

Introduction to
Product Design and Innovation

December 3rd, 2013

Customer Needs & User Needs Assessment

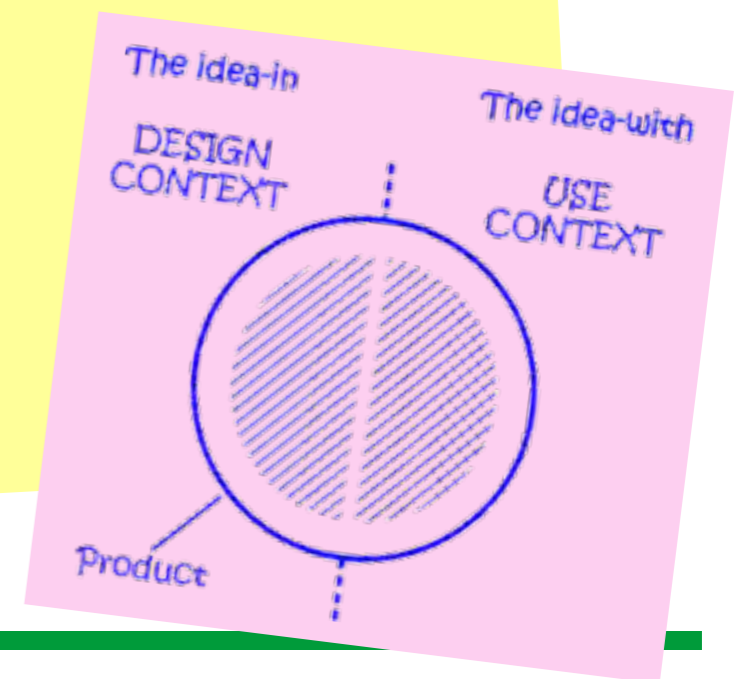
Needs Assessment

- Customer vs. End User
- Making needs visible
 - Explicit, Implicit, Latent
 - Wants vs. needs?

Background

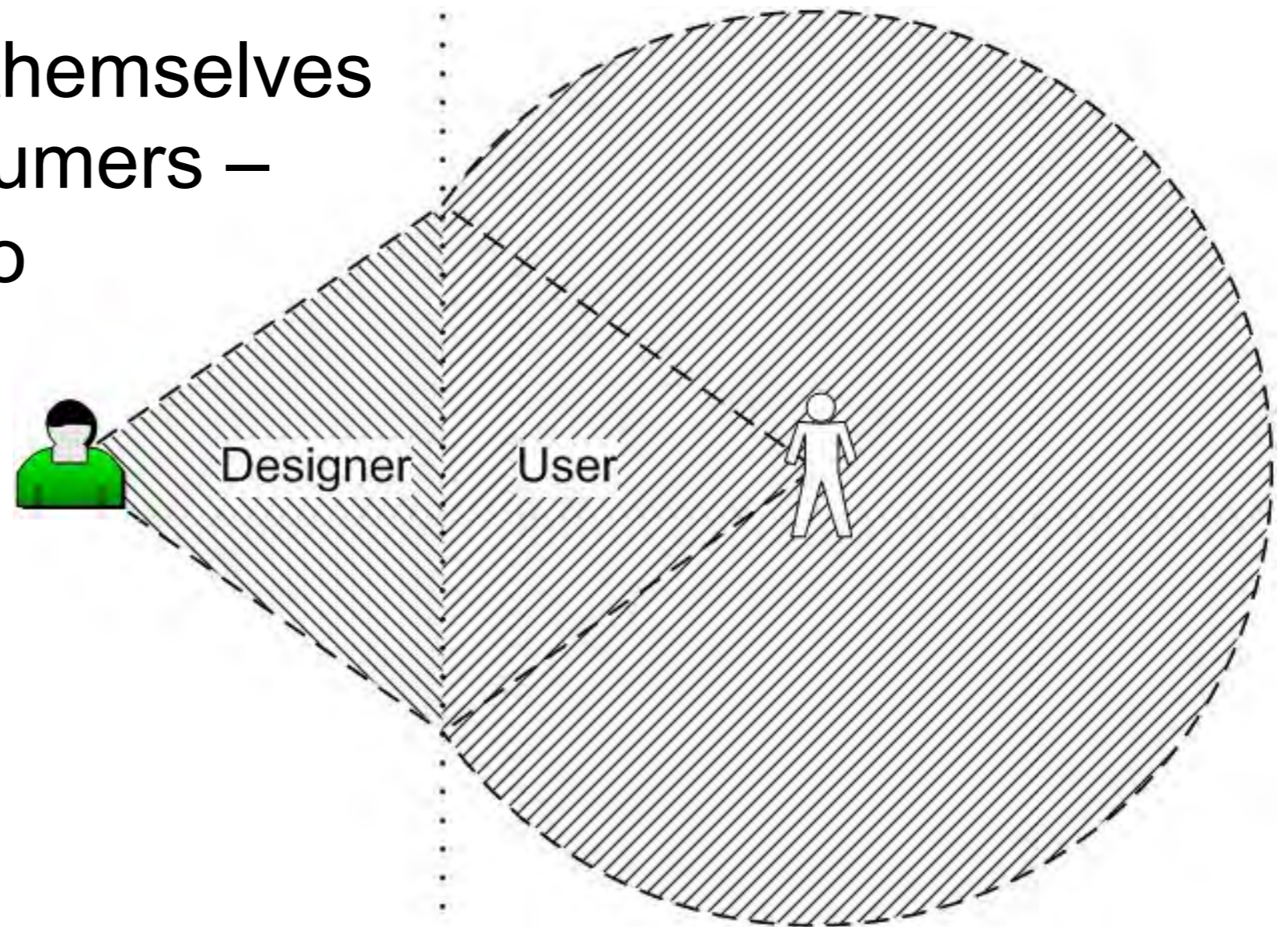
NOTES:

- Understanding user needs is crucial in NPD
- Designer's and user's perceptions of a product differ
- The designer is not the user, and thus understanding what users truly need can be difficult
- Key to understanding is to comprehend, how the users fundamentally perceive a product

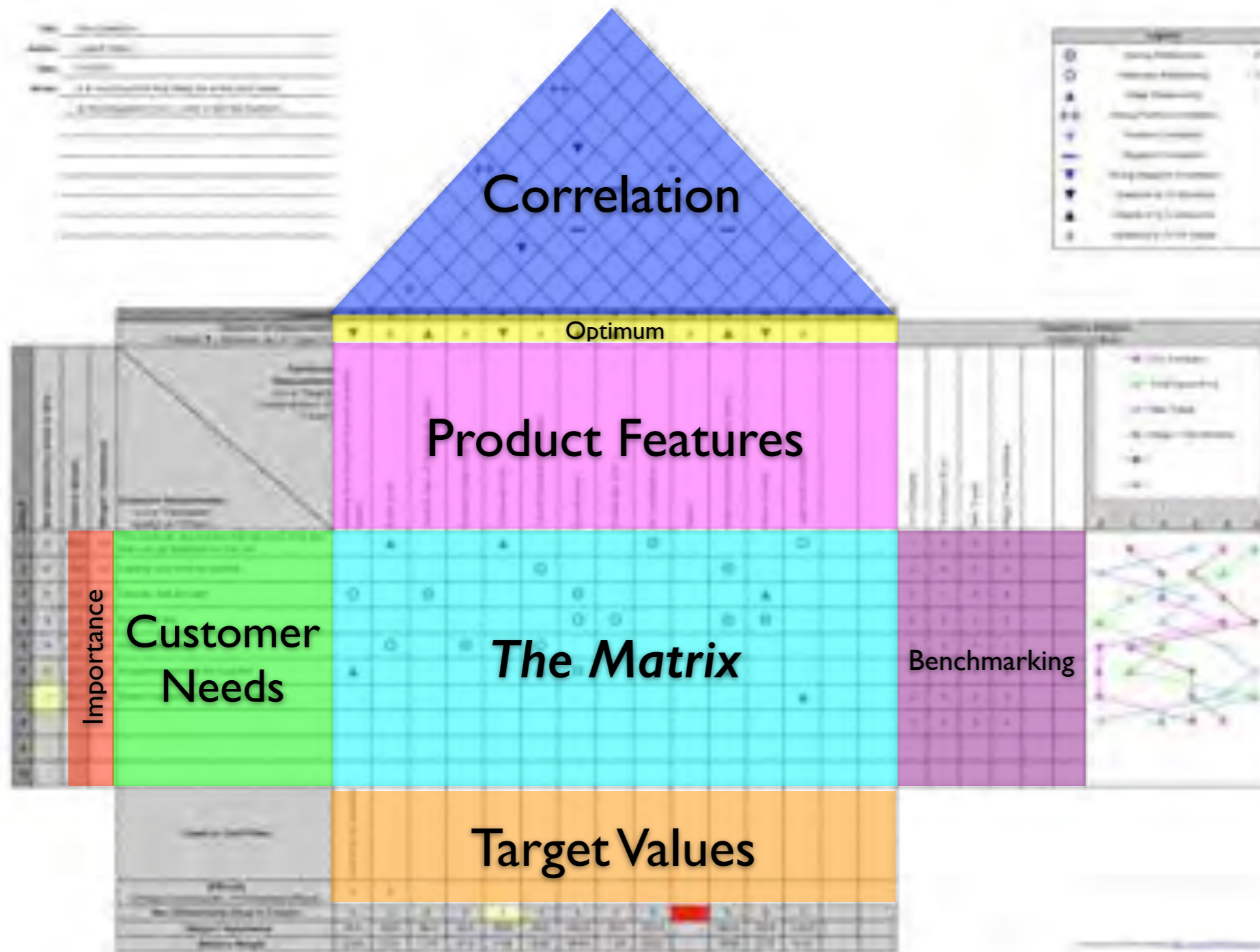


Use-centric Thinking

- Users don't see themselves as users or consumers – only designers do

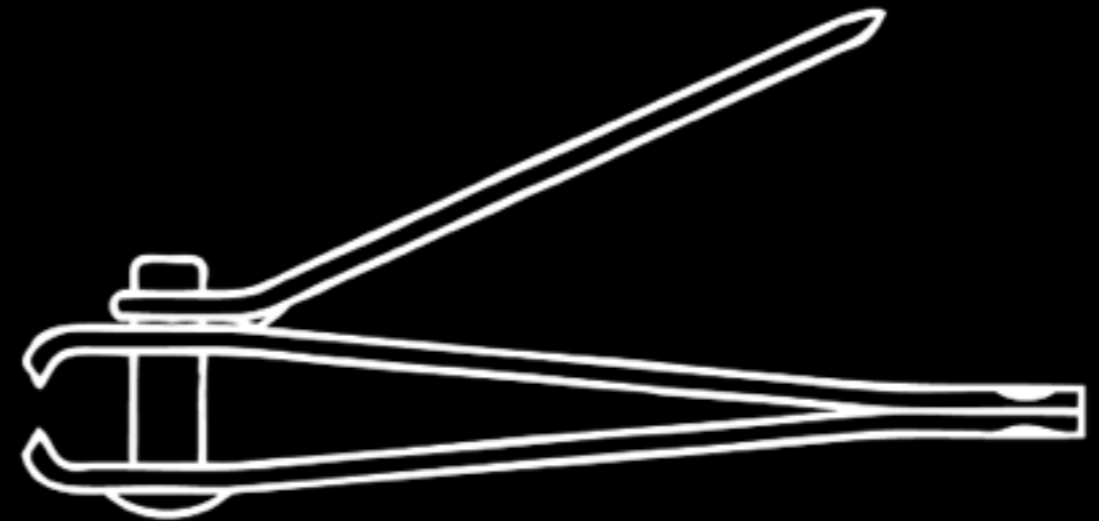
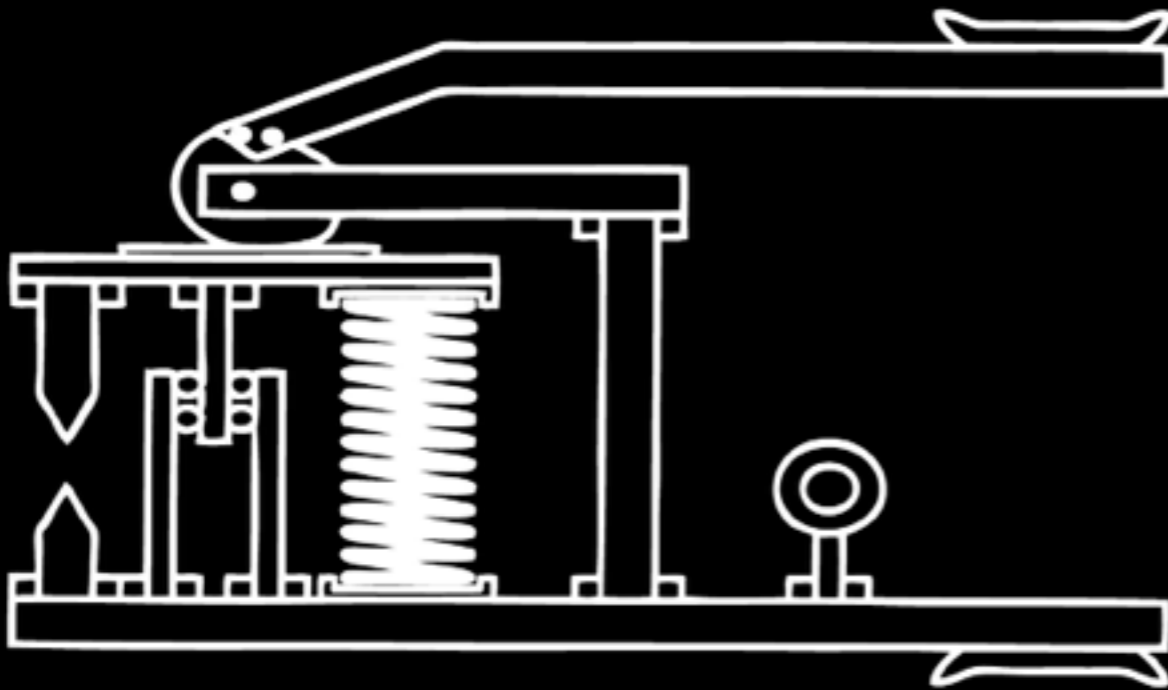


House of Quality (HoQ)



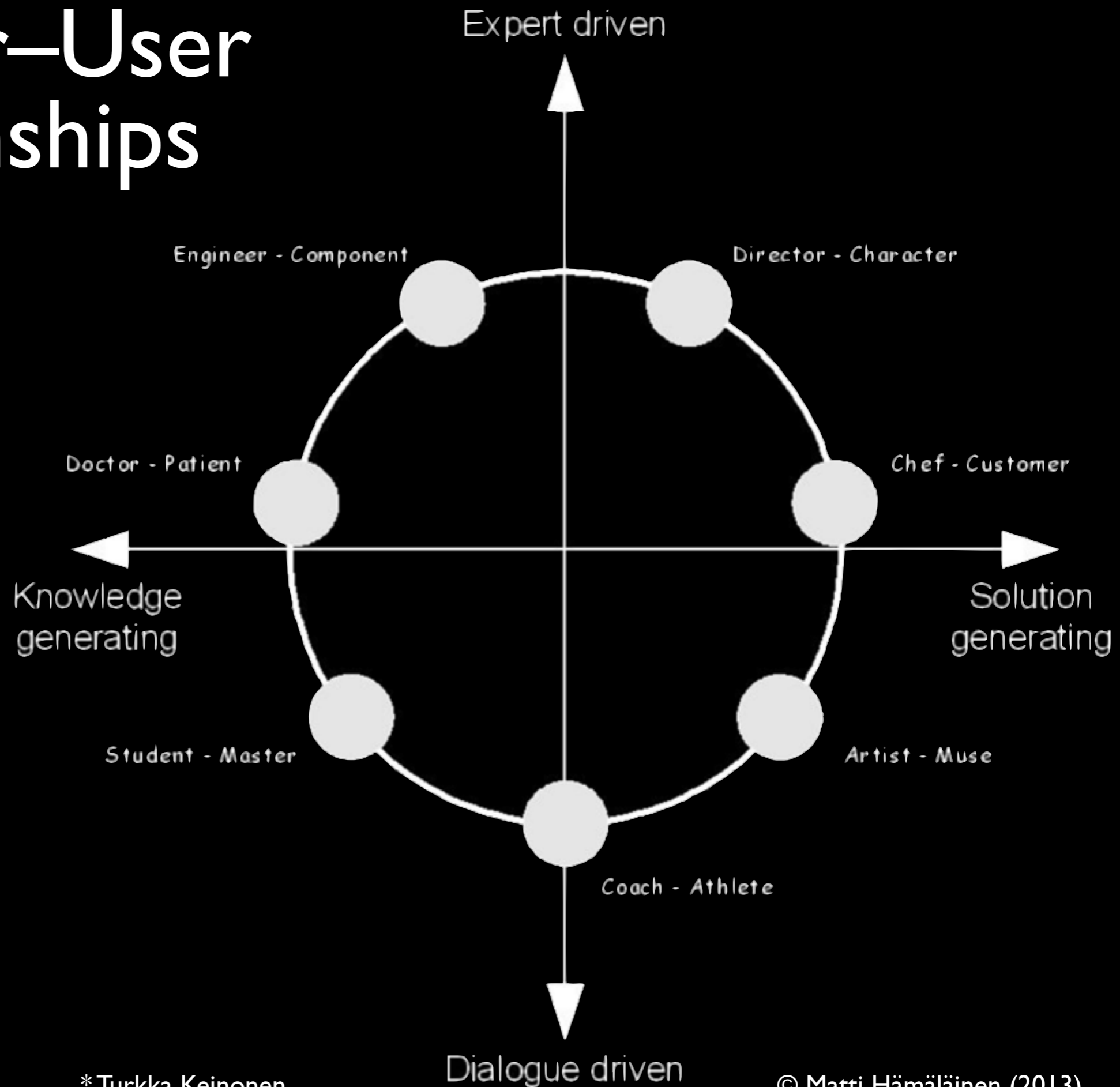
- Needs–
metrics
comparison
 - Scale: 1, 3, 9
- Optimum:
 - \uparrow or \downarrow
- Correlation:
 - $+$ or $-$
- Benchmarking:
 - $+$ or $-$

Starting Point?



© Daniel E Whitney 2004

Designer–User relationships



*Turkka Keinonen

© Matti Hämäläinen (2013)

Service Dominant Logic

- Characteristics of Service
 - Co-creation
 - Not storable
 - Simultaneous production & consumption
 - Always unique
- When & where is **value** generated?
- How to deliver value to the customer?
 - Product
 - Service
 - Product Service System

Lead Users



Lead Users

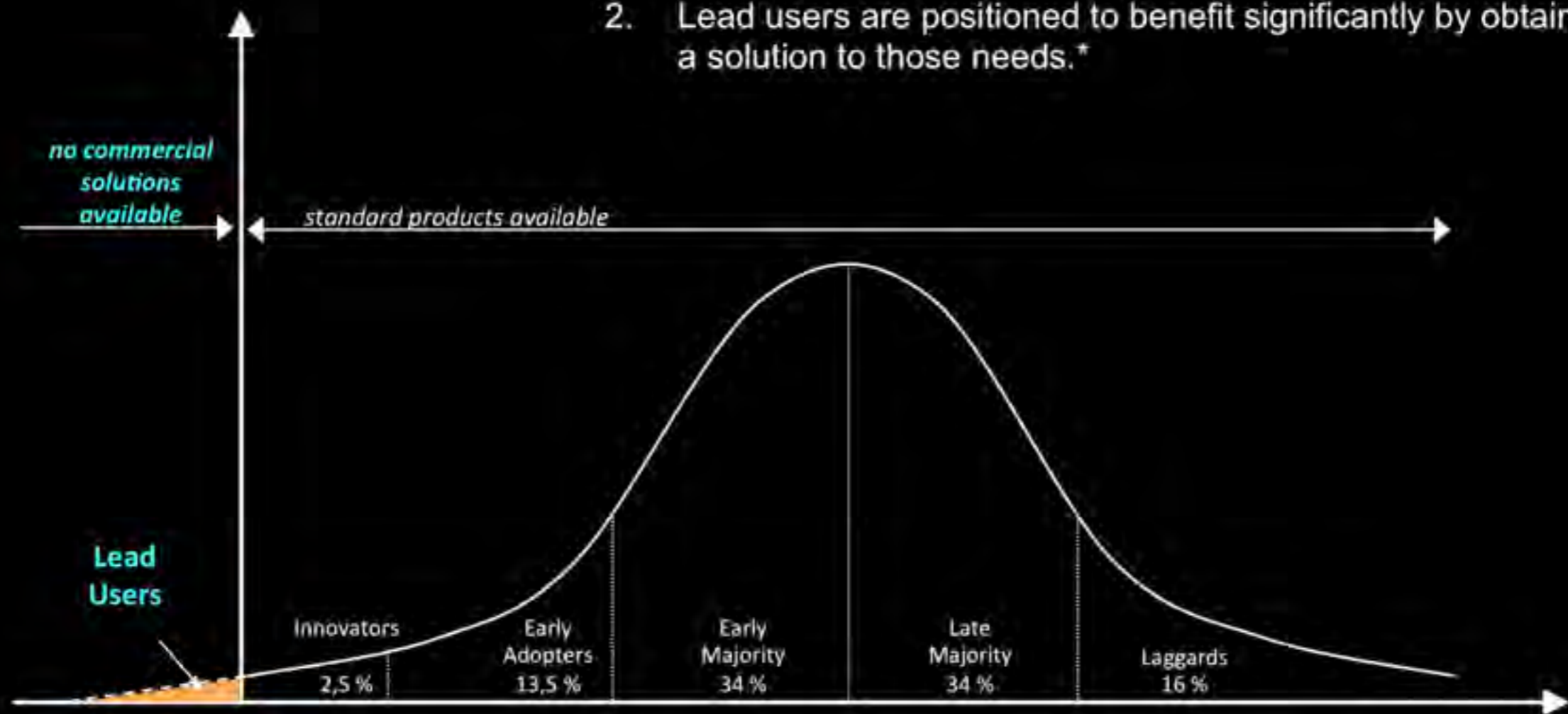


Lead Users



Lead Users

1. Lead users face needs that will be general in a marketplace – but face them months or years before the bulk of that marketplace encounters them.
2. Lead users are positioned to benefit significantly by obtaining a solution to those needs.*



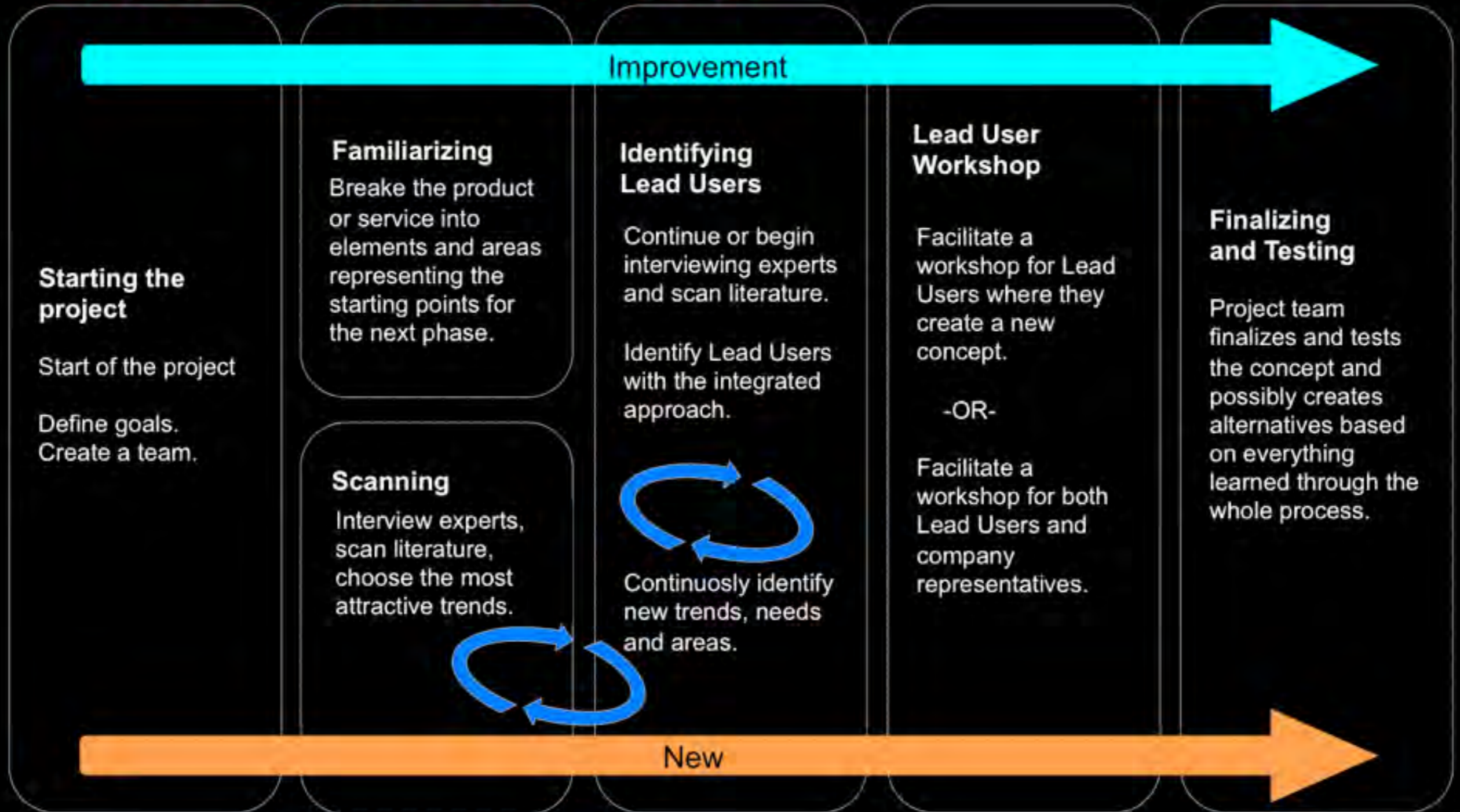
von Hippel's lead user theory + Rogers's diffusion theory

*von Hippel, E. (1986) *Lead users: a source of novel product concepts*. *Management Science* 32, pp 791–805.

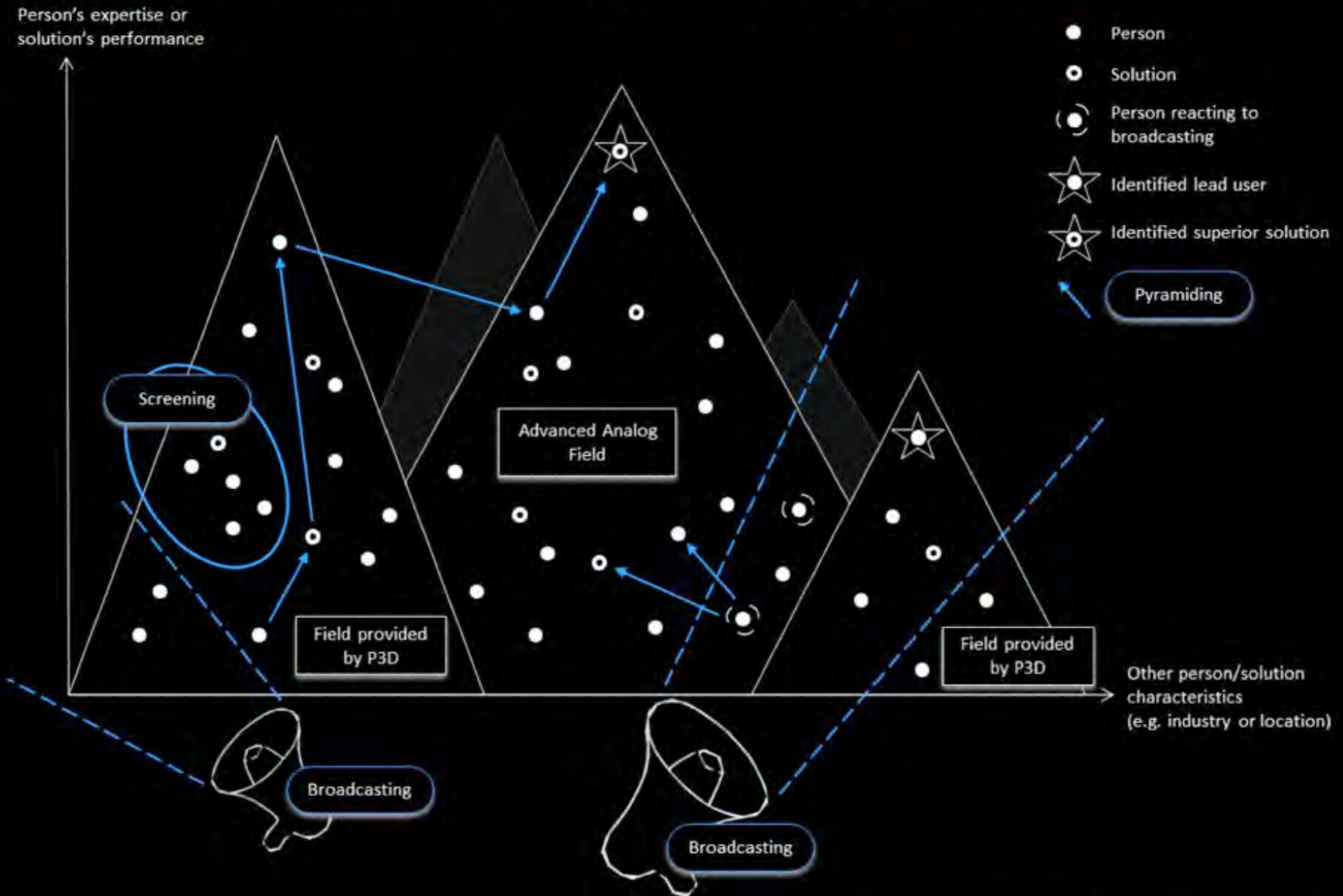
Rogers, E. M. (1995) *Diffusion of Innovations*. 4th ed. New York: Free Press.

Helminen, P. (2008) "Disabled Persons as Lead Users for Silver Market Customers. In Kohlbacher & Herstatt (Eds) *The Silver Market Phenomenon: Business Opportunities in an Era of Demographic Change*, pp. 85–102, Springer.

Lead Users - Process



Lead Users – Integrated approach



Toolkits

- Manufacturers abandon attempts to understand user needs in detail
- Sets of design tools enabling users to develop solutions for themselves
- Firms increasingly seek to serve "markets of one"
- Toolkits are specific to a certain field or subfield
- Quick, lower costs

Toolkits – Case: Nestle

- One major business at Nestle's Foodservices Division is production of custom food products, such as Mexican sauce
- Traditionally developed or modified by chain executive chefs, who
 - use food ingredients available to restaurants and individuals
 - process them on restaurant style equipment
- Food factories have different sources of ingredients and use volume production equipment
 - It will not taste, look or feel the same!

Toolkits – Case: Nestle

- Solution: provide the chefs with a toolkit including:
 - processing restrictions
 - same industrial style ingredients
 - for example in the case of Mexican sauce chili puree would have traces of tomato and such
- Result: custom food development was reduced from 26 weeks of iteration to 3 weeks