for the social impact of warnings?

Goal	Key Indicator	Measures
Our warnings help the population to take measures to minimize casualties, accidents and damage caused by severe weather.	Percentage of population whom the warning helped to take necessary measures	• Percentage of population who received our warnings • Thereof percentage who say they knew what to do because of the warning • Thereof proportion who, in retrospect, do not think they should have taken different/additional measures



EXAMPLE (no real data)

Goal → **Key Indicator** → **Measures**

Our warnings help the population to take measures to minimize casualties, accidents and damage caused by severe weather.

Percentage of population whom the warning helped to take necessary measures

- *60% received our warnings*
- *Of those, 85% agree with the following statement "Based on the warning, I knew what I could do to protect myself and my property."*
- *Of these, 90% disagree that they should have taken other/additional measures*

60%*85%*90% = 46%



Our warning helped 46% to take necessary measures

Measuring the social impact of weather warnings with event-based surveys

Challenges:

- Measuring the actual contribution (what would be without MeteoSwiss warnings)
- Respondents' self-assessment may be biased (e.g., due to social desirability, self-overestimation)
- **Choosing an appropriate key indicator**

Measuring the social impact of weather warnings with event-based surveys

Opportunities:

- Measuring and quantifying social impact is possible, we can learn from fields such as social entrepreneurship
- Event-based surveys as promising tool
  - To measure the value our warnings create within the population
  - As additional source for impact data
  - As potential data source for a key indicator that is closer to the actual goal of our warnings

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Thank you!

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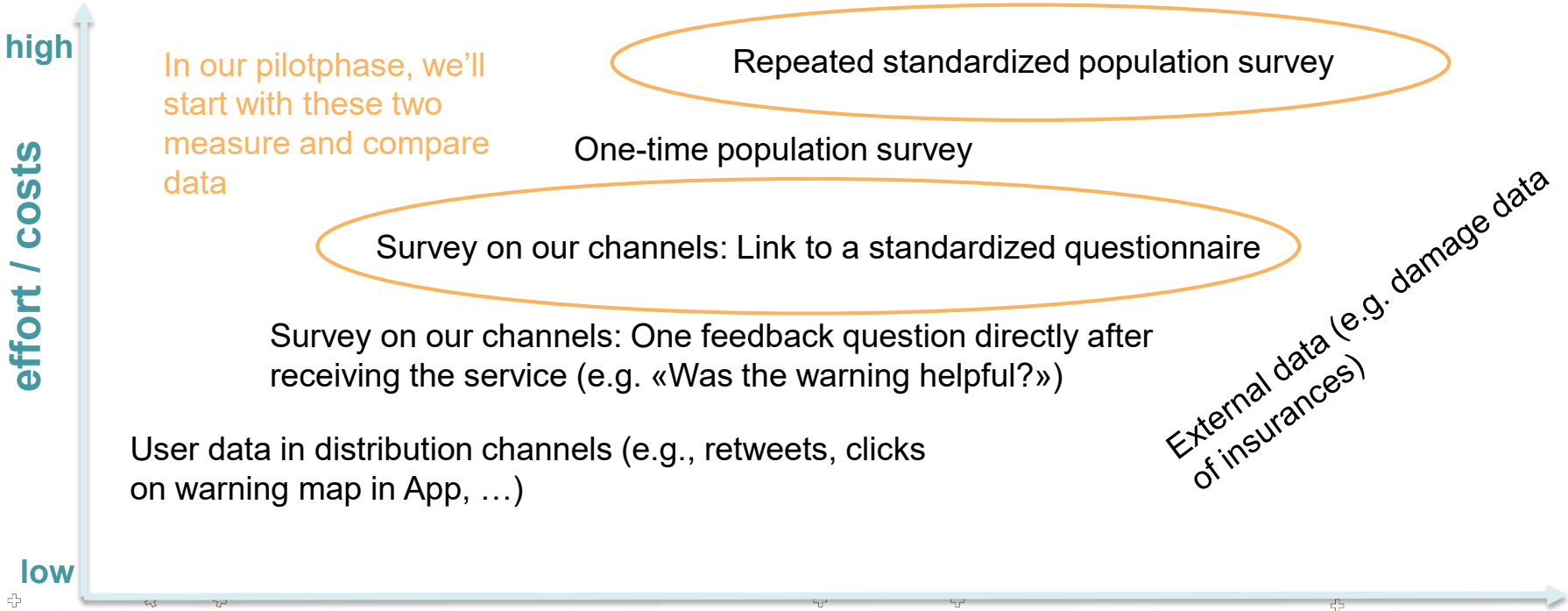
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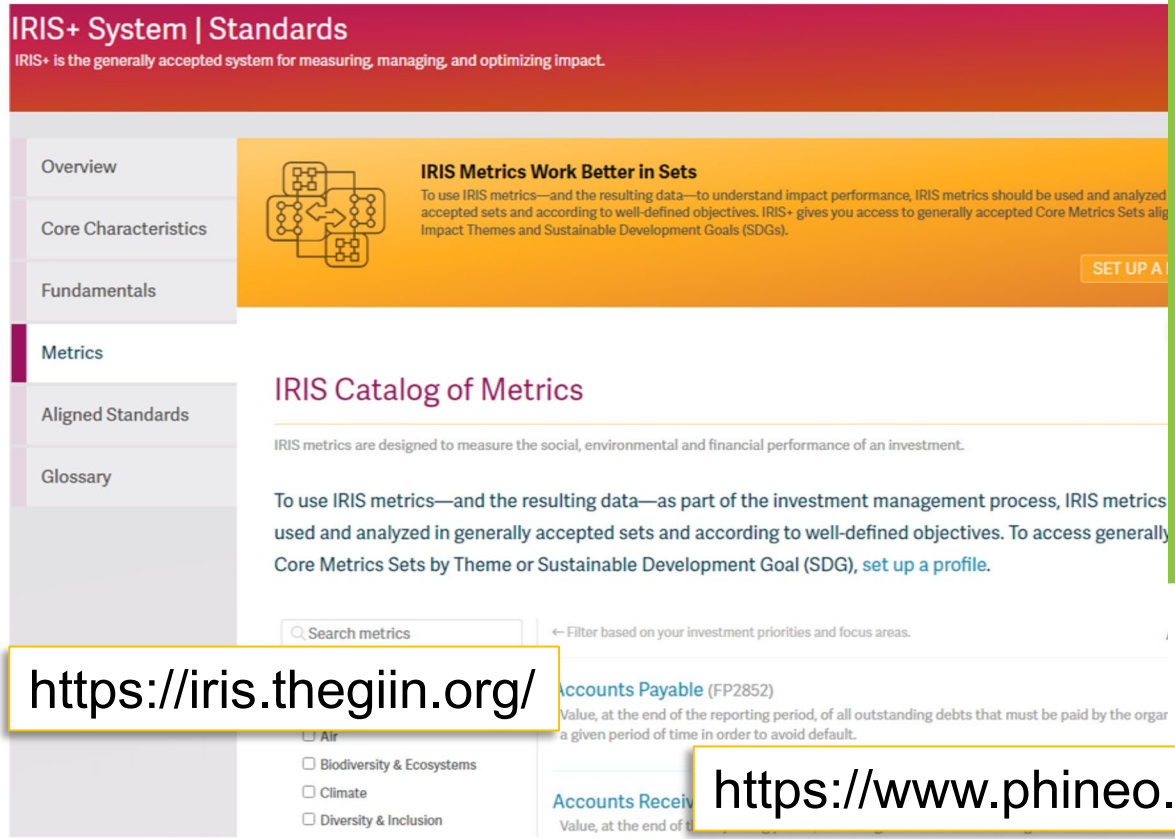
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Annex

Methods for data collection



Some resources on the topic of measuring social impact



https://iris.thegiin.org/



https://www.phineo.org/en/social-impact-navigator