Extensions of the Technology Acceptance Model in SmartAg:

Paths for New Product Development and Management Intervention

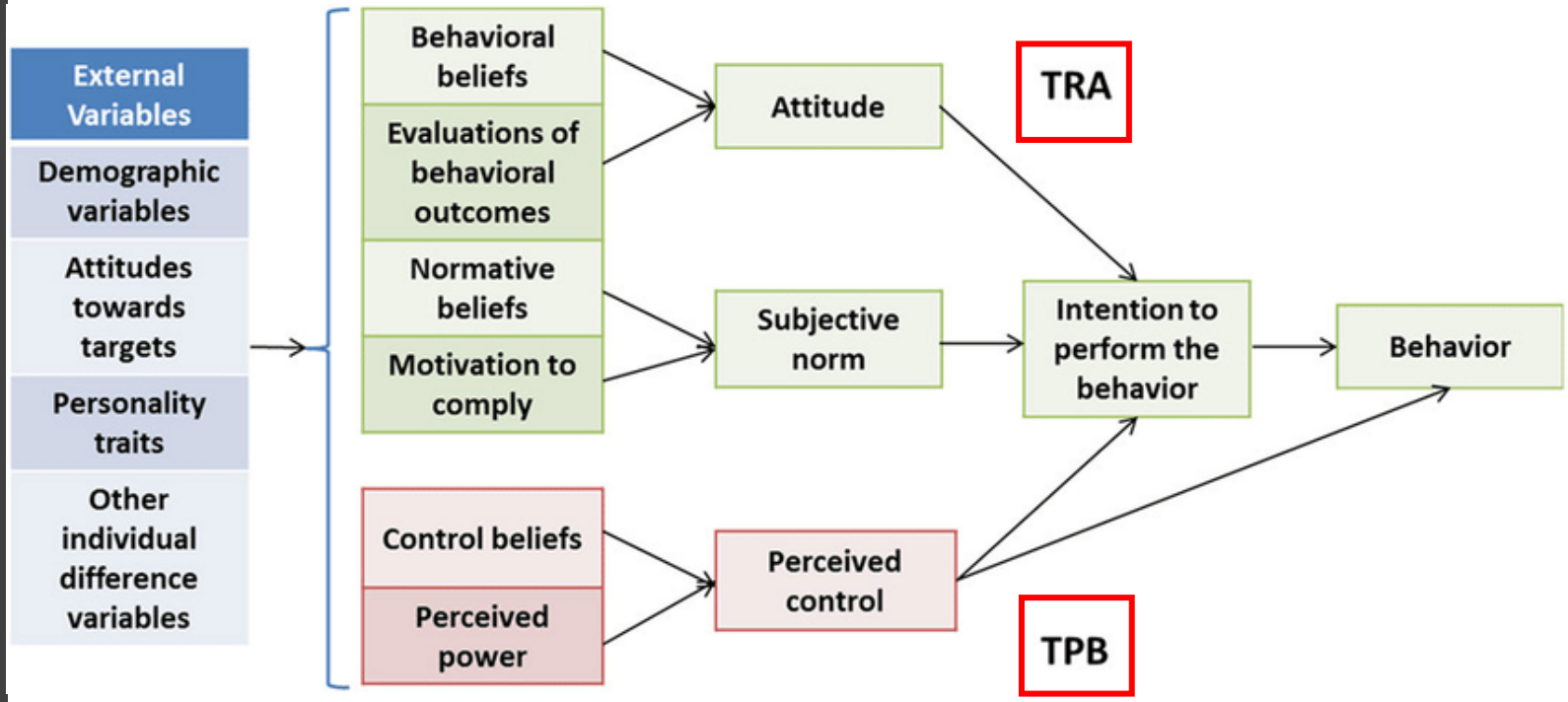
Raminder Kaur, Dr.
Jonathan Adam Watson

Raminder Kaur

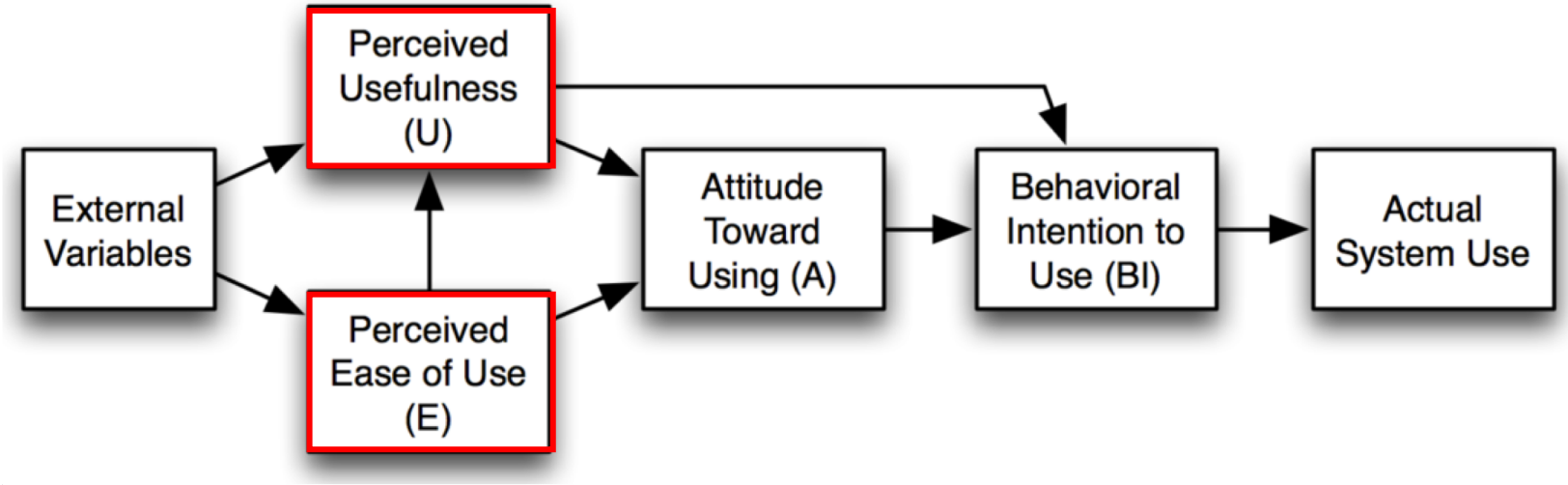
- 2nd year AOM PhD student
- Vice President ABE GSO
- Graduate Senator at UF Student Government
- New Graduate student Orientation chair at Graduate student council
- MS –Food Engineering
- BS- Food Science and Technology

Base of Technology Acceptance Model

- Theory of Reasoned Action
- Theory of Planned behavior



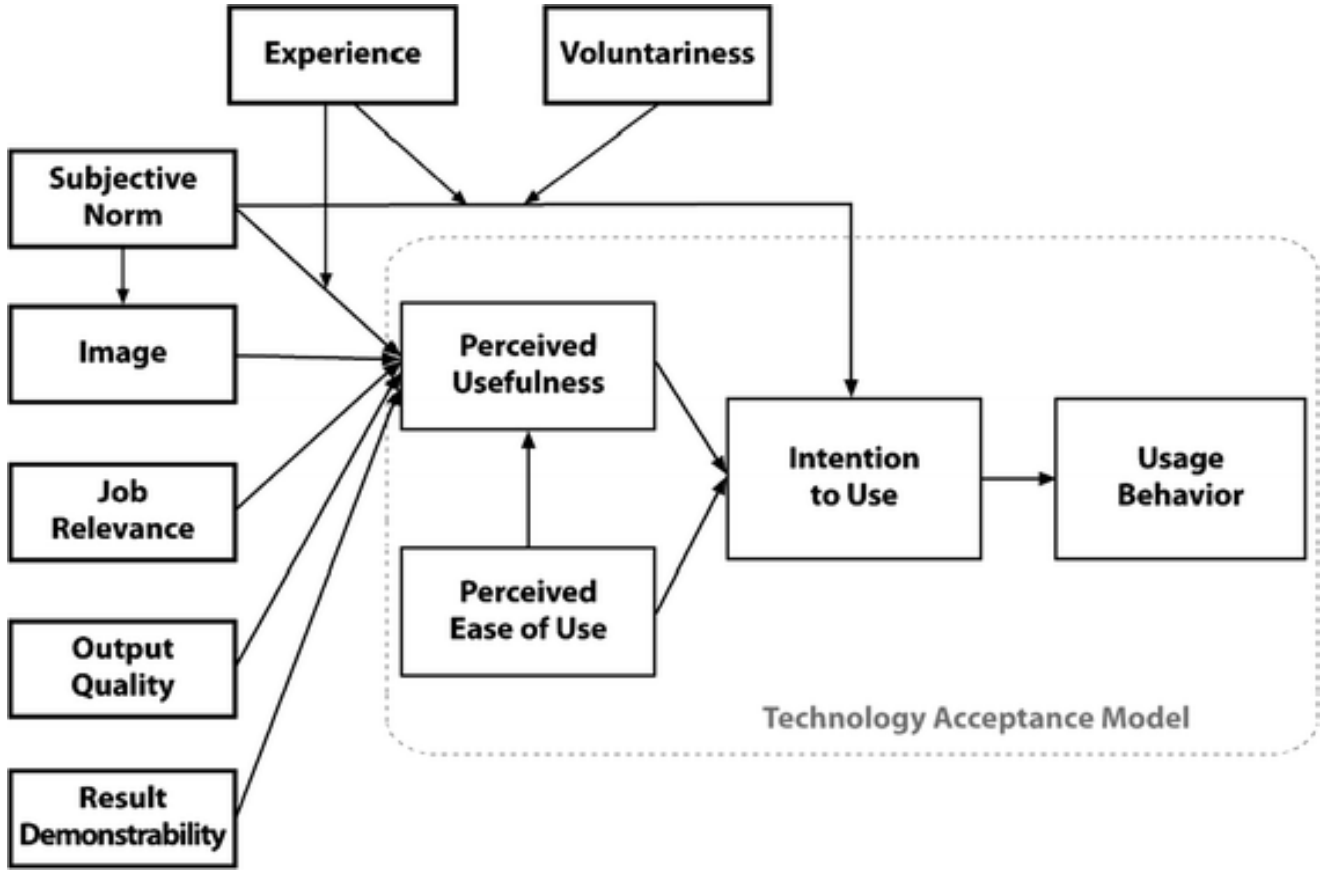
Predictors of Technology Acceptance Model



- Perceived Usefulness
  - The degree to which a person believes that the technology would benefit to enhance their ability to perform a task.
- Perceived Ease of use
  - The degree to which a person believes that the technology would be free from effort.

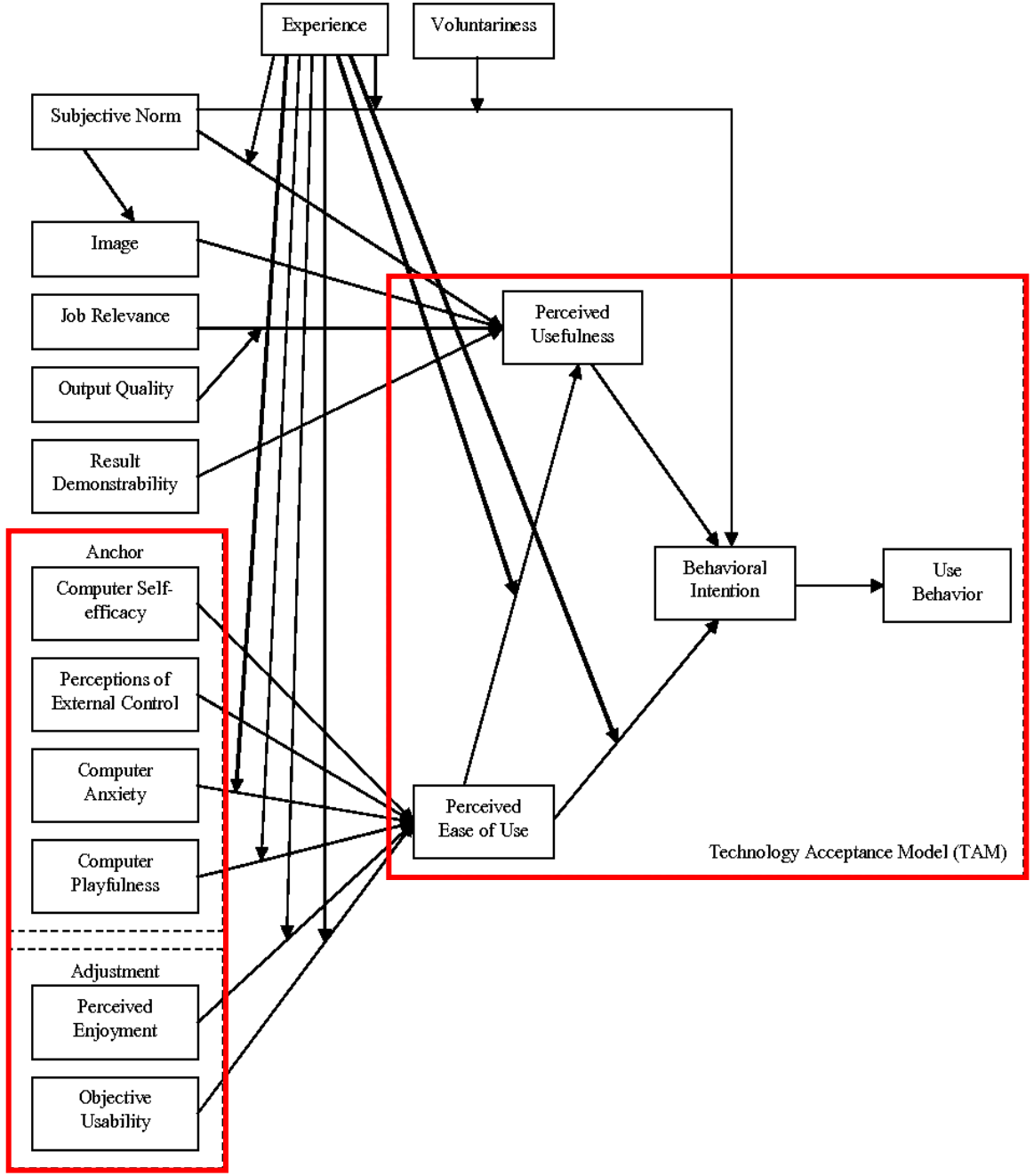
Extensions of Technology acceptance Model

- TAM 2

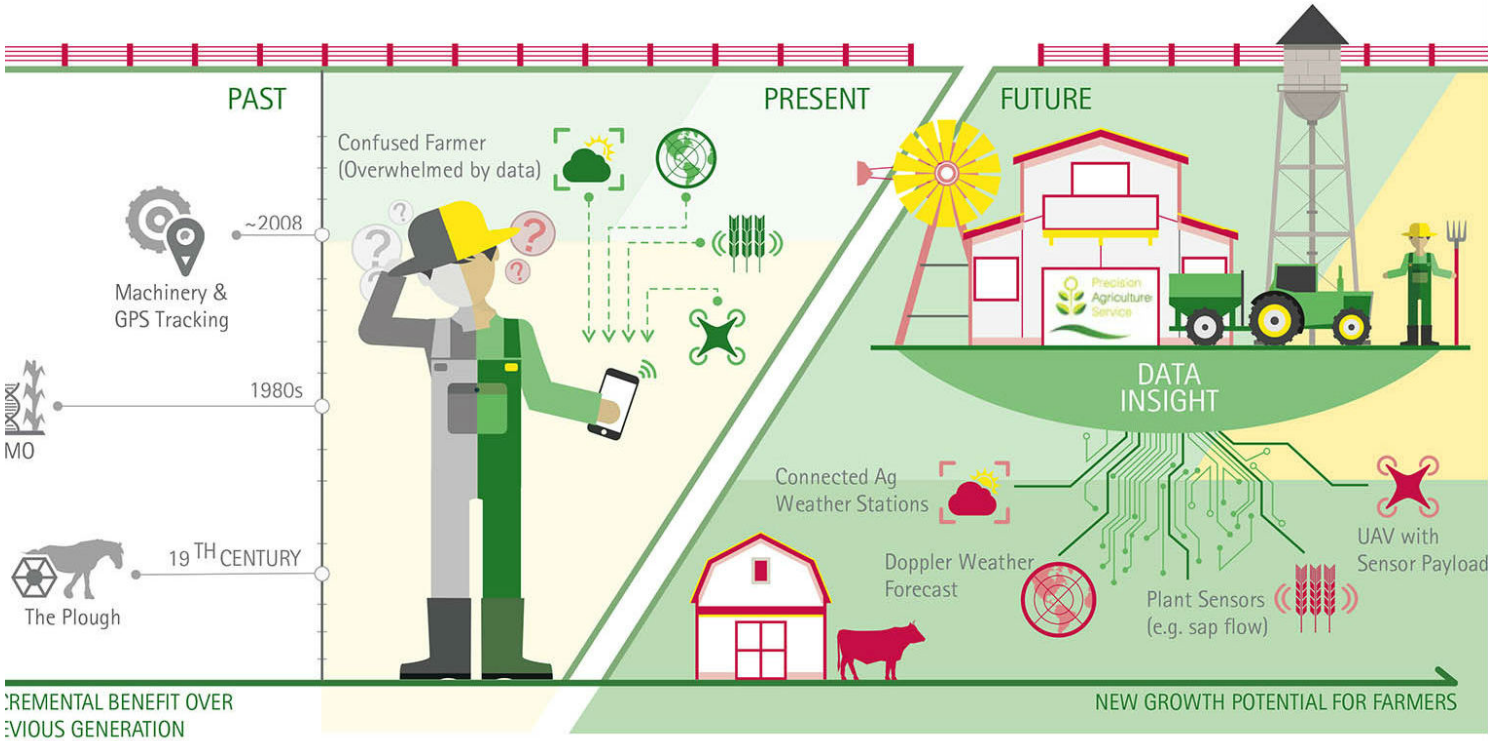


Extensions of Technology acceptance Model

- TAM3



[a]Thick lines indicate new relationships proposed in TAM3.



Use in Agriculture

- Agriculture Extension service
- Agriculture Technology adoption by growers
- Adoption of Technology in Dairy farming
- Information and communication technology in Farming system

SmartPath

- Goal- Increase use of AWS by inter connecting water treatment technologies and smart sensor networks.

- Objective 1 (extension):
  - Assess stakeholder management decisions
  - Coordinate feedback from stakeholders
  - Decision support development, and
  - Conduct outreach to extension faculty, stakeholders, and youth

- Objective 2 (Research):
  - Develop SmartPath library software and decision matrix for matching technologies with grower needs

Methodology

- Development of Survey
  - Likert scale

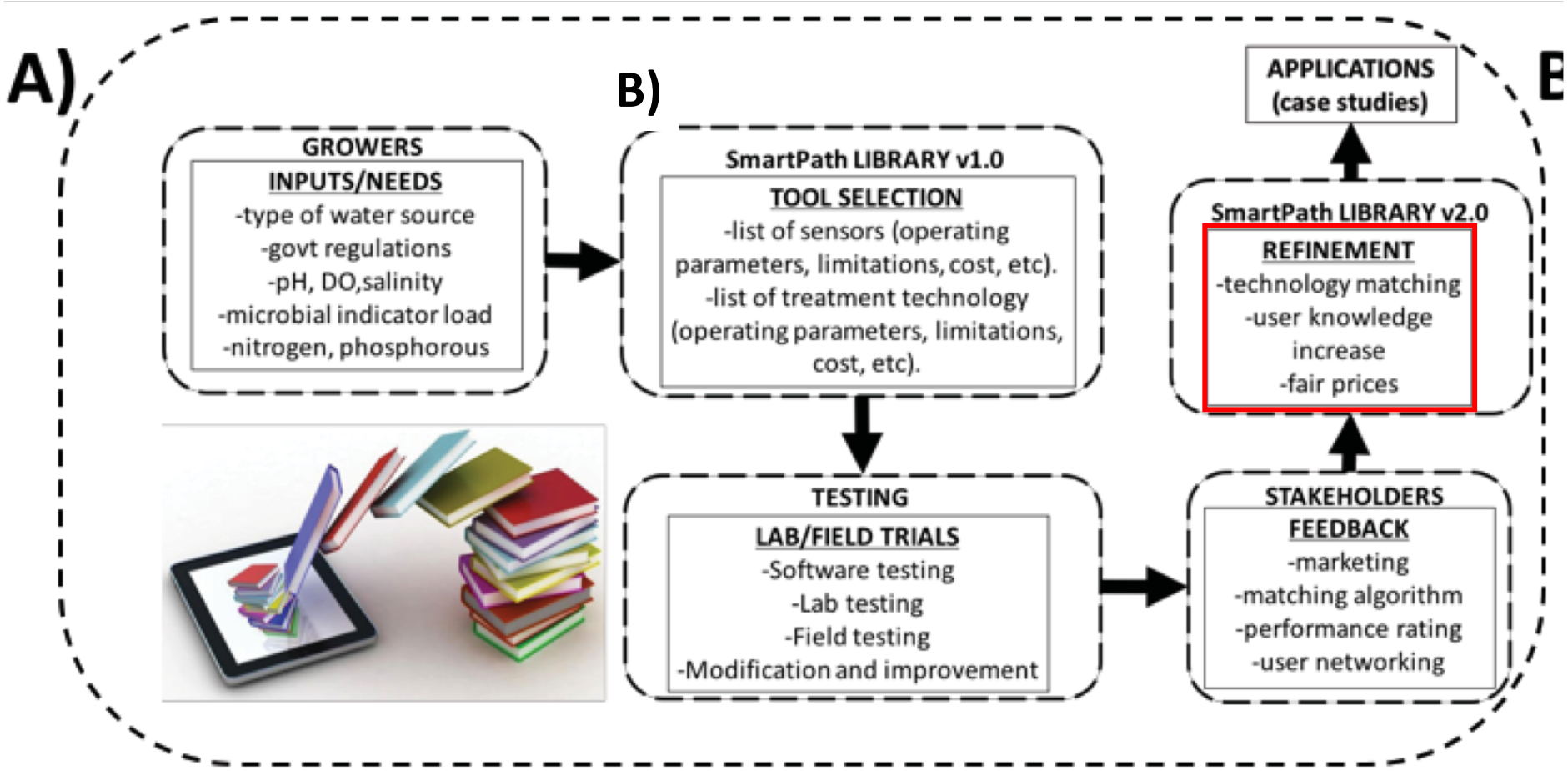
How Satisfied are you with smart sensor technology?

Extremely Dissatisfied	Moderately Satisfied	Slightly Dissatisfied	Neutral	Slightly Satisfied	Moderately Satisfied	Extremely Satisfied

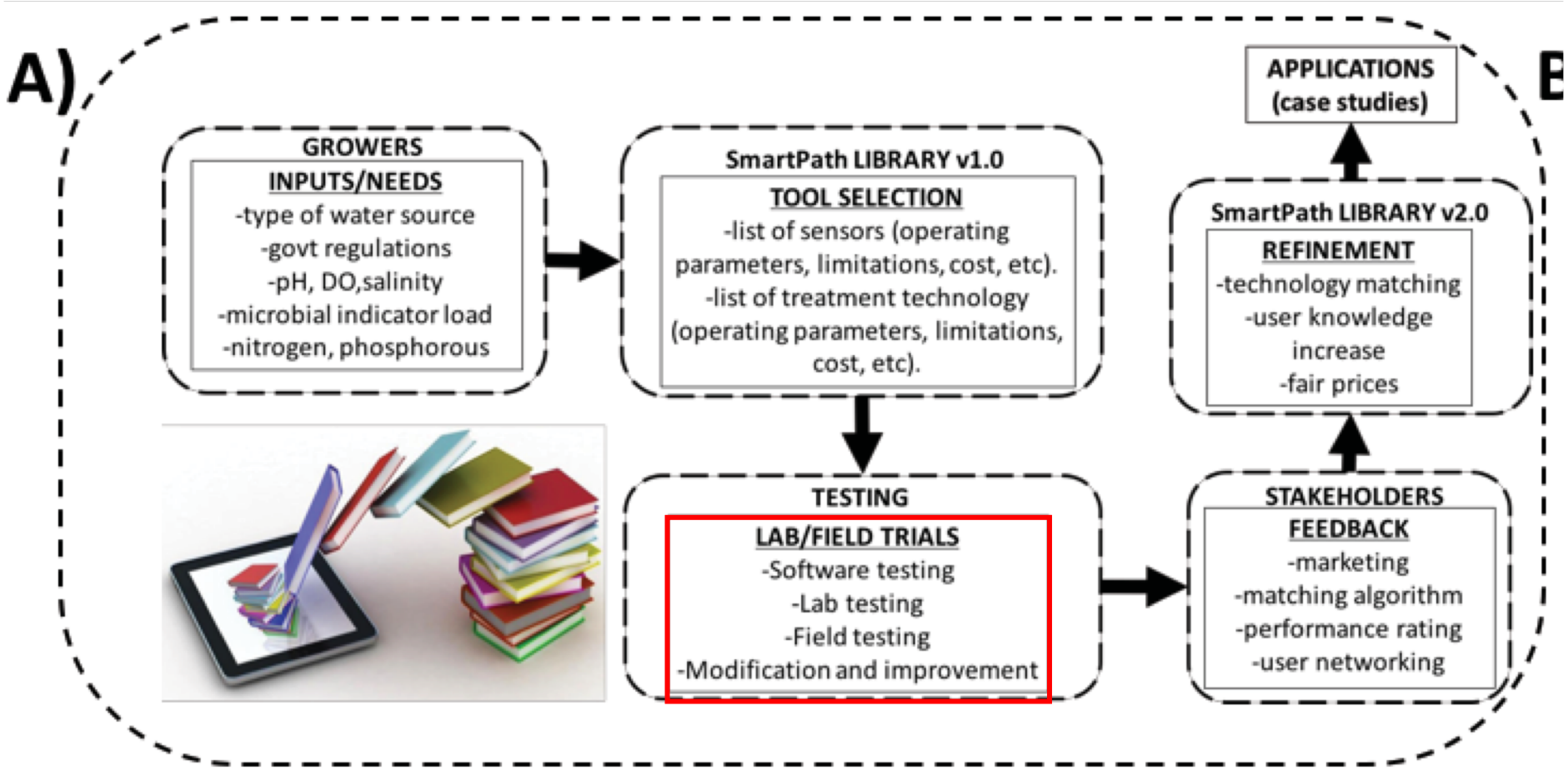
- Data Collection
  - How consumers perceive the new technology?

New Product Development

Phase I- Software development



Phase II- Hardware Testing



Data Analysis

SPSS

Hypothesis Testing-

- Structural Equation Modeling

Reliability Tests-

- Composite reliability (α)
- Variance extracted measure (ρ)

Research Hypothesis-

Perceived Usefulness (PU)

Using **Smartpath app** improves the quality of the work I do.

Using **Smartpath app** gives me greater control over my work.

Using **Smartpath app** improves my job performance.

Using **Smartpath app** allows me to accomplish more work than would otherwise be possible.

Using **Smartpath app** enhances my effectiveness on the job.

Using **Smartpath app** makes it easier to do my job.

Overall, I find the **Smartpath app** useful in my job.

Research Hypothesis-

Perceived Ease of Use (PEOU)

I find it cumbersome to use the **Smartpath app**.
Learning to operate the **Smartpath app** is easy for me.
I find it easy to get the **Smartpath app** system to do what I want it to do.
It is easy for me to remember how to perform tasks using the **Smartpath app**.
Interacting with **Smartpath app** system is clear and understandable.
I find it takes a lot of effort to become skillful at using **Smartpath app** .
Overall, I find the **Smartpath app** easy to use.

Management strategies

Awareness

Training

Workshops

Questions?