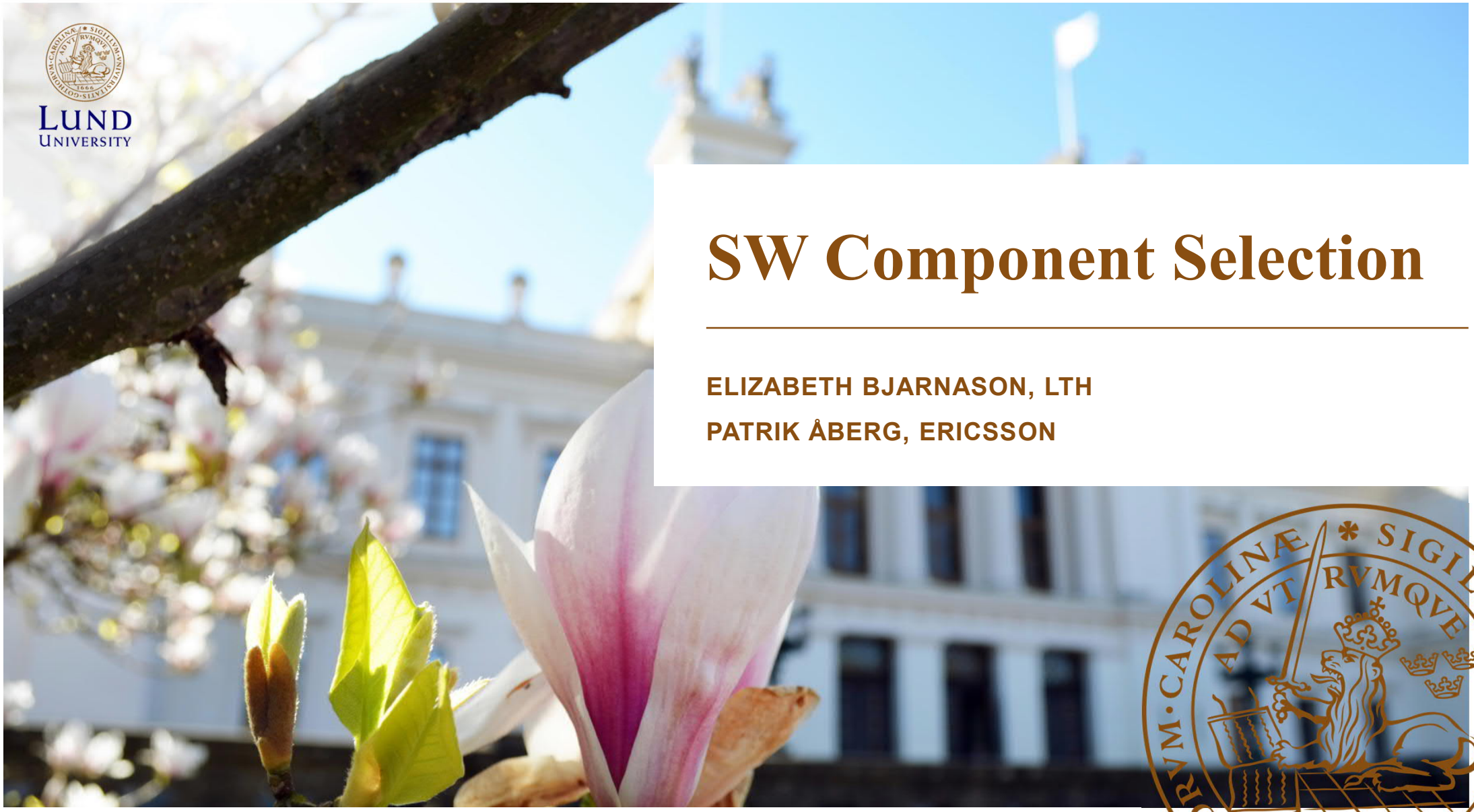


SW Component Selection

ELIZABETH BJARNASON, LTH

PATRIK ÅBERG, ERICSSON

Industry-academia joint study on software selection

*"The study applies a **scientific approach** to an **industry-relevant problem**.*

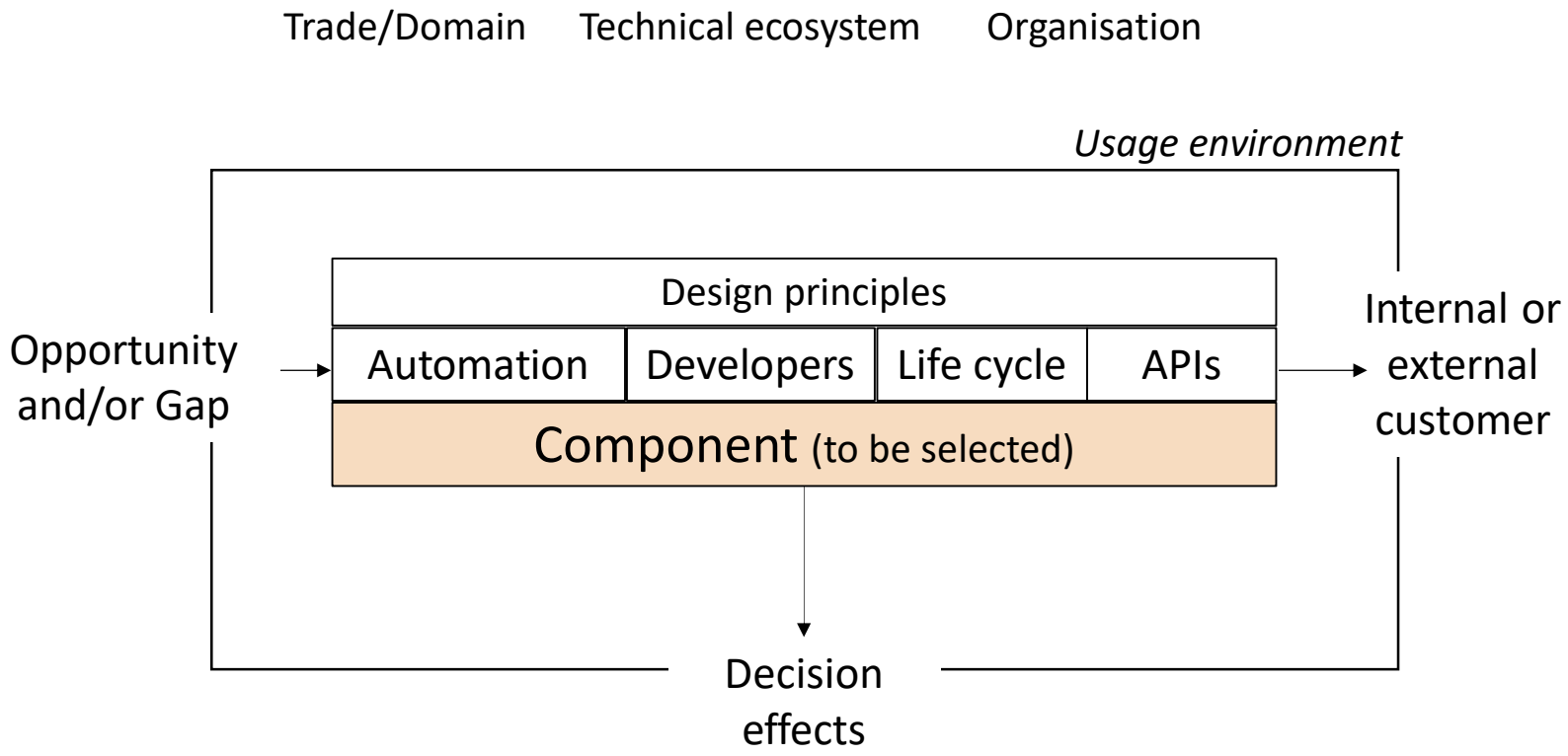
The main output of our collaboration is the design of a novel model for selecting SW components. The model is based on a systematic analysis of existing research that is combined with insights into industry practices in the design of a practically applicable model.

*This combination of industrial & academic perspectives promotes **relevance** in research, and a **systematic and scientific approach** in industry."*

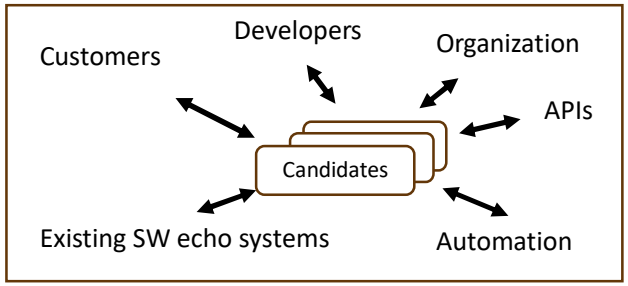
Elizabeth Bjarnason, LTH
Patrik Åberg, Ericsson

Problem domain

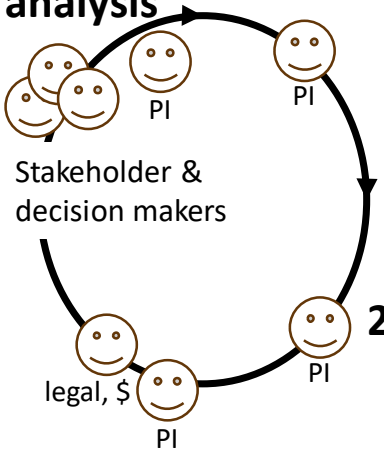
Decision support model for selecting software components for a given **opportunity or gap** and **requirements and constraints posed by the problem domain**.



Software Selection Model v 0.3



4. Impact analysis



1. Identify solution options

Acquirement options

- Open Source Solution
- Purchase solution
- In-house solution

High-level requirements

- Features
- Use cases / scenarios
- Priorities

2. Assess solution options

Assessment criteria

Market strength
- Recommendations
- Tool user base
- Supplier state: brand & reputation
- Fashion / buzz

Strategy & Culture
- Innovation adoption life cycle
- Organic vs plan-based culture

Integration
- Effort
  - Initial
  - Continuous
- Total solution
  - Ecosystem adherence
  - Life cycle
  - Look'n'feel of work environment
  - Automation fit

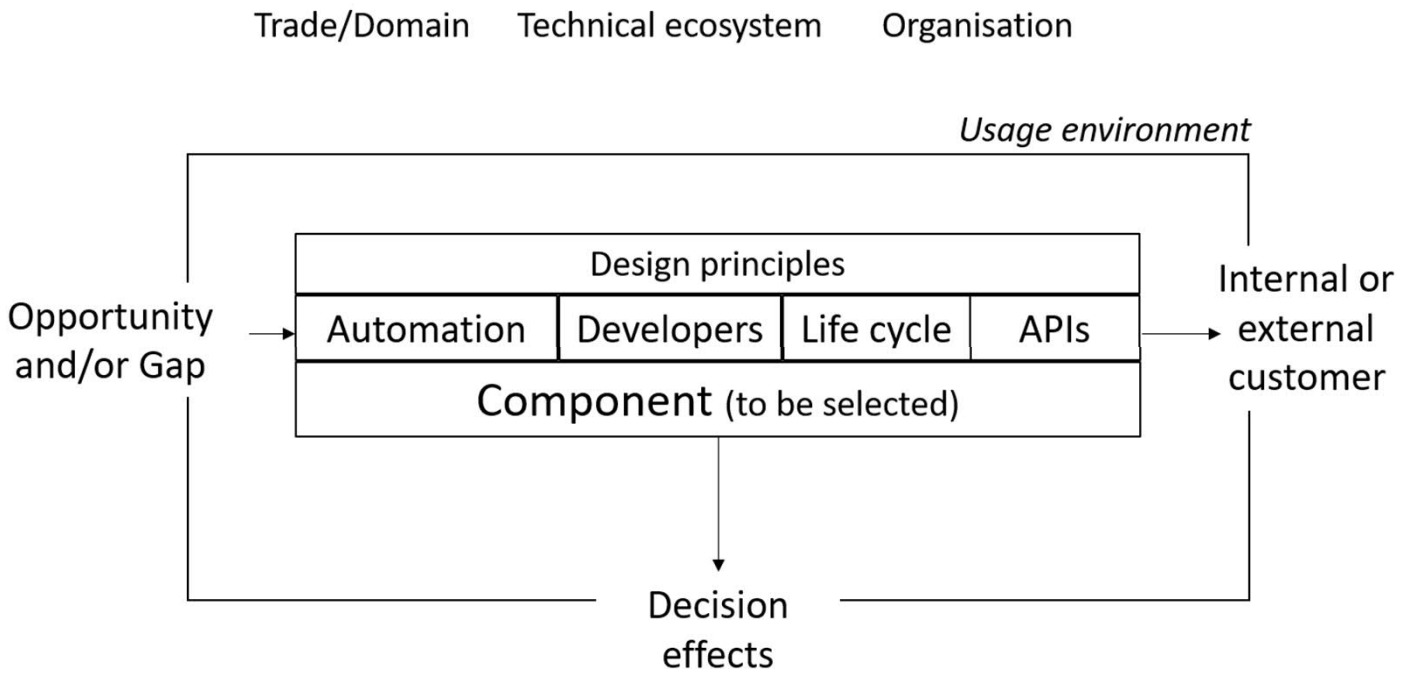
Productivity
- Collaborative support
- Support for work practices
- Freedom of choice
- Learning curve
- Effectiveness
- Subjective satisfaction
- Tolerance

Quality
- Performance metrics
- Standard adherence
- Robustness
- Security
- Future proof
- Documentation
- Feedback: Logs, Traces, Error handling

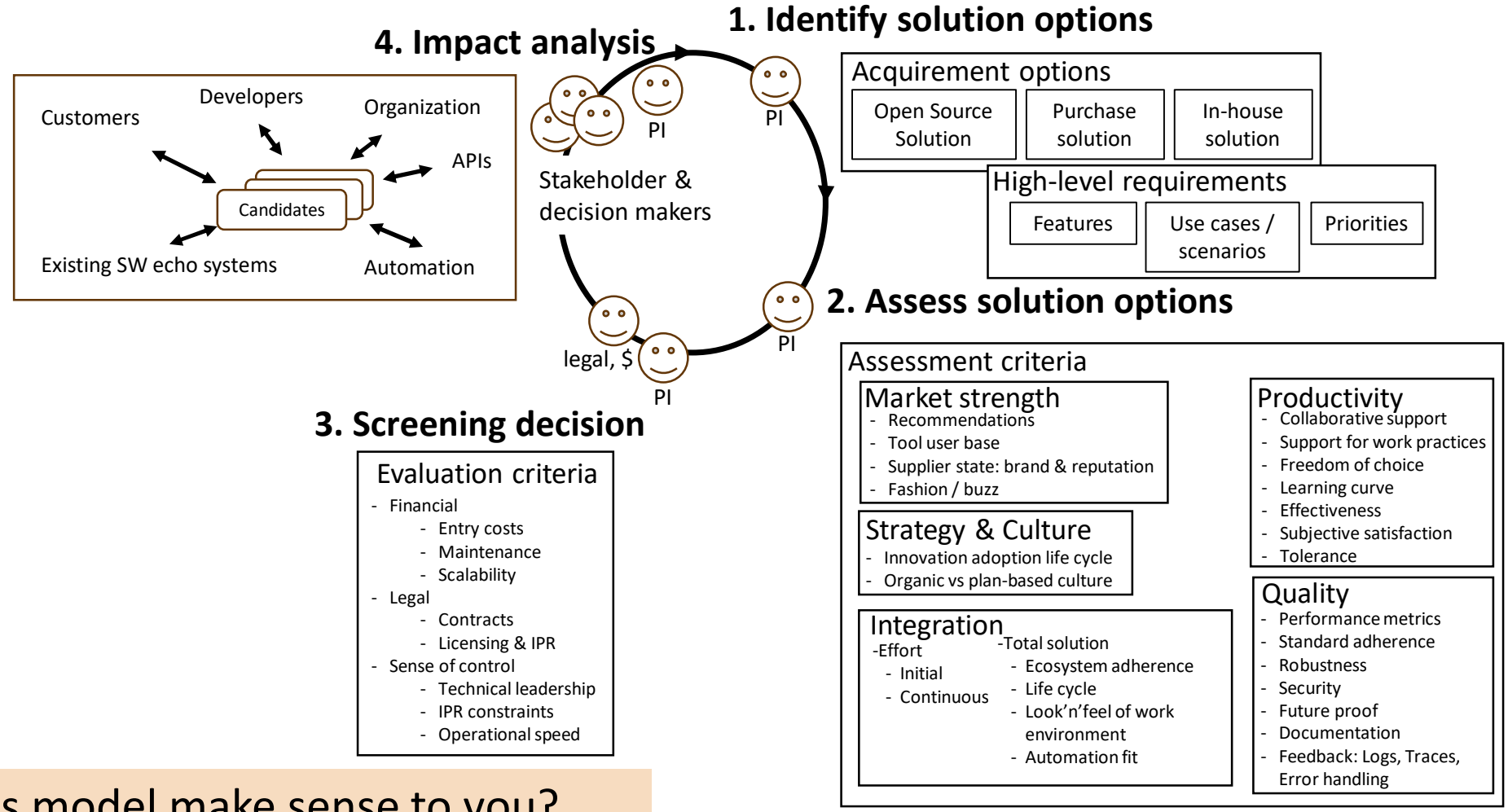
3. Screening decision

Evaluation criteria
- Financial
  - Entry costs
  - Maintenance
  - Scalability
- Legal
  - Contracts
  - Licensing & IPR
- Sense of control
  - Technical leadership
  - IPR constraints
  - Operational speed

Problem domain

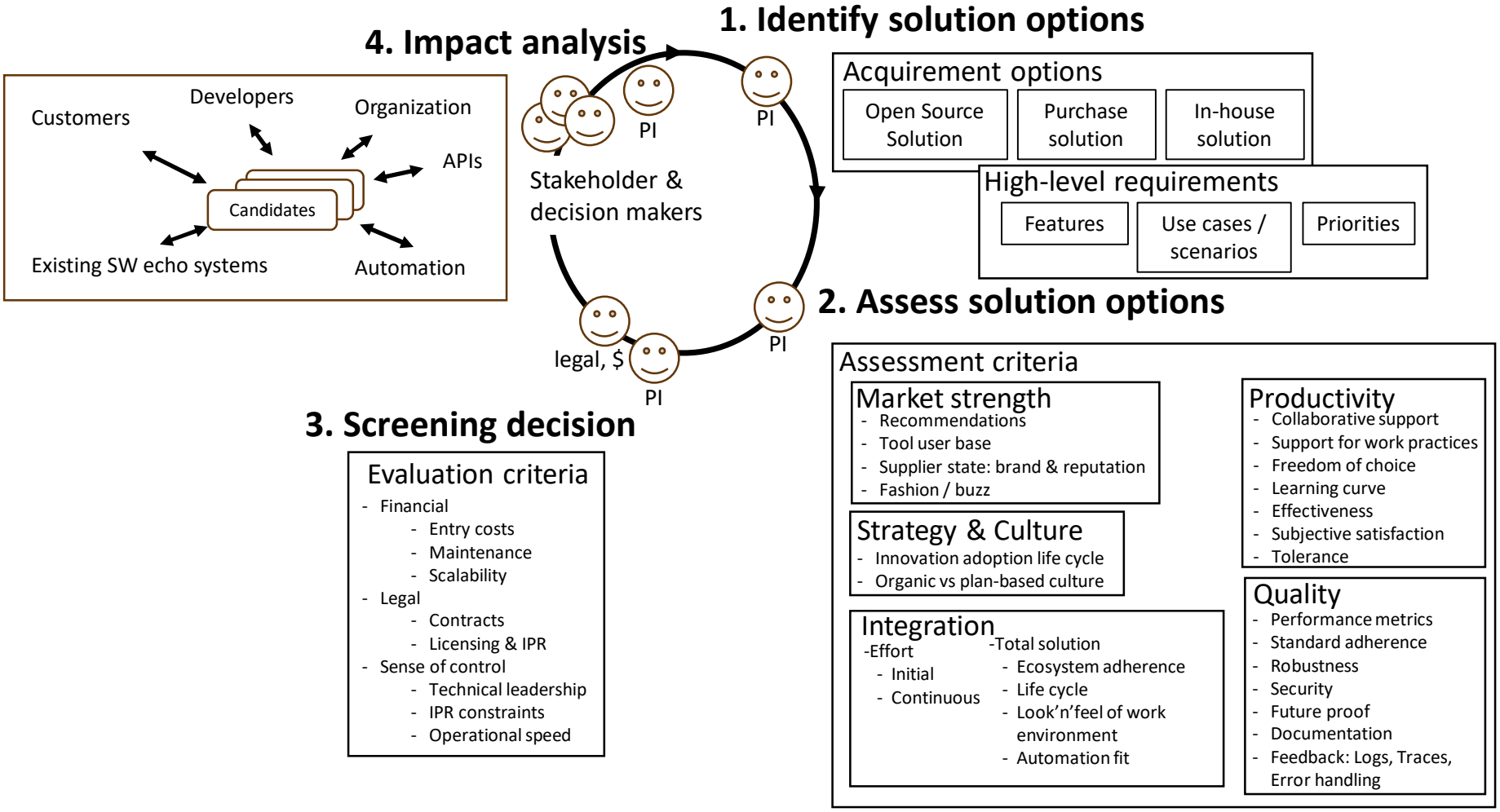


- How does this problem domain relate to your work?

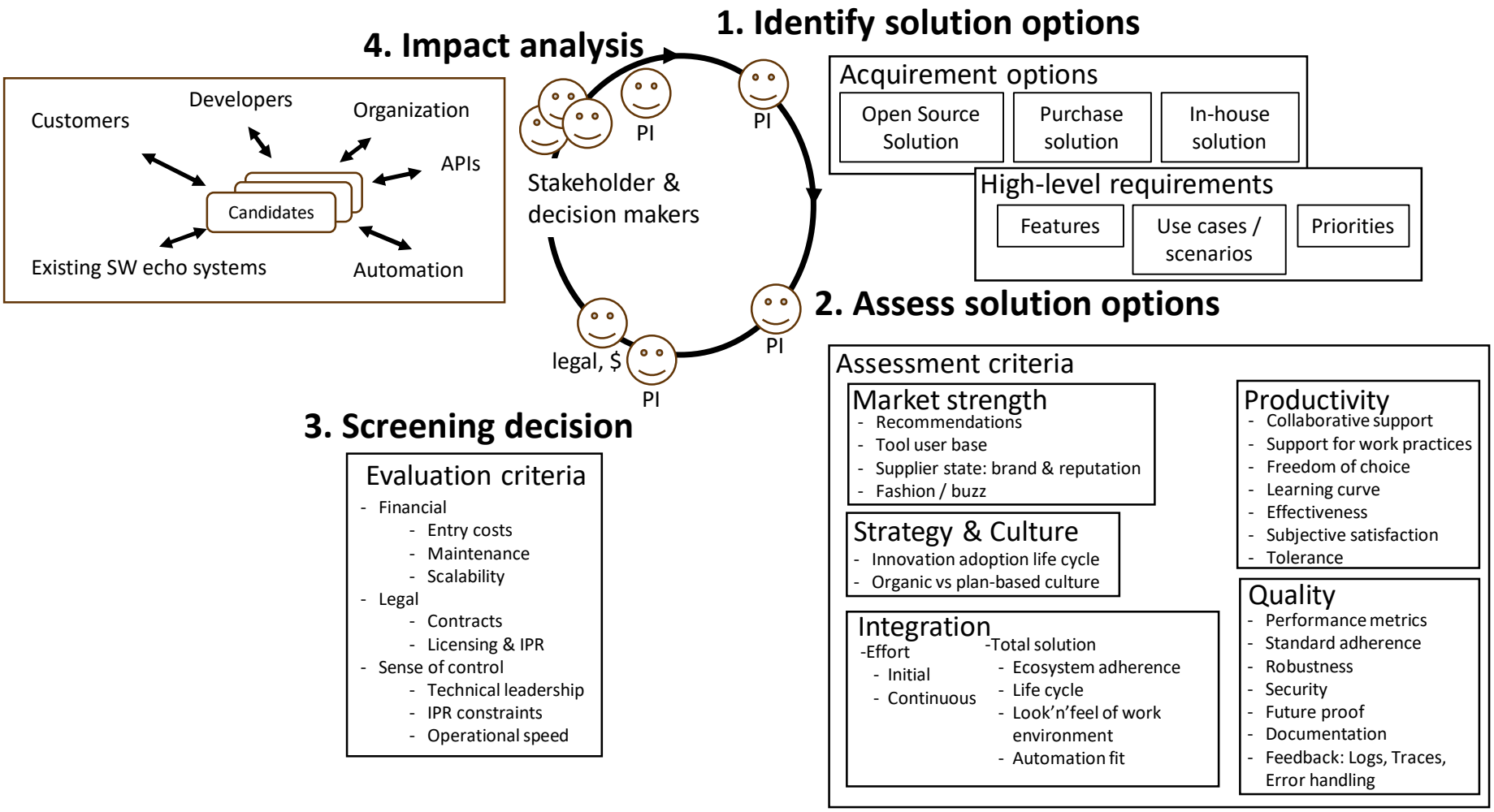


Does this model make sense to you?

- the flow
- the criteria



Where are your focus areas today?



What in this model do you want to focus on more?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THANKS!

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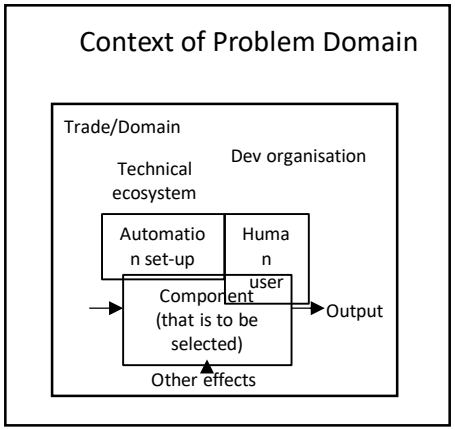
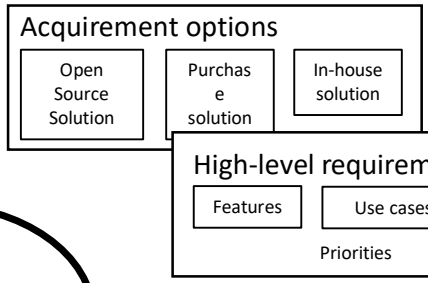
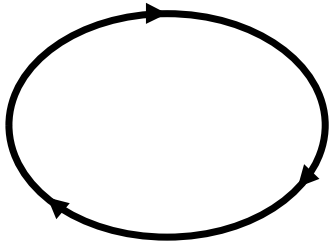
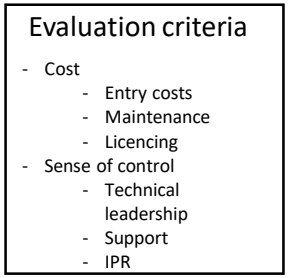
Previous versions

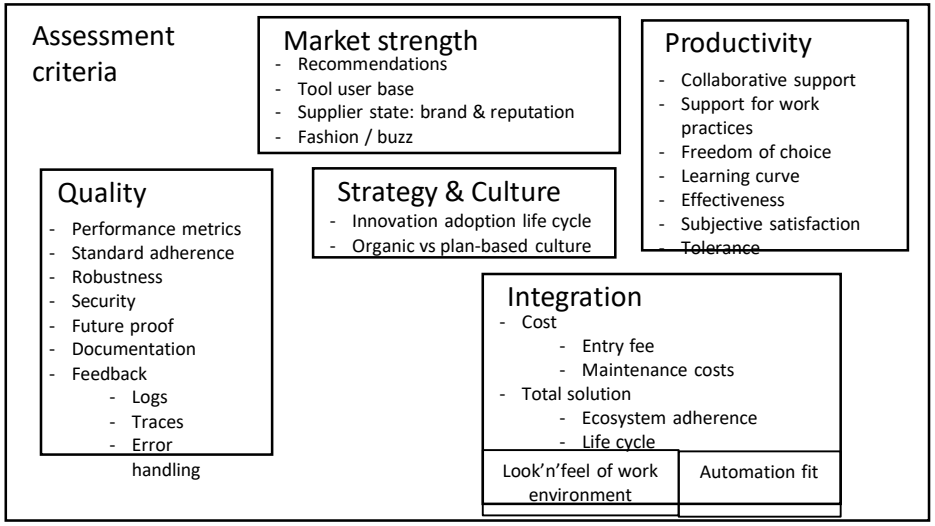
Software Selection Model v 0.2 2020-09-15











Ericsson-CS Collaboration

Aims

- identify good way of working together
- Do something together as an example
- Scope
  - Initial: criteria for selecting software tools
  - Modified: software component selection

> ***RQ1**: What criteria are relevant for Ericsson to consider?*
>
> ***RQ2**: How can cost and benefit be considered and balanced?*
>
> ***RQ3**: How is the selection affected w.r.t. the aim to improve a) overall productivity and b) product quality?*

Method, so far…