Tech Push

Innovation

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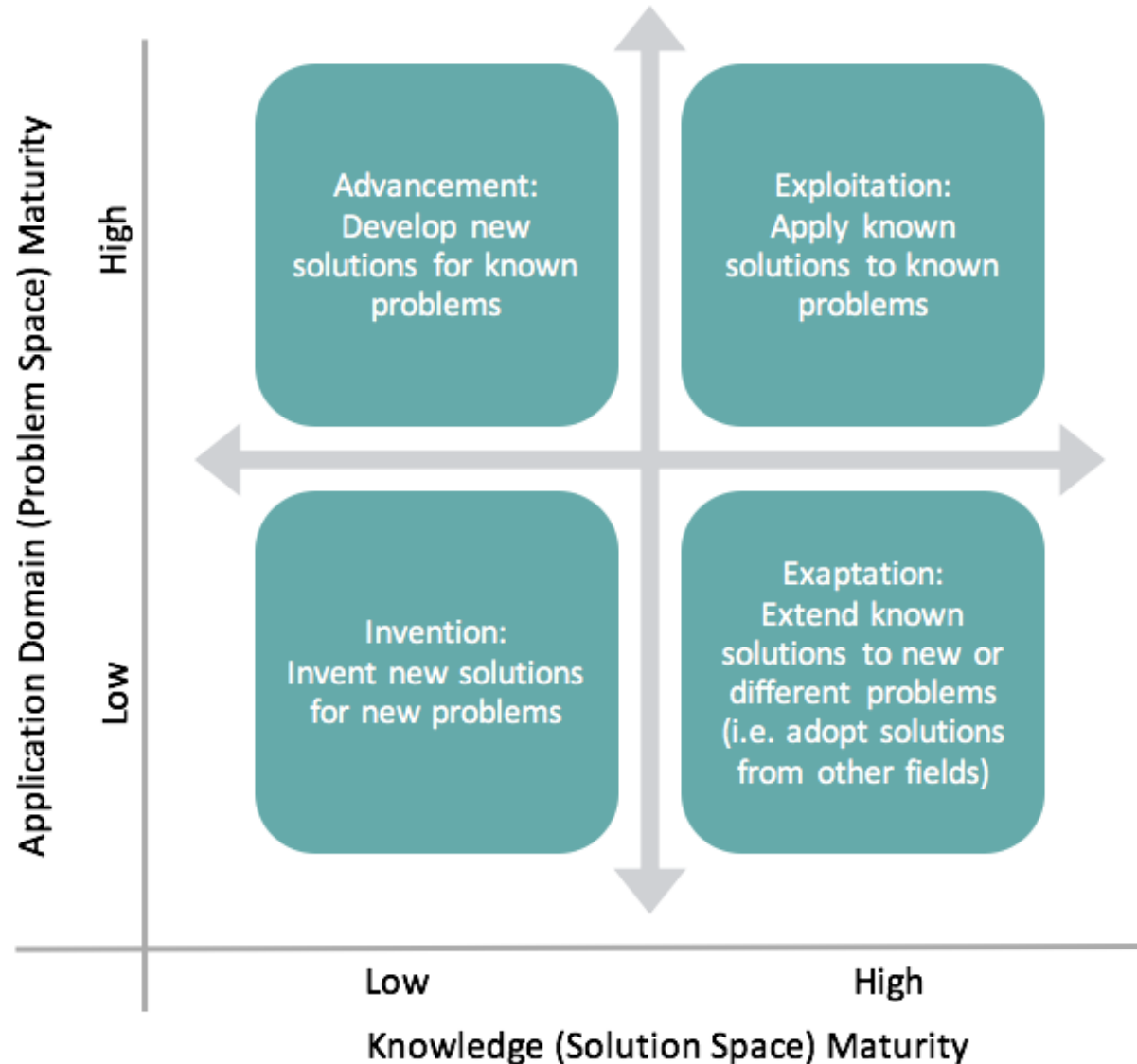

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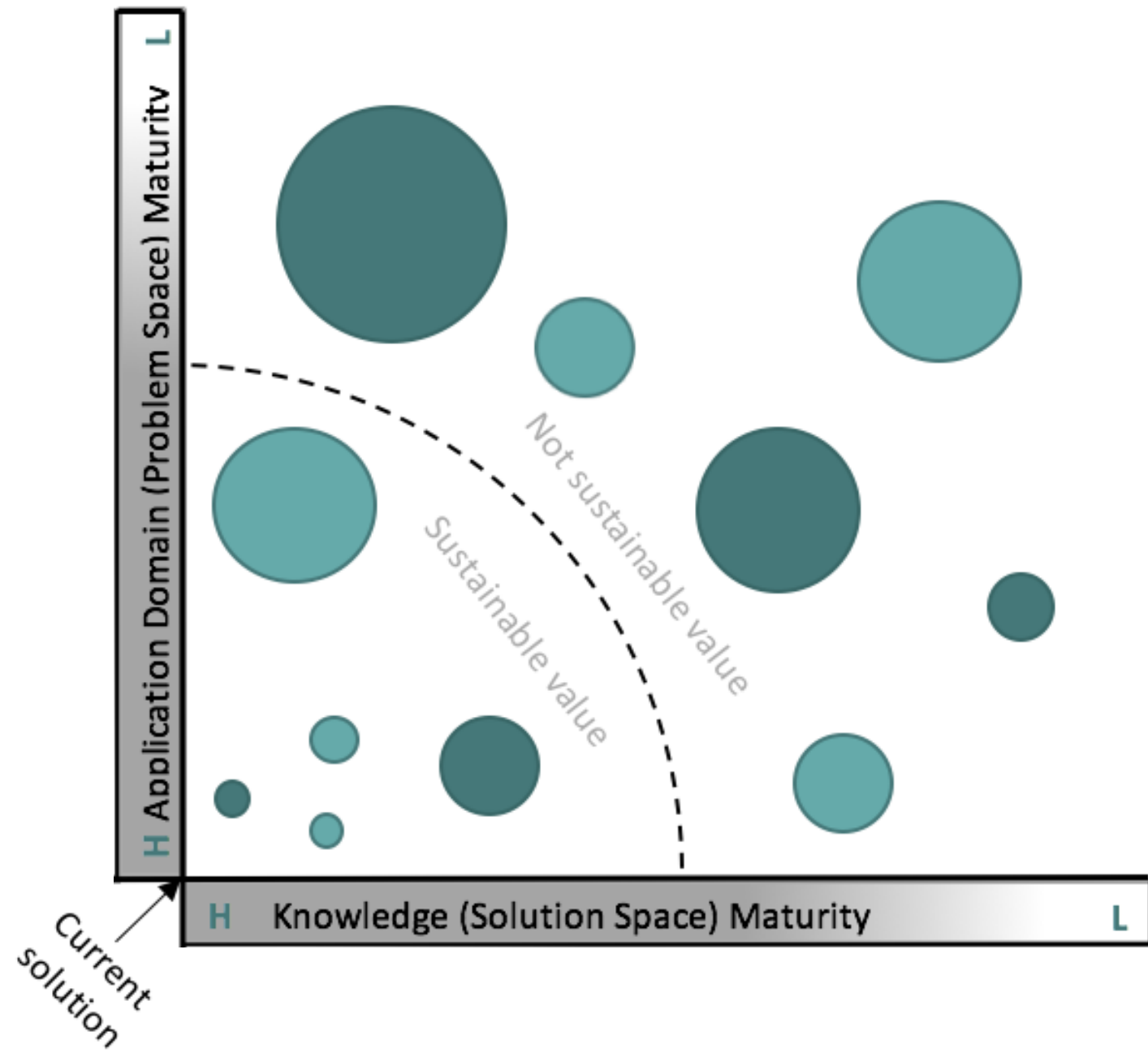Student Programme

Tech push vs. Market pull

- Market pull: the easiest way to innovate

- Tech push: harder, but...
  - too bad if we do not try
  - bigger potential
  - available funding

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The knowledge innovation matrix

Application Domain (Problem Space) Maturity

High

Advancement:
Develop new
solutions for known
problems

Exploitation:
Apply known
solutions to known
problems

Low

Invention:
Invent new solutions
for new problems

Exaptation:
Extend known
solutions to new or
different problems
(i.e. adopt solutions
from other fields)

Low   **High**

Knowledge (Solution Space) Maturity

Gregor and Hevner (2015)

Tech push innovation: the steps

1. Understanding of the technology
2. Application identification
3. Application verification
4. Building a business case

Understanding the technology

"If a newcomer to a field has the requisite information, he/she is more likely to achieve a creative solution than a long-time worker in the field" (Mednich, 1962)

Application Identification

- Everyone too busy to actively pursue this at CERN
- The collective intelligence:
    - Brainstorming in heterogenous groups
    - ...with creative traits
    - ...and high intrinsic motivation
- Isolating the functions of the tech: Keyword searches
- Serendipity

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Application verification

- Talk to people: experts, potential customers, competitors...
- Learn as much as possible: Feasibility, usefulness, willingness to buy
- Prototype (if possible)

Building a business case

- The right team
- The value proposition
- The business model
- Go to market strategy
- IP situation and strategy
- Fundraising

Challenges

- Tech push can work, however often it turns out to be too specific
  - Why we have started to speak more about know-how
- Innovation gap between research and market opportunities
- Need to have the right competences in the teams

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Conclusion

- Tech push is hard, but can have great potential
- To find more 'exaptive' applications, creative methods are useful
- One can still not forget about the customers...
- CESP is tailored to find opportunities based on tech

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