



Technology Windows

Experiences with an Innovation Tool for Identifying Sustainable Application Domains

01/12/10

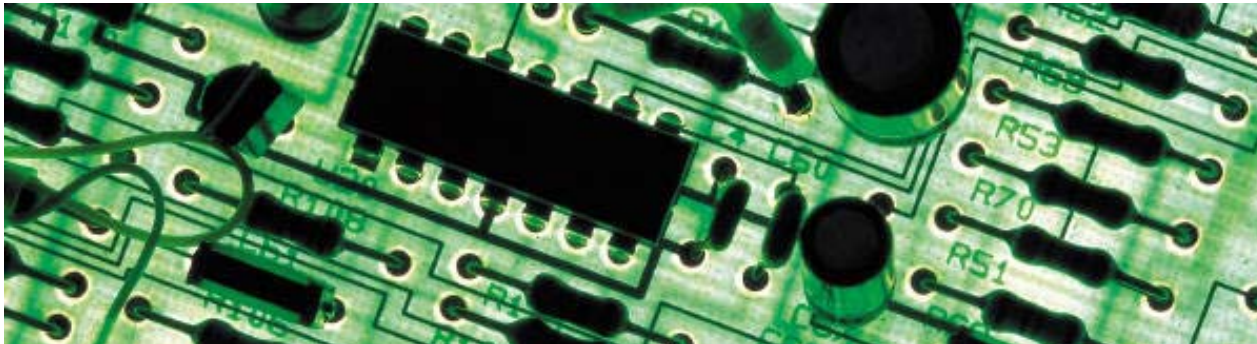
Lenny van Onselen

sustainability

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Problem 1

Gadgets

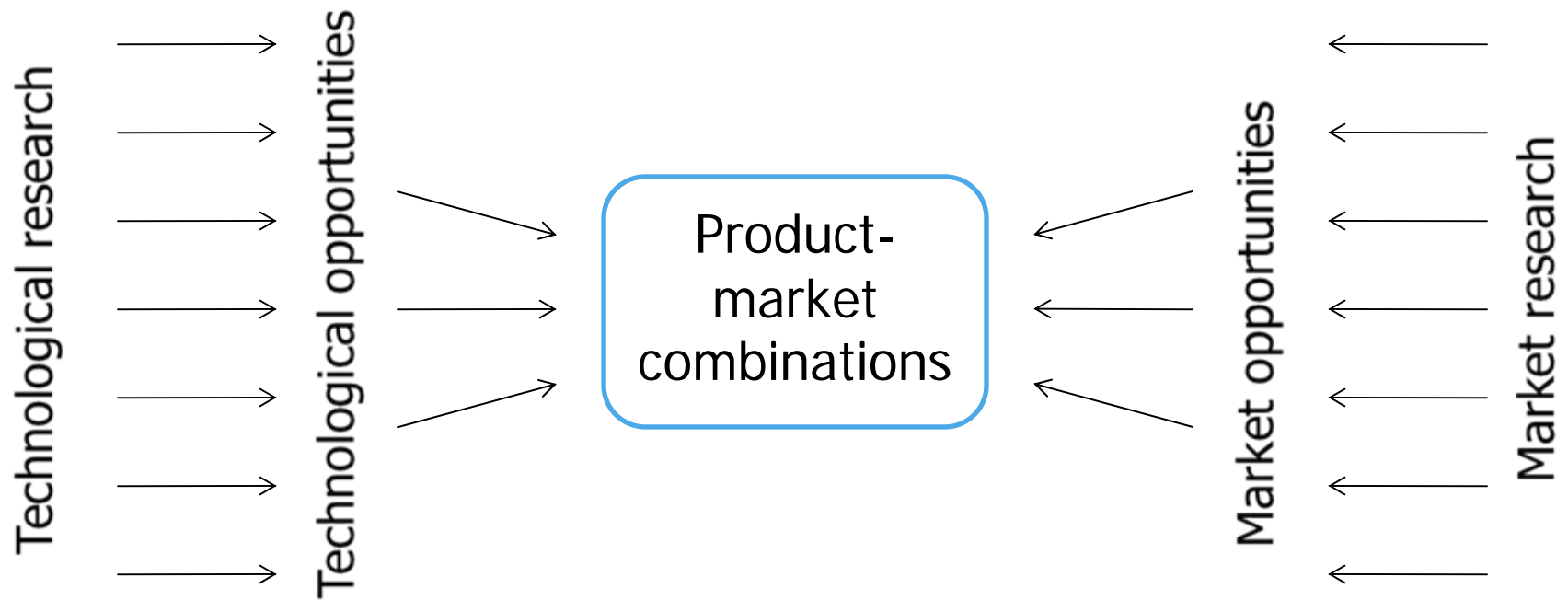


Problem 2

Gap between technology & market

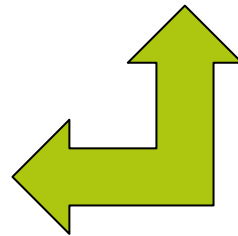
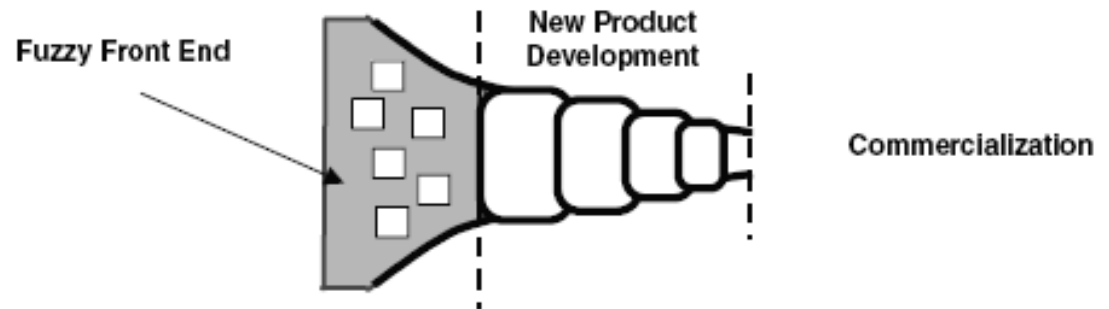


Bridging the gap



Problem 3

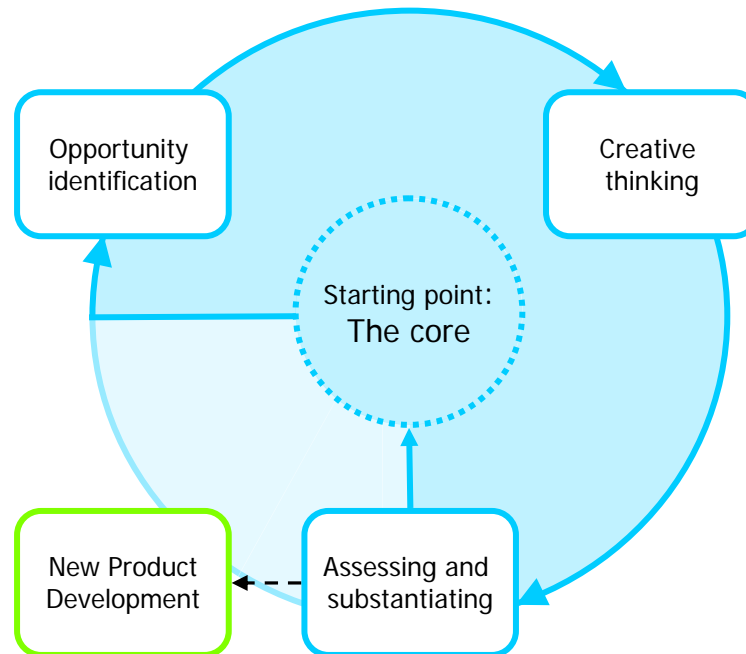
Little focus in FFE on sustainability



?

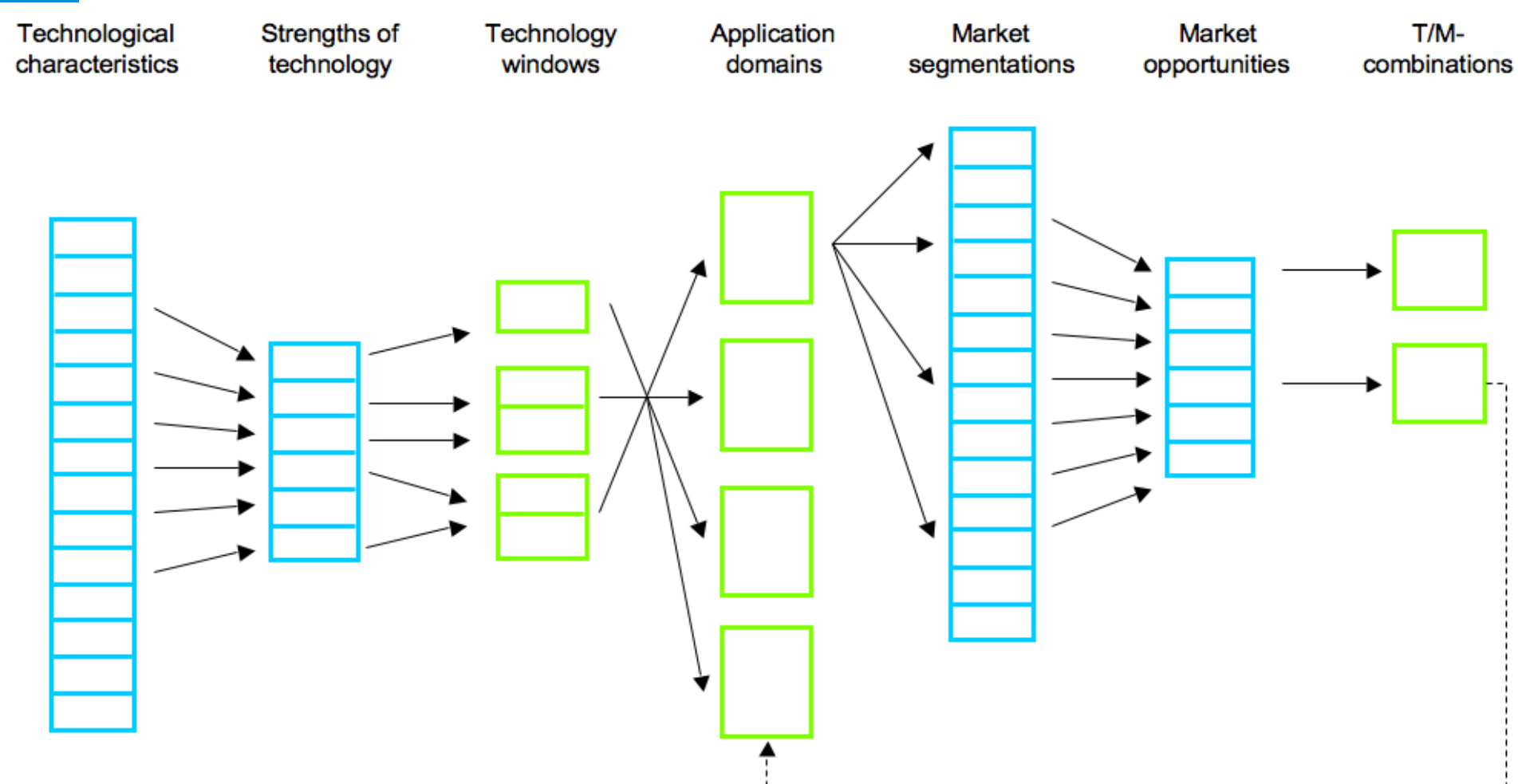
Phases of the FFE

Opportunity identification changed the most



Opportunity identification

A guideline for bridging the gap



Technology Windows

A framework



Strength

Independence from infrastructure

Trend

Improvement of storage media



Condition

Energy balance

$$E_{pv} \approx E_{load}$$



Condition

Effort to recharge storage medium

Evaluation of Technology Windows

Research method

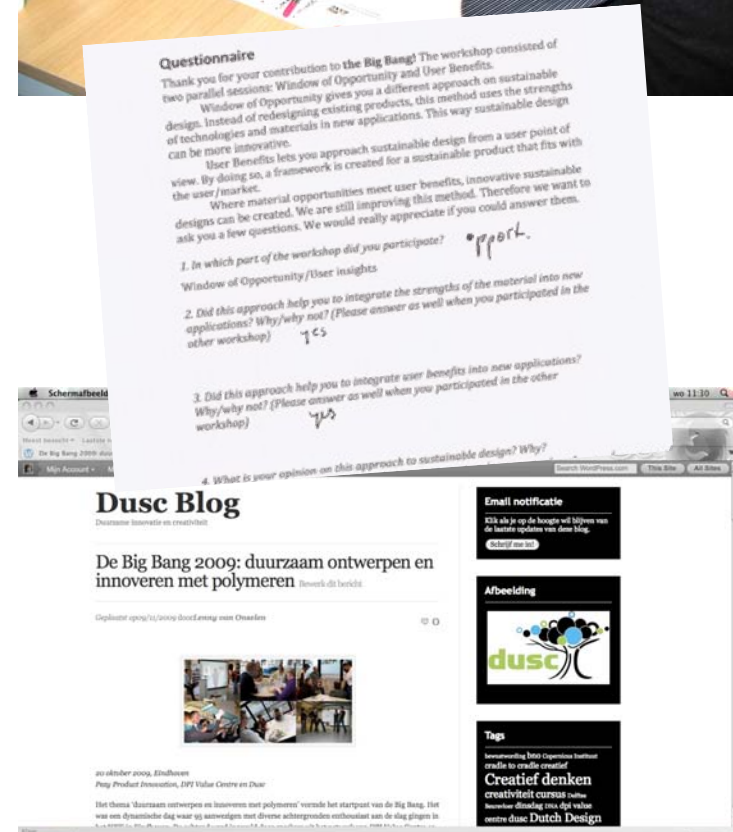
- Case studies
 - 6 workshops
 - 2 student projects
- Quantitative analysis
 - Identifying themes
 - Cross-checking



Workshops

Analysis

- Data types
 - Questionnaires
 - Evaluation by facilitators
 - Field notes
 - (Blog)reports
 - Pictures
- Participants
 - Designers, students and companies
 - 1-5 groups per session
 - 4-6 participants per group



Workshops

Results on sustainability

- Questionnaire
 - Positive: \pm half
 - Negative: \pm half
 - Maybe: few
- Results of workshop
 - Chosen ideas not in all cases sustainable

"depending on the conversation with the expert and the type of material."

"because of the different thinking"

"because it can lead to totally new products in comparison with improving existing products."

"I did not see a connection to sustainable design."

Student projects

Analysis

- Data
 - Interviews
 - Student reports
- Interviewed participants
 - 2 students from project group
 - 1 teacher guiding several groups



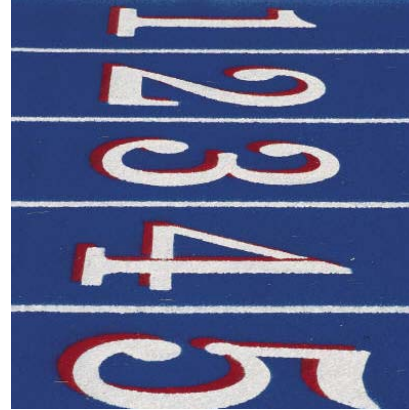
Student projects

Results on method

Advantages	Disadvantages
Focus on technology	Guideline misses
Fun and interesting way	No categorization of trends, strengths and conditions
Steps clear in figure	How to find applications?
Structured & different approach	Too fast, good opportunities might be overlooked
Fast in converging	Difficult for surprising ideas
Find opportunities & brainstorm in structured way	
Clear start for idea generation	

Discussion

- Brings structure
- Not proven
 - Market introduction
 - Sustainable innovation
- Not explicit on environmental aspects
- Trend: gadgets and low quality
- Valuable applications =
More sustainable



Conclusion

- Method is valuable for structuring SNPD
- Need for improvement on environmental aspects
- Guideline is improved in paper
- Use trainers, experts and facilitators

