Innovation and Usability

User-centered Innovation

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About us

C-LAB

- Innovation Laboratory
  - Co-funded R&D projects (long-term perspective)
  - Commercial R&D projects (medium- and short-term)

More about C-LAB:
http://c-lab.de/
What this Presentation is About

What are user-driven innovations?

What role does usability play for the commercial success of an innovation?

What is Innovation?

Innovations are new approaches that address specific user needs

(New products, services, processes or new combinations or applications of existing solutions)

Source: http://www.flickr.com/photos/coisapakka/3056147095/
What is Innovation?

Not all needs are shared by large parts of the population. (Target group is not always the population → success in niches)

Source: http://www.flickr.com/photos/coisapakka/3056147095/

User-Driven Innovation

«Lead Users»: Very visible in the domain of Sport (snow boards, mountain bikes, sport nutrition etc.)

Source: http://www.zeroprestige.org
In many other domains such as medicine, accessibility, mobility or computer software (open source), necessity is the mother of invention.

Back around 1990, Wim Ouboter quit his job at a Swiss Bank.

He then realized that his favourite butcher had become too far away to walk, yet not far away enough to take the car or bike out of the garage.

So he built his own little vehicle…

Ten years later, he produced 80,000 micro scooters - a day.
User-Driven Innovation

Michael Näf encountered considerable coordination problems when trying to arrange for a dinner with his friends.

So, one day back in 2003, he sat down and set up a little web service.

As of today, more than half a million people a month use his service doodle.ch

Quality Aspects of a Product

Desirability
Does the user feel a strong urge to possess or use the product (even if it is not especially usable or functional)?

Usability
Can the user use the product in an effective, efficient and satisfying way?

Utility
Does the product comply with the functional needs of the user?
What role does Usability play in Innovation?

"Lead Users":
1. have needs that "normal" users have not yet discovered
2. have high personal and direct benefits from a new functionality

→ Strong intrinsic motivation to use a solution even if it is not very usable.
→ Utility (functionality) comes first.
→ Usability (for third parties) is of secondary (or no) importance.

Utility

Usability

Desirability (fun, status, etc.)

For the majority of future users, pure utility is not everything.
What role does Usability play in Innovation?

Other users with the same needs must recognize a functional solution and be convinced that they benefit from it, too.

Companies
1. have an indirect motivation for innovation (sell products to as many customers as possible)
2. often fail to correctly anticipate the exact future needs of the market

→ For a company, usability and user experience of its innovations are (apart from the utility) crucial for success
How to ensure Usability in Innovation Process?

In the early phases of the innovation process, the scope is to discover potential benefits of new concepts and to decide on the most promising options to proceed.

→ Use methods that produce constructive artefacts
  ▪ Ethnographical Studies / Field research / Requirement Analysis
  ▪ Persona and Scenarios of Usage
  ▪ Co-Design with users (Lead Users, Lead User Workshops)

→ be aware of standard usability-testing
  ▪ Tests generally focus on failures and shortcomings in order to improve "firm" concepts
  ▪ Tests rarely deliver input for revolutionary new ideas.
  ▪ Unfamiliar (yet promising and potentially revolutionary) solutions often fail in direct comparison with established concepts

→ At later stages of development (when a concept has to be improved), testing is often the method of choice.
Read more


**Prof. Eric von Hippel**

Head of the Innovation and Entrepreneurship Group, MIT Sloan School of Management

Download his books for free: http://web.mit.edu/evhippel/www/index.html

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Besten Dank für die Aufmerksamkeit

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Über das C-LAB:

- Forschungskollaboration zwischen der Uni Paderborn und Siemens IT Solutions & Services (SIS)
- Innovationswerkstatt von Siemens SIS und Uni Paderborn
Usability-Dienstleistungen des C-Lab

Methodenkompetenz
- Focus-Groups
- Usability-Tests
- Expertengutachten
- Nutzerstudien und Bedarfsanalysen
- Papier- und Klickprototypen für einzelne
  Interaktionsprozesse, Websites, RIAs und Software
- ...

Beratung & Prozessbetreuung
- Workshops & Schulungen
- GAP-Analyse
- Prozesseinführung

Der User-Centered Designprozess

Anforderungsanalyse
- Benutzer (-gruppen)
- Aufgaben / Ziele
- Organisation
  → Workflow-Beschreibung
  → User Goal Use Cases

Evaluation
- Walkthroughs
- Experten-Prüfungen
- Usability-Tests
- Focus-Gruppen
  → Verbesserungen

Entwurf und Gestaltung
- Interaktionskonzepte
- Navigationskonzepte
- Prototyping
- Interface-Design
  → Konzepte / Prototypen