IfM MANAGEMENT TECHNOLOGY POLICY

UNIVERSITY OF CAMBRIDGE
Department of Engineering

Strategic **T**echnology and **I**nnovation **M**anagement Programme 2020

5. Innovation velocity

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This project seeks to develop time efficient ways to assess how quickly a new technology will become relevant and accessible to specific companies and more effective ways to speed-up the progress of technology-based projects within companies.

Aims

- Continue developing the draft technology profiling approach from STIM 2019
- Explore how companies review and manage innovation velocity within their technology projects, looking wider than NPD cycle time.
- Consider how these two perspectives can be linked.

Approach

External view: The technology profiling approach has been developed into a one chart profile with 4 segments (market, business, technology, eco-enviro) and 16 dimensions, to be used with discussion slides based on an established innovation characterisation (Abernathy & Clark 1985).

Internal view: A project scoring approach has been developed based on tackling the three innovation velocity challenges: temporal uncertainty, conflict and scarcity which can be countered by means of effective scheduling, synchronisation and resource allocation (Ellwood et al 2017).

Activities in 2020

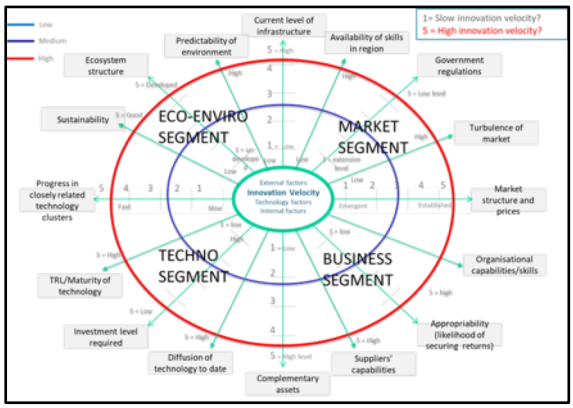
- Presented at the Network meeting in the Moller Centre and discussed with a number of STIM companies one-to-one (March).
- Featured in a STIM company webinar including a four question poll for both external and internal perspectives (May).
- Included as an group exercise on technological innovation in an ECS led module at DTU Copenhagen, where 7 groups scored different technologies using the profiling approach on MIRO. Online feedback questionnaires were completed by 14 participants (Sept).
- Piloted the two project perspectives in two workshops using MIRO, each involving 17-20 people (October).

Deliverables

- Overview of application potential given in two sets of Powerpoint slides for half day workshops on technology profiling and temporal project scoring.
- Insight into discussions on combining the two perspectives.

Future research in 2021

- Refine and test the technology profiling approach with metrics for the dimensions.
- Develop project scoring approach with additional questions for each temporal challenge.



Velocity Challenge	Project type 1	Project type 2	Project type 3	Velocity challenge
Steps to to reduce temporal uncertainty: Scheduling, Synchronising, Resource allocation	Eg Continuous improvement of existing capabilities	Eg Exploitation of technological capabilities	Eg Creation of technological capabilities	**Steps** to reduce temporal uncertainty: Scheduling, Synchronising, Resource allocation
Clock-time (=1) **Internal pacing (=1)** **Linear progress (=1)**	Score each element 1-5	Score each element 1-5	Score each element 1-5	**Event-time (=5)** **External pacing (=5)** **Cyclic progress (=5)**
Action A	1 2 3 4 5			Action B
Action C	1 2 3 4 5			Action D
Action E	1 2 3 4 5			Action F
Action G	1 2 3 4 5			Action H

Score your chosen projects 1-5 on each element (extremes are shown)

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