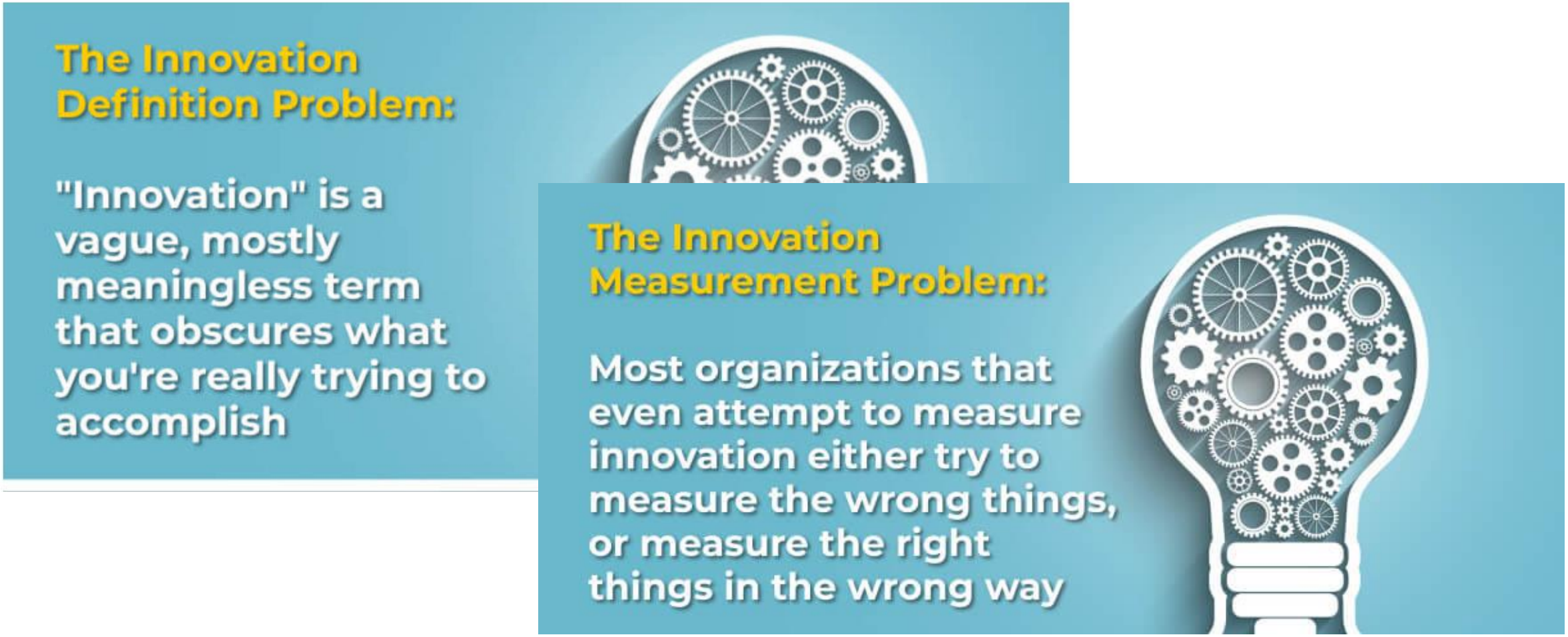
Karlsruher Institut für Technologie

Innovation with a We: Goal-setting in innovation teams

A first Experiment Design

Innovation management in organisations – a more complex problem than we give credit for



These Two Problems Are Why Innovation Initiatives Fail - Hubbard Decision Research (hubbardresearch.com)

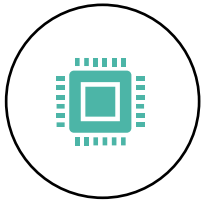
Innovation management in organisations

Innovation teams struggle to define goals & criteria for “innovation projects” in organizations

Members of **innovation teams** tend to have conflicting interests.

Goal-setting can be a powerful process, in bringing clarity & aligning (innovation) teams.

The onset of virtual teams – **which adapt to different users’ states** – has the potential to redefine team processes in a novel way.



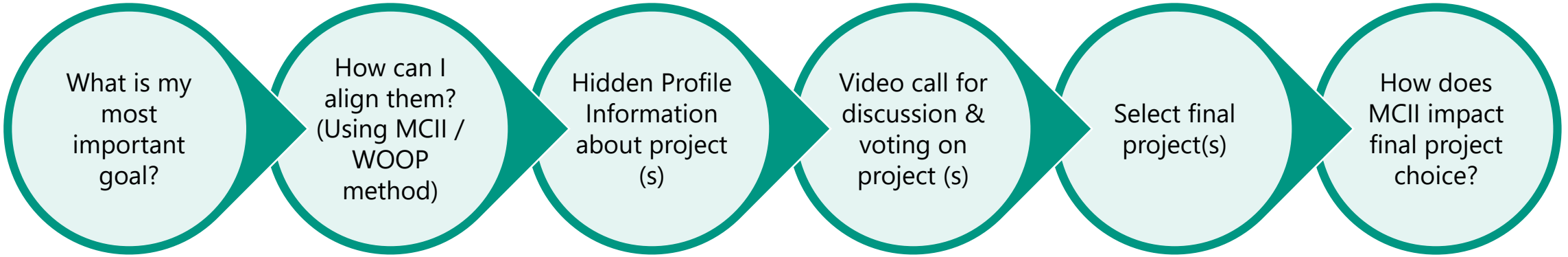
This work: **Goal-setting strategies + adaptive technologies for virtual innovation teams’ processes & performance.**

Strategy phase: Goal-setting

- **Goal-setting strategies typically focus on goals** but not the **process** behind defining the goals.
  - Lack the **interactive negotiating element**, particularly needed for teams.
- A good alternative for goal-setting in teams:
- **WOOP/Mental contrasting with implementation intention** (Kirk et al. 2013)**:**
  - **Wish**: Define goals
  - **Outcome**: Define outcome
  - **Obstacle**: this can be in the form of an obstacle from a (team) member
  - **Plan**: negotiation alternatives – how you will adapt your goal in case of obstacles from team members
- Goal-setting processes were seen to be successful in dyads, but not extended to teams.

- ***RQ1: Does a mental contrasting strategy for negotiating goals improve team processes & outcomes?***

Goal-setting & project decision

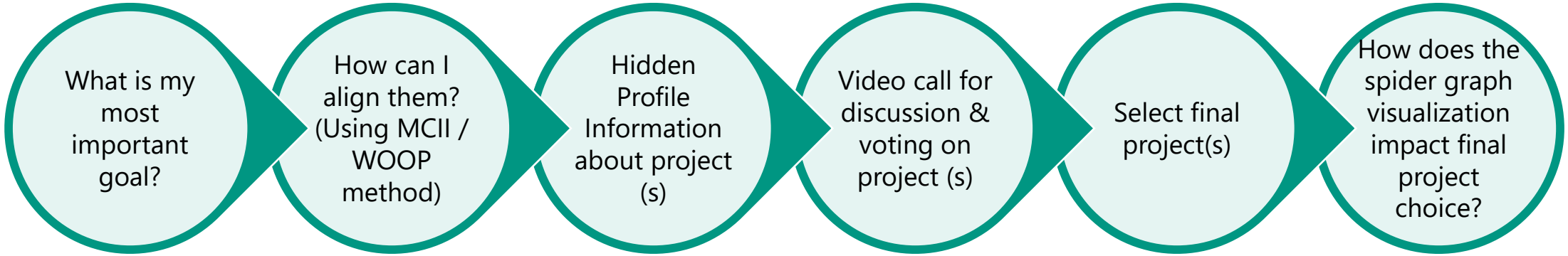


Portfolio management: Group decision-making

- **Shared Mental Models (SMM)** are dispersed systems, which unite knowledge structures to collaboratively agree upon individual representational conditions via delineated media (Banks and Millward 2000).
- Provides a **collaborative comprehension** of every team member, although individual mental models vary (De Vreede et al. 2012)
- Shared digital whiteboards shown to increase team effectiveness, performance and satisfaction levels (Siemon et al. 2017)
- However, there is little work on a **Shared visualization of goals in (adaptive) video meetings**, and its impact on team performance

- ***RQ2: Does a shared goal-visualization tool improve team processes & outcomes?***

Goal-visualization & project decision



- Spider Graph visualization of team goals

Assumptions

- 4 Players in each group
- In-game video communication in specific phases
- Setting
  - Lab: Students deciding on an innovative team project
- Individual & Team Goal-setting phase
  - Vote and choose most important goal out of 6 pre-defined goals for choosing innovation projects
- Team Task
  - Select Best of 3 Projects, based on provided information on one hidden and one shared goal

To be reworded for KD2 lab student setting

Experiment Breakdown

Instructions for lab/field setting → Ranking of Goals (1 min)

Field Setting

Imagine you have to choose an innovation project fo
easy task, hence you decide as a team, what **criteria** d
project.

Based on the decided criteria, you will then choose
them on the agreed-upon goals, individually, and as a t

In both steps, you will have the opportunity to discu
members.

Individual

Now, rank all wishes listed by others, as to how important they are to you.

	Not at all important 1	2	3	4	5 Very important
Cost	○	○	○	○	○
Duration	○	○	○	○	○
New technology	○	○	○	○	○
Societal impact	○	○	○	○	○

Changed to drag & drop

Experiment Breakdown

Instructions for lab/field setting → Ranking of Goals (1 min) → WOOP Task individual (5 mins) → Project Information (5 min)

Define atleast 1 **wish or goal** an innovation project should fulfill, to be selected as a project to work on. There is no right/ wrong wish, but rather about what your idea that an innovation project should fulfill. Make your wish as specific, measurable, actionable, relevant & time-bound as possible.

An innovation project should...

- Be finished in 2 years

Identify **atleast one** aspects of the **outcome** you would like to achieve (desired future as a team) during or upon completion of the project...

For the firm, the innovation project should...

- Develop a new profitable product for the firm, etc.
- Bring about a good marketing image

For each wish, elaborate atleast one aspect of **obstacle** from a team member about the defined wishes, based on present reality, standing in the way, starting with each wish

Other team members may find it difficult to...

Work with different disciplines in a common language

Have a social benefit before we make profit from a product

For each obstacle, **identify and plan a behavior to overcome it in your negotiation.**

If (Obstacle A), then

If the other person doesn't relax on his/her criteria, I will reason by highlighting the need for cooperation & middle ground

1. **Smart Urban Agriculture Platform:**
   - **Innovativeness:** Utilizing IoT (Internet of Things) sensors and AI, this project aims to create a smart urban agriculture platform. It will enable urban farmers to monitor and optimize various parameters like soil moisture, temperature, and nutrient levels in real-time. The platform will also offer predictive analytics for
2. **Virtual Reality-Based Mental Health Therapy:**
   - **Innovativeness:** This project focuses on using virtual reality (VR) technology to create immersive and personalized mental health therapy experiences. Users can engage in therapeutic scenarios tailored to their needs, offering a novel approach to mental health treatment.
   - **Number of Employees Required:** A team of 10, including psychologists, VR developers, and UX designers.
   - **Budget:** $1.5 million for VR development, therapy program design, and clinical trials.
   - **Time Needed:** 12 months for initial development and another 6 months for clinical testing.
   - **Marketability:** With the increasing awareness of mental health issues, a VR-based therapy solution could revolutionize mental health treatment, making it highly marketable.

Experiment Breakdown

Individual Voting → Video Collaboration → Final Project choice

Now you have to compare the provided 3 different projects and provide a yes/no rating on the 5 goals, **individually**, whether the given project description fulfils these or not, based on the information provided to you (10 minutes)

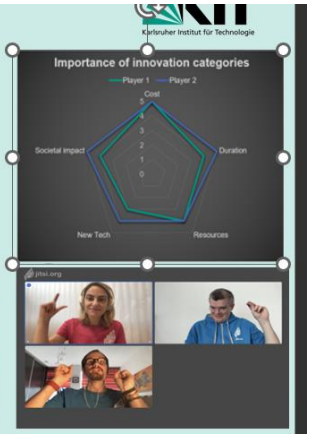
Project A	Project B	Project C	
○	○	○	Cost
✓	○	✗	Duration
○	✓	○	Resources
○	○	○	New tech
✓	✗	○	Societal Benefit

Now you will only be displayed those ratings where everyone in the group has information on, and the majority votes in these criteria. For the rest of the empty boxes, you will have to decide whether the project fulfils this or not. This will be a shared screen, on which any one team member can place a vote on the empty box.

During this phase, you can discuss the topics freely with any team member.

Based on the votes, you will choose one final project, which fulfils the criteria as a group.

Project A	Project B	Project C	
✗	✓	✗	Cost
✓	✓	✗	Duration
○	✓	○	Resources
○	○	✓	New tech
✓	✗	✓	Societal Benefit



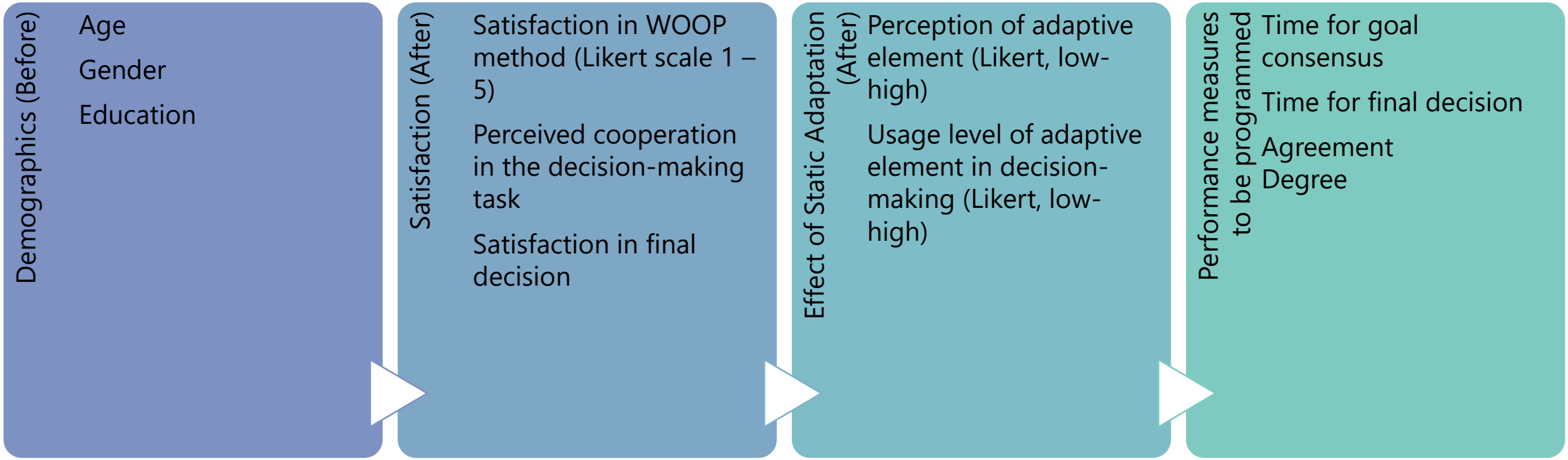
Now decide the best project, that fulfils the innovation criteria, based on your previous discussions

Best Project:

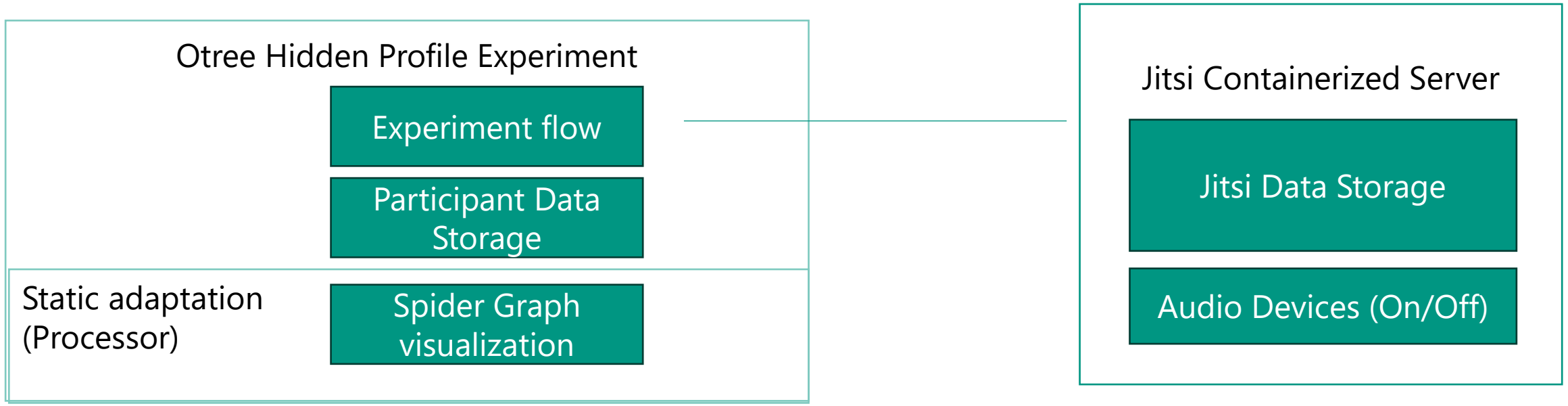
- ● Project A
- ○ Project B
- ○ Project C

Questionnaires

Individual



Technical Setup



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