IfM MANAGEMENT TECHNOLOGY POLICY

UNIVERSITY OF CAMBRIDGE

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

Organising the front end of innovation

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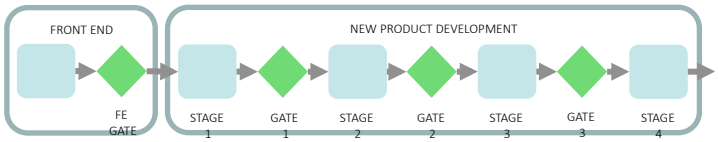
Delays, escalating project costs, product cancellations due to mismatch with company strategy, changes in product concept; each of these problems can be traced back to decisions made at the front end of the innovation process. Avoiding them requires a better organised front end of innovation.

Aims

The very early stages of the innovation process involve a number of distinct processes and decisions before formal innovation projects are initiated. The aim of this project was to develop a better understanding of how different techniques can be configured and matched to different business contexts in order to provide practitioners with the ability to improve the process for feeding the innovation pipeline.



The front end of innovation as a distinct phase from new product development

The front end of innovation contains a number of distinct processes: idea generation and selection, opportunity identification and analysis, and concept development. These implementation of these processes are affected by the culture of the organisation and the strategic vision and direction established by the organisation's leaders.

Progress

Research on this topic has been led by Simon Ford and supported by the work of two research students, Clémence Aubert and Emmanuelle Ryckewaert.

The lead project has seen the organisation of two STIM workshops sessions in March and October 2013, alongside 13 interviews. The first workshop session aimed to reveal some of the variety that exists at the front end for different types of innovation and identify some of the challenges at the front end.

Theme	Issue
Defining the need	• What is the problem? • Being clear of the need • Initial assessment not necessarily representative • Understanding 'new' markets
Managing ideas and opportunities	• Where do ideas and opportunities come from? • How to identify the best ideas and opportunities • How to deal with having too many ideas and opportunities
Process	• How to balancing the need to encourage idea generation vs need to kill unpromising ideas? • How to address uncertainty and ambiguity • How to deal with changes of concept
Organisation	• Front end of innovation challenges existing way of working • Corporate tension between exploration and exploitation • Risk aversion of senior management to novelty
Resource	• Gaining access to resources (finance, expertise, time) • Return on investment justification • Providing resources to operate the FEI system

Challenges at the front end of innovation

Category	Success factors
Product strategy	• Strategic alignment between NPD and strategy • Product positioning • NPD portfolio planning – balance risks and resource availability
Product definition	• Early, sharp definition • Preliminary market and technology assessment • Detailed customer needs analysis • Priorities for product features • Recognize need to change definition
Project definition	• Project priorities • Resource allocation planning • Planning for technical/market contingencies
Organisational roles	• Project manager's role • Team organisation through NPD • Organisational communications

Success factors at the front end of innovation (Khurana and Rosenthal, 1998)

Interviews focused on how different companies organise, manage and structure the front end of innovation. From the literature review, interviews and first workshop, the needs of companies were better understood and the requirements for improving the front end. As one of the planned deliverables of the project is the delivery of a workshop to inform and guide companies, the second workshop tested part of this intended content, focusing on the application of a design thinking approach.

The work of Clémence Aubert focused on customer involvement at the front end of innovation. Building on 26 interviews with practitioners, a model of customer involvement was developed, with three mechanisms of engagement identified: ethnography, new opportunity blueprinting and online communities. The challenges of implementation were identified for each of these mechanisms.

Research conducted by Emmanuelle Ryckewaert explored the effectiveness of computer-based idea management systems. Through in-company surveys of two organisations running such systems, the importance of the idea management system was found to be secondary to the need for employee education about the system and giving sufficient attention to operating the system.

Deliverables

The learning from this project will be disseminated through a workshop in Cambridge on 27th February 2014. This will be supplemented by a report summarising the key messages from this research. In addition, the dissertations of the two research students are also available.

Future research

This project has identified a number of future research directions for investigation during the second year of the STIM Consortium, including the role of demonstration and rapid prototyping in the FEI, business model innovation, and the enabling potential of technology at the FEI.