Session XI

August 2023

Innovation – Challenges & Barriers

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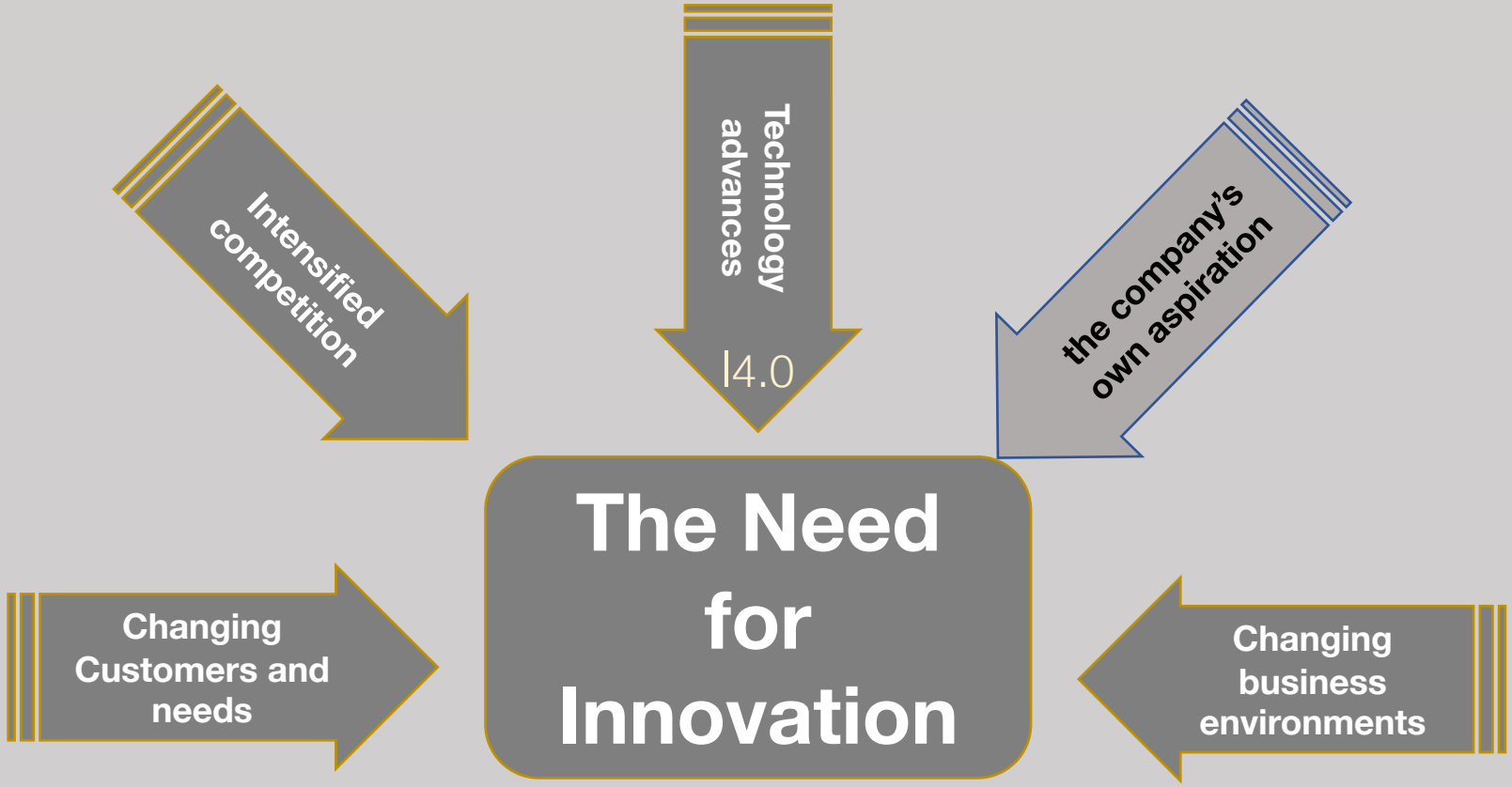
Need for Innovation

Challenges & Barriers



from Session III 'Uncertainty and Risk' we considered

Challenges & Barriers

"Obstacles that will need to be addressed for a sustainable culture of innovation…"

The BIG 7

1. ?
2. Short-term thinking
3. Lack of time, both resources or staff
4. Lack of "spec time" to develop new ideas and opportunities
5. Innovation not articulated as a company-wide commitment
6. Lack of ownership by senior leaders
7. Leadership expects payoff sooner than is realistic

from Session III 'Uncertainty and Risk' we considered

Challenges & Barriers

"Obstacles that will need to be addressed for a sustainable culture of innovation…"

…to those you can add….

- Constantly Shifting priorities
- Internal process rather than external customer focus
- Focussing on the success of the past rather than the challenges of the future
- Unwillingness to acknowledge and learn from past failures
- Reward crisis management rather than crisis prevention
- Belief that innovation is inherently too risky
- Inadequate understanding of customers
- Politics – efforts to sustain the status quo to support entrenched interests
- Hierarchy – over-management and reviewing of new ideas

Challenges & Barriers

Barriers that will need to be addressed for a sustainable culture of innovation:

1. Lack of a shared vision, purpose or strategy
2. Short-term thinking
3. Lack of time, resources or staff
4. Lack of “spec time” to develop new ideas and opportunities
5. Innovation not articulated as a company-wide commitment
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?

Challenges & Barriers

So in addressing ‘Barriers and Challenges’

do we need to consider the environment within the company –

is it conducive to great innovation ?

...our work environment ?

Challenges & Barriers

What can poet Charles Bukowski tell us about the psychology of innovation?

Paul Simpson (2021)

“There are people working in superb, luxurious state of the art centres, designed to stimulate innovation who will tell you that.....

..... the environment doesn’t make them feel innovative at all”

...our work environment ?

Challenges & Barriers

Ellie Runcie, a technology project leader that has helped many high-tech companies to innovate, and is able reel off a number of absurdities.....

”.....some people work for organisations that are highly likely to send their people on team-building outward bound courses who actually feel extremely uncomfortable with the experience -

Challenges & Barriers

Could the presence or absence of a few of the right people in the right places make a difference?

The personal attributes, interests, knowledge and other attributes of our people, plays an important role in determining how quick the firm will successfully introduce and adopt innovation.

Challenges & Barriers

1. Lack of a shared vision, purpose or strategy

- A **strategy** is important, as it provides part of the navigational needs for innovation,for both the direction and the destination.
- The need for people to understand the **purpose** - as it provides the reason and a realistic and achievable goal.
- Capturing and sharing the **vision** will always be the catalyst for the successful adoption of an innovative culture

The way management communicates often only gives employees a vague idea of the vision.

Every innovation management programme needs a vision, which should be;

inspiring

realistic

Creating the Vision

Challenges & Barriers

Edmond Harty is the CEO and technical director of Dairymaster, a milking equipment manufacturer. County Kerry Ireland

Managed the development of many products, and as a result has over 40 patents; ranging from vacuum regulators and electronic milk metering to state of the art animal feeding systems

Creating the Vision

Challenges & Barriers

‘When a vision is clear, consistently articulated and widely shared, decisions throughout the organisation can be made in a more consistent and directed way.’

Interviews with Dr Edmond Harty conducted by Claire McBride 2016

Challenges & Barriers

Overall, the innovation vision should address some or all of the following issues:

1. How customers will directly benefit from the improved products, services and processes that will result from greater innovation performance.

2. How quickly innovations will be developed: Is the organisation first to market, or a follower? Should it be faster to market - should it slow down a bit and be more considered in its approach?

Challenges & Barriers

Overall, the innovation vision should address some or all of the following issues:

3. Should there be a more considered step by step incremental movement forward,

remember the charge of the Light Brigade was valiant,

but neither was sitting tight in The Alamo !?

4. Will innovation make significant improvements to an organisation's competitive position.

A few Ingredients for successful influencing

Challenges & Barriers

1. An idea or proposal that stacks up
2. How your own personality affects the way we convey our message and how it is received by others
3. An appreciation of organisational culture and its impact on the decision-making process
4. The ability to adapt your approach to meet the personal and cultural preferences of those decision makers
5. An awareness of internal processes and decision-making cycles in the target organization.

Agile Vrs Waterfall ?

AGILE

practices ‘approach discovering requirements’ - and developing solutions through the collaborative effort of self organising and cross functional teams and their customers or end users.

WATERFALL

This is a breakdown of project activities into linear sequential phases, where each phase depends on the deliverables of the previous one and corresponds to a specialization of tasks.

Development Methods (strategy & purpose)

Challenges & Barriers

ALIGNING PROJECT TRAITS *with* DEVELOPMENT METHODOLOGIES

PROJECT TRAIT/FACTOR	AGILE	PLAN - DRIVEN (WATERFALL)	COMMENTS
CUSTOMER AVAILABILITY	Prefers customer available throughout project.	Requires customer involvement only at milestones.	Customer involvement reduces risk in either model.
SCOPE/ FEATURES	Welcomes changes, but changes come at the expensive of Cost, Schedule, or other Features. Works well when scope is not known in advance.	Works well when scope is known in advance, or when contract terms limit changes.	Change is a reality so we should prefer adaptability where possible. Contract terms sometimes restrict it.
FEATURE PRIORITIZATION	Prioritization by value ensures the most valuable features are implemented first, thus reducing risk of having an unusable product once funding runs out. Funding efficiency is maximized. Decreases risk of complete failure by allowing "partial" success.	"Do everything we agreed on" approach ensures the customer gets everything they asked for; "all or nothing" approach increases risk of failure.	Contract terms may not permit partial success and may require "do everything".
TEAM	Prefers smaller, dedicated teams with a high degree of coordination and synchronization.	Team coordionation/ synchronization is limited to handoff points	Teams that work together work better, but when contracts are issued to different vendors for different aspects of the project, high degrees of synchronization may not work.
FUNDING	Works extremely well with Time & Materials or other non-fixed funding, may increase stress in fixed-price scenarios.	Reduces risk in Firm Fixed Price contracts by getting agreement up-front.	Fixed price is tough when scope is not known in advance, but many government contracts require it.
SUMMARY	Agile is better, where it is feasible.	Plan-Driven may reduce risk in the face of certain constraints in a contract between a vendor and external customer such as the government.	Through educating our customers about the strengths and weaknesses of each model, we hope to steer them towards a more Agile approach. This may require changes to how our customers, particualarly the government, approach software development projects.

https://www.seguetech.com/waterfall-vs-agile-methodology/

Development Methods (strategy & purpose)

Challenges & Barriers

‘Agile Manifesto’ reads;

‘’We are uncovering better ways of developing software - by [*just*] doing it and helping others do it.

.....through this way of working we have come to value:

- Individuals and interactions over processes and tools
- [*creating*] Working software over detailed documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

Development Methods
(strategy & purpose)

Challenges
& Barriers

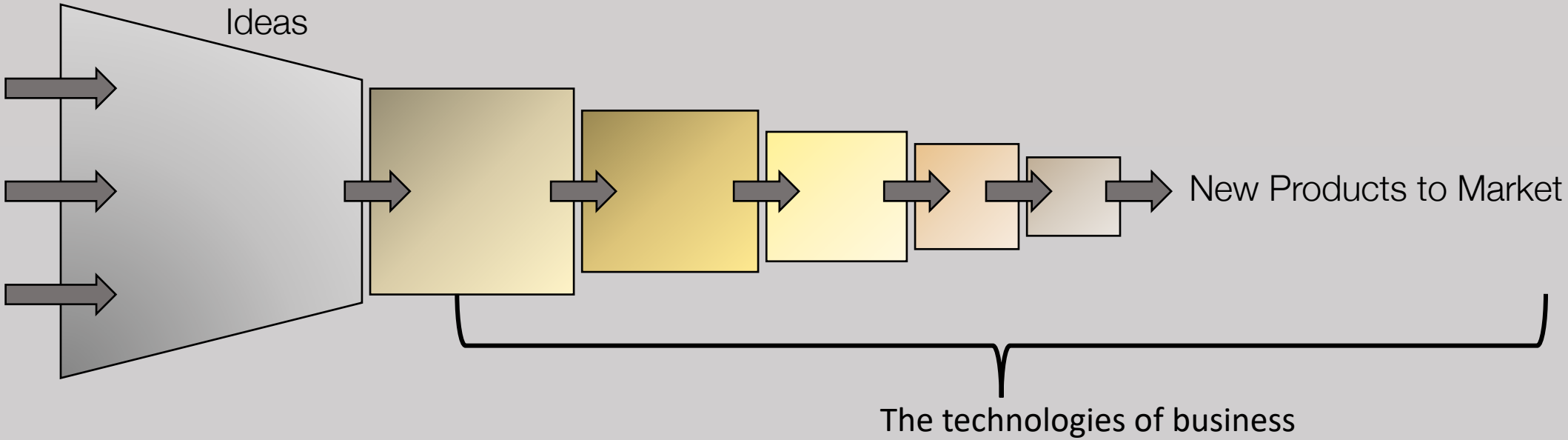
Organisation → Roles, Accountabilities, Ownership, Business Strategy

Process → Idea Generation, Idea Selection, Project Management, New Process or Product Launch

Culture (people) → Team Dynamics, Collaboration, Thinking Styles

Development Methods (strategy & purpose)

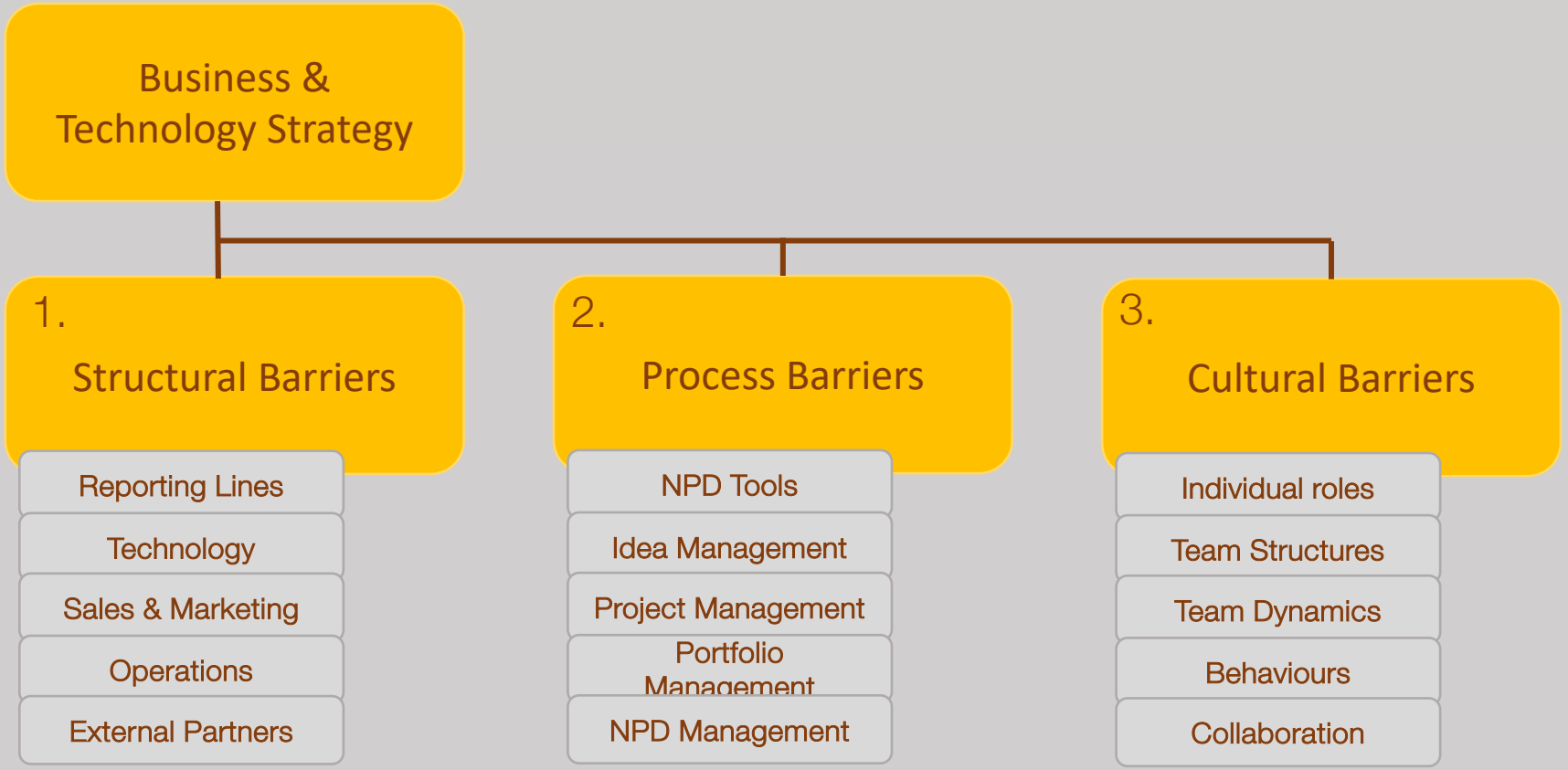
Challenges & Barriers



Abstract Concepts	Hard Action/Project Execution	Selling
Divergent Thinking	Convergent Thinking	Marketing

Barriers to the Development Methods (strategy & purpose)

Challenges & Barriers



Further Reading.....

Challenges & Barriers

Take a look at Trott's considerations of "**Managing Innovation within Firms**"

- The dilemma of innovation management
- Innovation dilemma in low technology sectors
- Dynamic capabilities
- Managing uncertainty
- Pearson's uncertainty map
- Applying the uncertainty map in practice
- Organisational characteristics that facilitate the innovation