

Mature Organizations, Innovation, and Standards

Ted Habermann

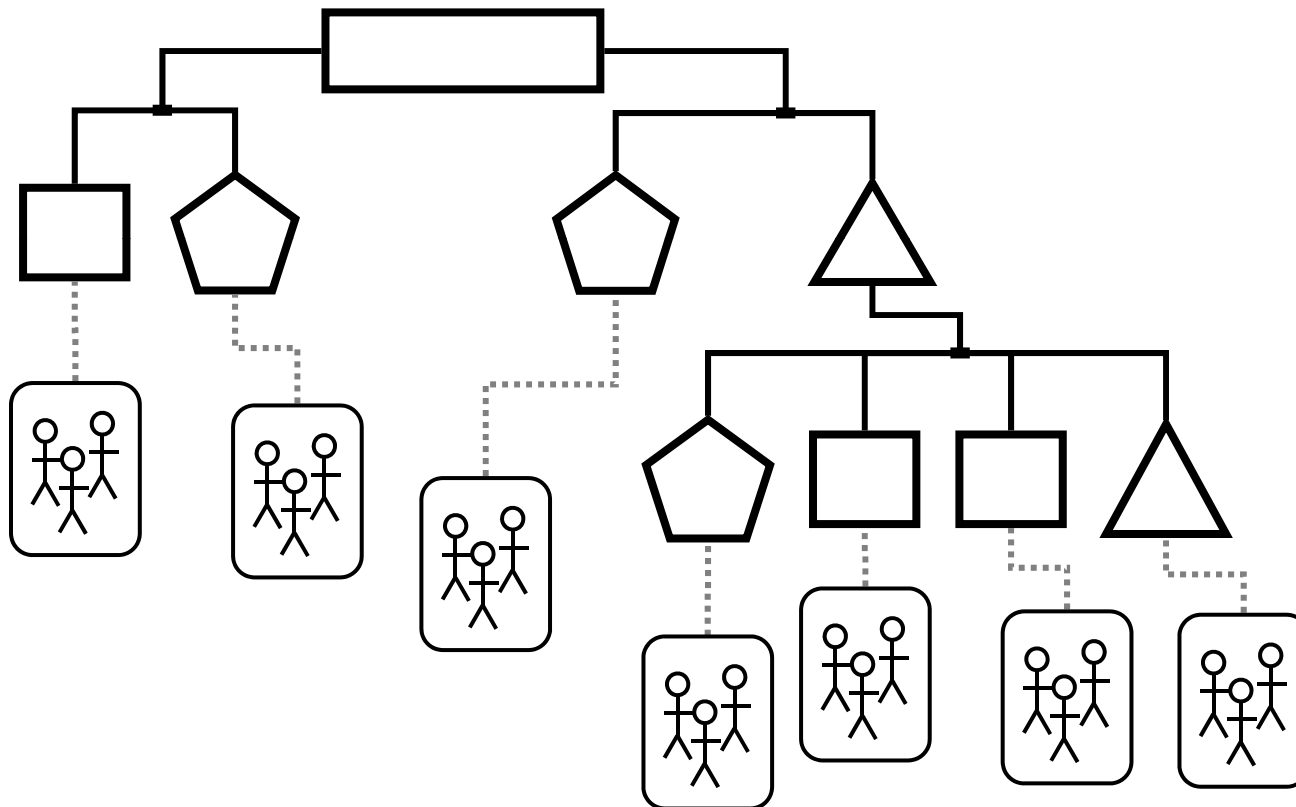
NOAA National Data Centers

“There are special management challenges, and I think that's an area that we in agencies such as NOAA, need to spend an extra amount of time on. We have very talented employees, many of whom have advanced degrees, and they have been successful because of certain behaviors in their field. As you progress through the system in any organization, you need to develop other skills;...”

Vice Adm. Lautenbacher

Mature Organizations

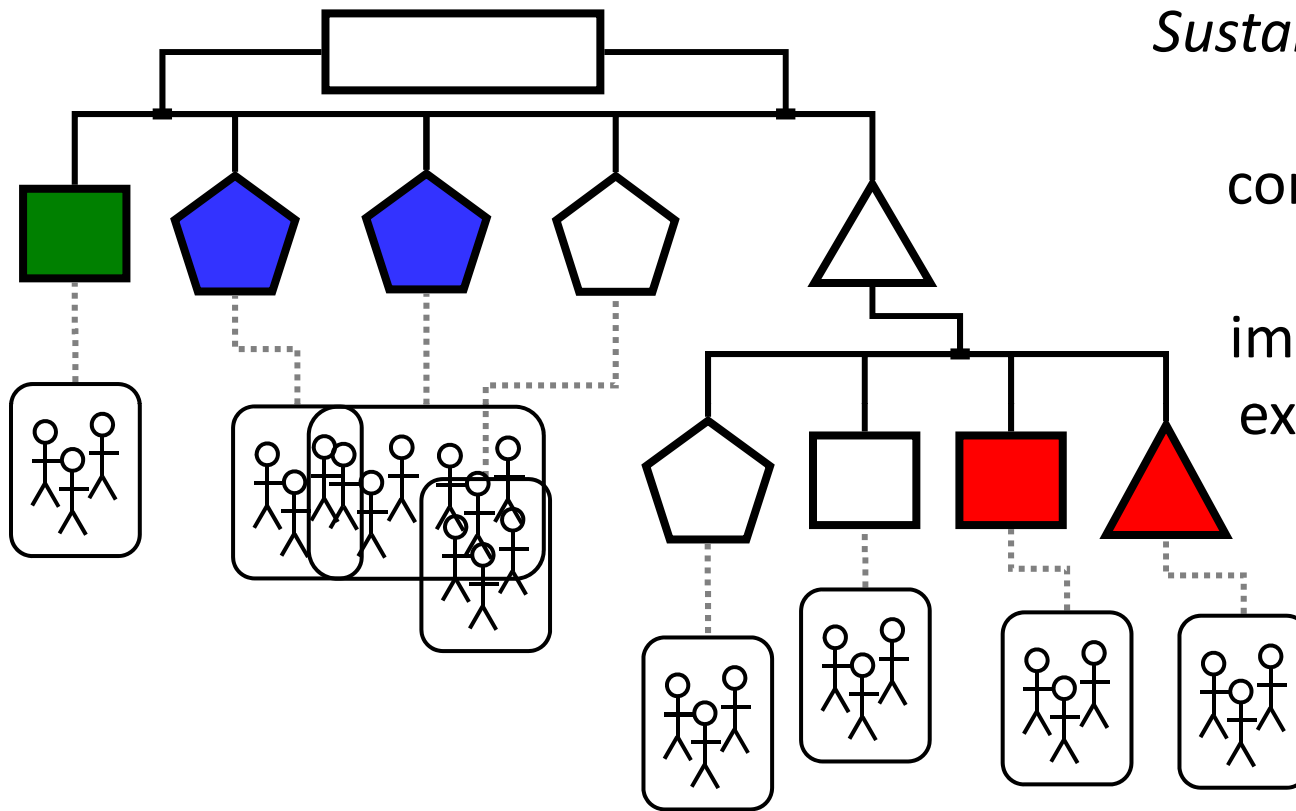
Organizational structures tend to evolve to match the products and services that an organization creates or provides



and, each organizational component develops a group of customers.

Mature Organizations have a structure optimized to serve well developed customer groups.

Types of Innovation



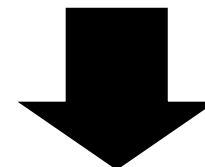
Sustaining Innovation:
Making existing components better.
Easy because it improves service to existing customers.

Disruptive Innovation:
serving new and/or unknown customers.

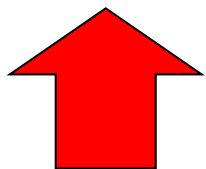
Hard because it includes elements of organizational change.

Unidata Objectives (2003):

Sustaining Innovation



“These objectives either *respond* to users' current needs or *advance* Unidata toward meeting future needs effectively. Most of the "responsive" items are continuations of current Unidata objectives, and their importance is well established. *But only by looking beyond present needs to anticipate future ones, and by pursuing the most promising technical advances, can Unidata remain effective. This is true even though some of these advances involve uncertainties, and the demand for them may not be apparent as yet”.*



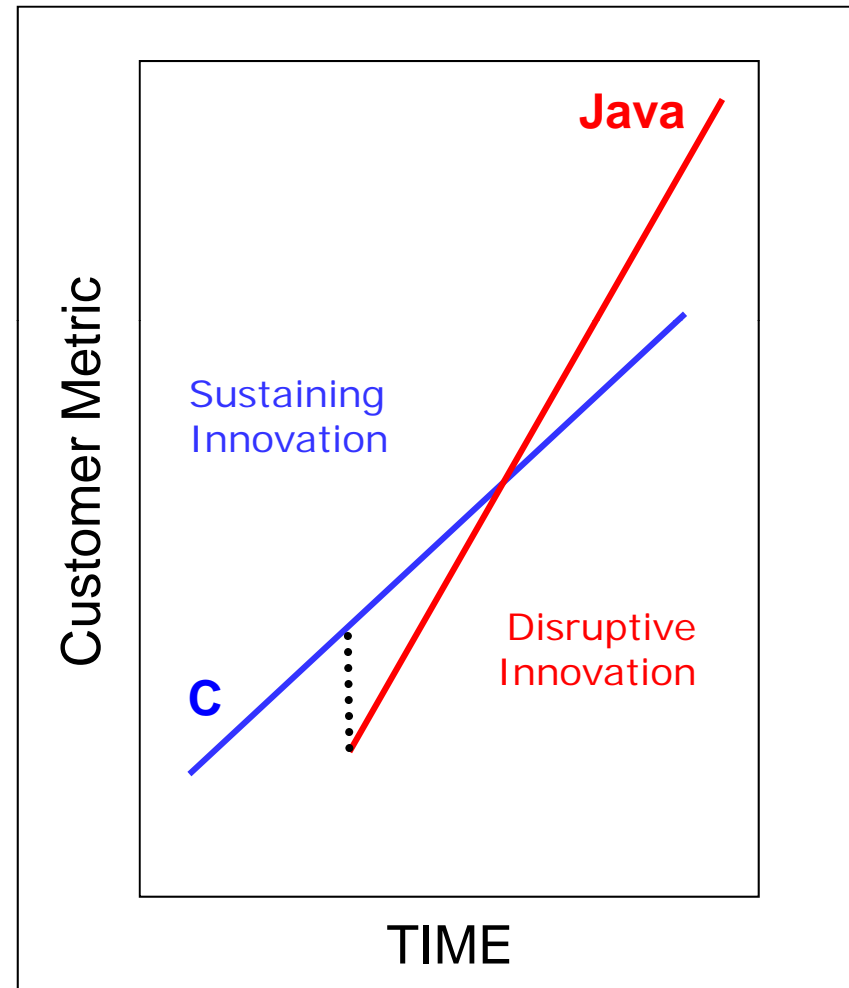
Disruptive Innovation

Clayton Christensen, The Innovator's Dilemma

Unidata (netCDF) Evolution

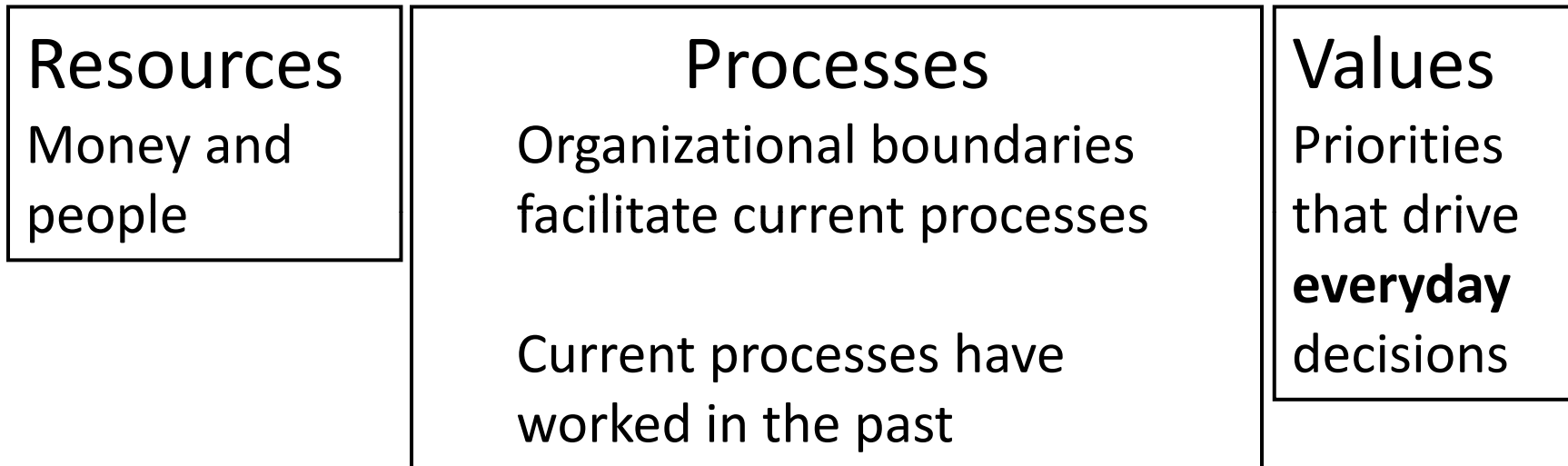
Disruptive Innovation: Always includes a decrease in metrics for current customers so it is difficult for mature organizations.

In the Unidata case we are now seeing the disruptive switch to Java play out. The capabilities of the Java version of the netCDF libraries have now caught up with the original C version.

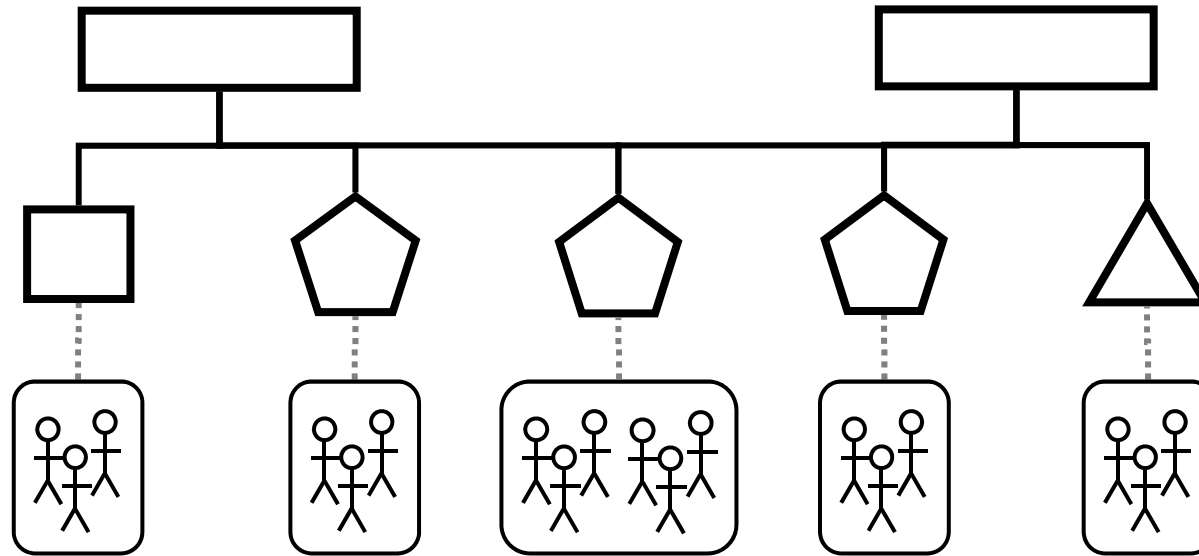


Organizational Capabilities

Not the sum of individual capabilities



Partnerships



Partnerships involve serving new customers.

Partnerships are disruptive and potentially architectural.

Partnerships require process and value changes.

We do not have a lot of experience doing these things.

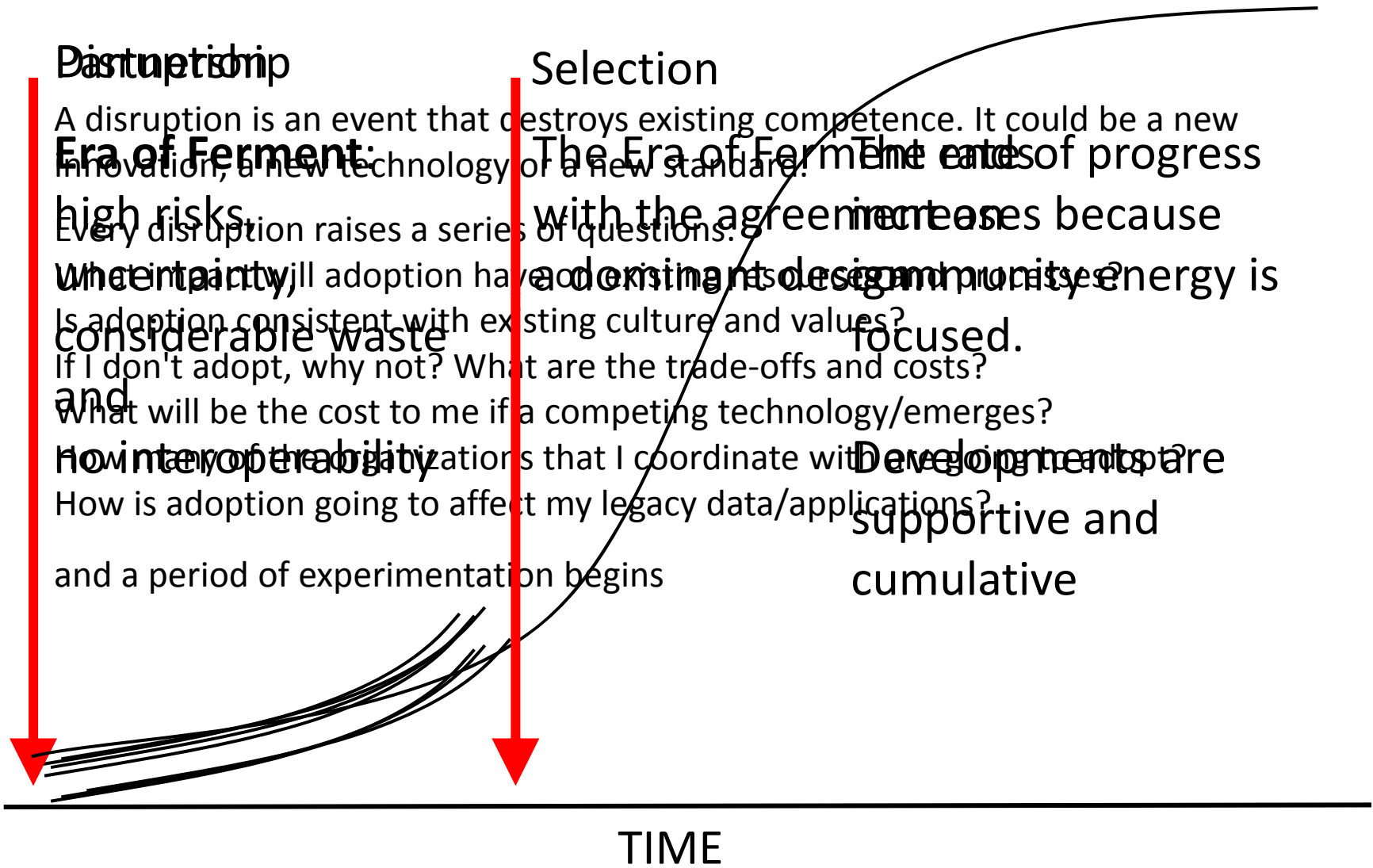
Partnerships are always hard.

Ferment

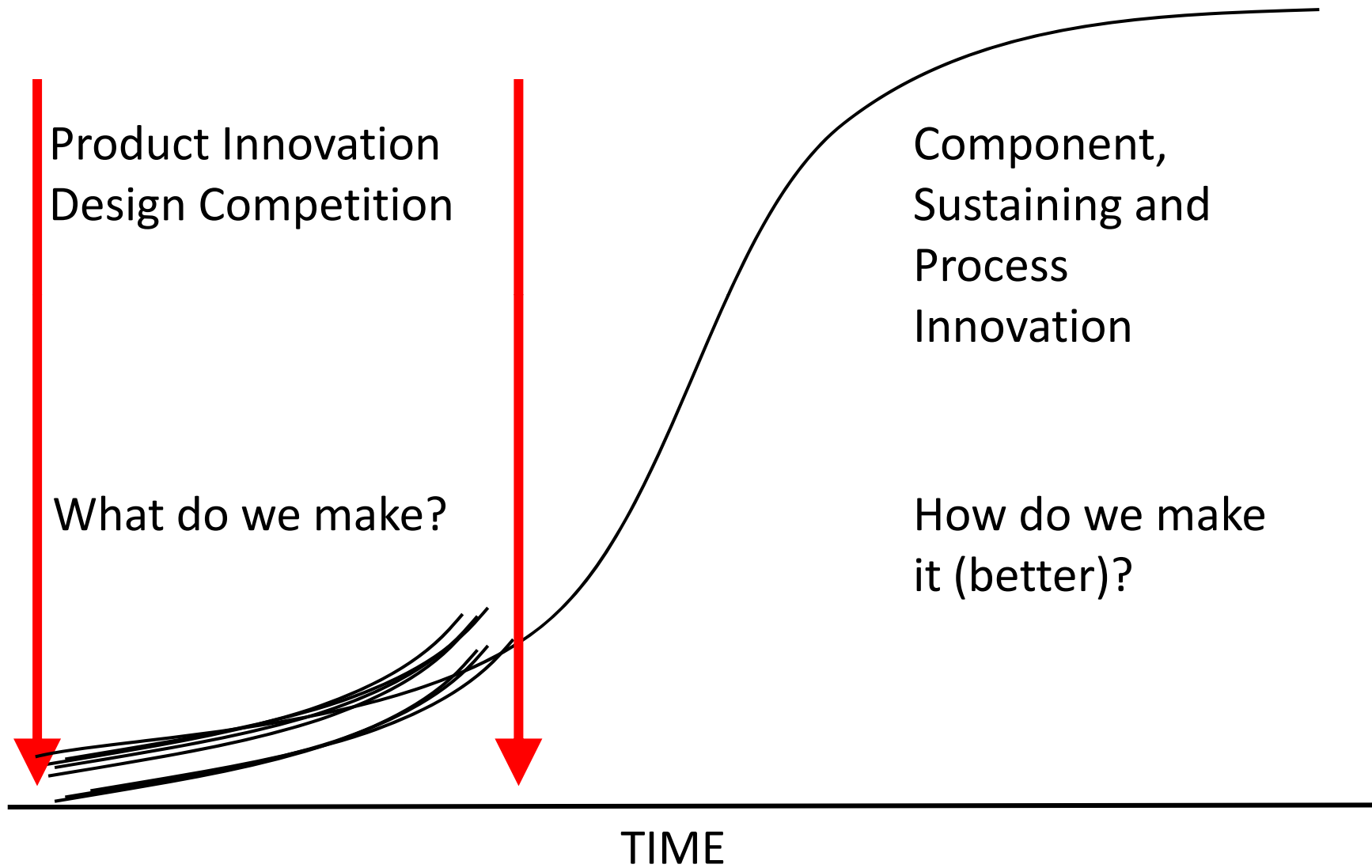


Ferment: A state of agitation, turbulent change or development

Ferment in the Adoption Cycle

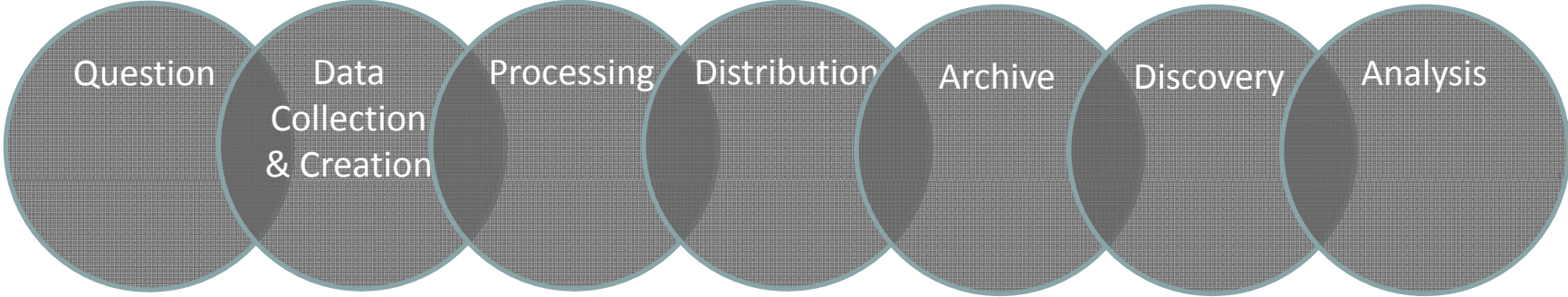
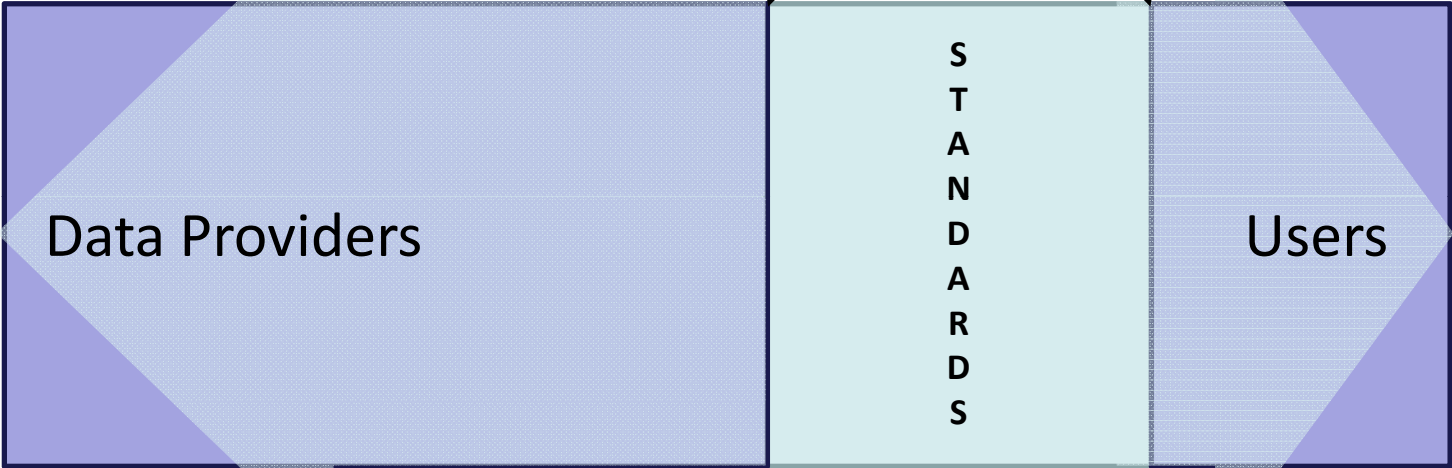


Innovation in the Adoption Cycle



Ferment in the Data Life Cycle

Interfaces are Ferment Maxima.
Ferment is decreased by
agreement between groups



Heroes Don't End the Era of Ferment



Communities Do...

Silo Busting

Coordination - Individual units are historically focused on perfecting their products and processes, and give little thought to how their offerings might be more valuable when paired with those of another unit... While cross-silo teams and processes can be effective, they are not easy to implement. A history of independence often leads to protectionist behavior.

Culture of Cooperation - At least half the battle of promoting cross-silo cooperation lies in the "Softer" aspects of culture, including values and the way the company communicates them... Of course, the softer measures won't take hold if the harder ones - power structures, metrics and incentives - don't reinforce them.

Capability Development - Regardless of the incentives and cultural elements in place, employees will fall back on their old competencies and ways of thinking if they haven't developed new skills... Old habits die hard.

Silo Busting: How to Execute on the Promise of Customer Focus, Ranjay Gulati, Harvard Business Review, May 2007

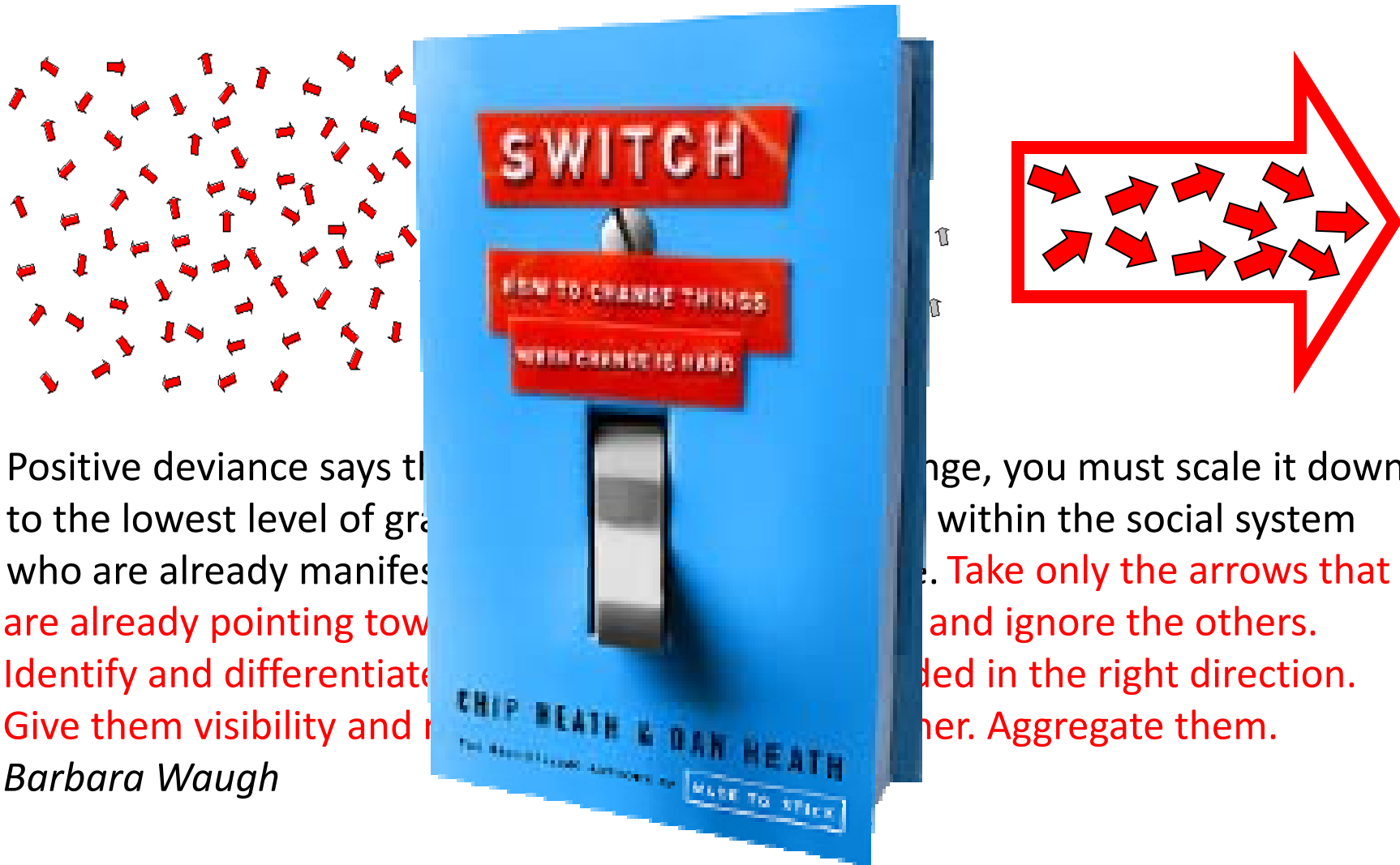
Structuring the Team

The reason why innovation often seems to be so difficult for established firms is that they employ highly capable people and then set them to work within processes and values that weren't designed to facilitate success with the task at hand.

Ensuring that capable people are ensconced in capable collections of resources, processes, and values (teams) is a major management responsibility in an age such as ours, when the ability to cope with accelerating change has become so critical.

Clayton Cristensen

Leadership Model: Positive Deviance



Positive deviance says that to the lowest level of grassroots who are already manifesting. **are already pointing toward** Identify and differentiate. **Give them visibility and** Barbara Waugh

change, you must scale it down within the social system. **Take only the arrows that** and ignore the others. **ded in the right direction.** her. Aggregate them.

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