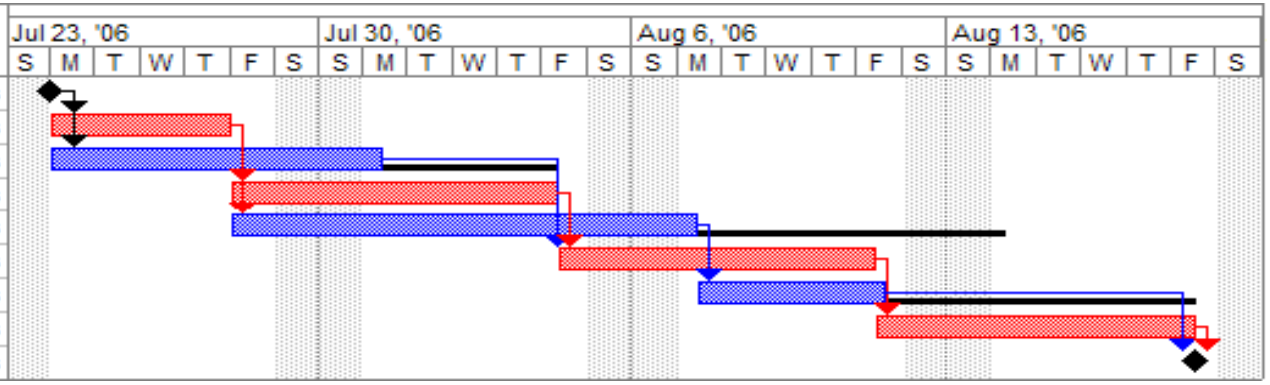
Influence of Taylorism in organisations

- Scientific management used not just in factories, but in most organisations
- Gantt charts (by Henry Gantt who worked with Taylor)

ID	Task Name	Predecessors	Duration
1	Start		0 days
2	a	1	4 days
3	b	1	5.33 days
4	c	2	5.17 days
5	d	2	6.33 days
6	e	3,4	5.17 days
7	f	5	4.5 days
8	g	6	5.17 days
9	Finish	7,8	0 days



- **Using budgets for accountability and performance measurement**
- **Key performance indicators, linked to Incentives**

Taylorism and Innovation

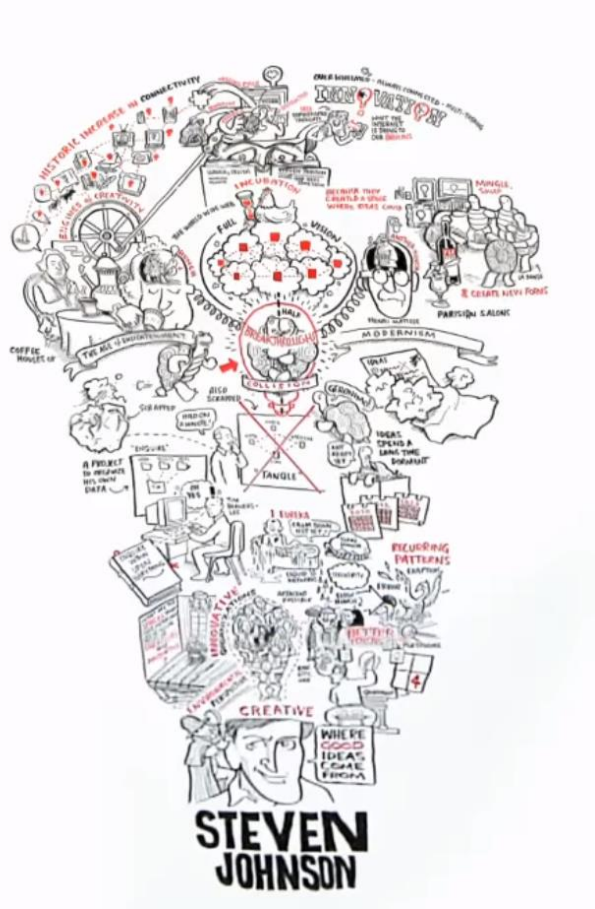
- But Taylorism was designed for repetitive work with known functions
  - e.g., the production of known items in the factory

- Not suitable for creative work with many unknowns
  - e.g., technological innovation
  - Taylorism does not promote new ideas/thinking

- **Not for startups**

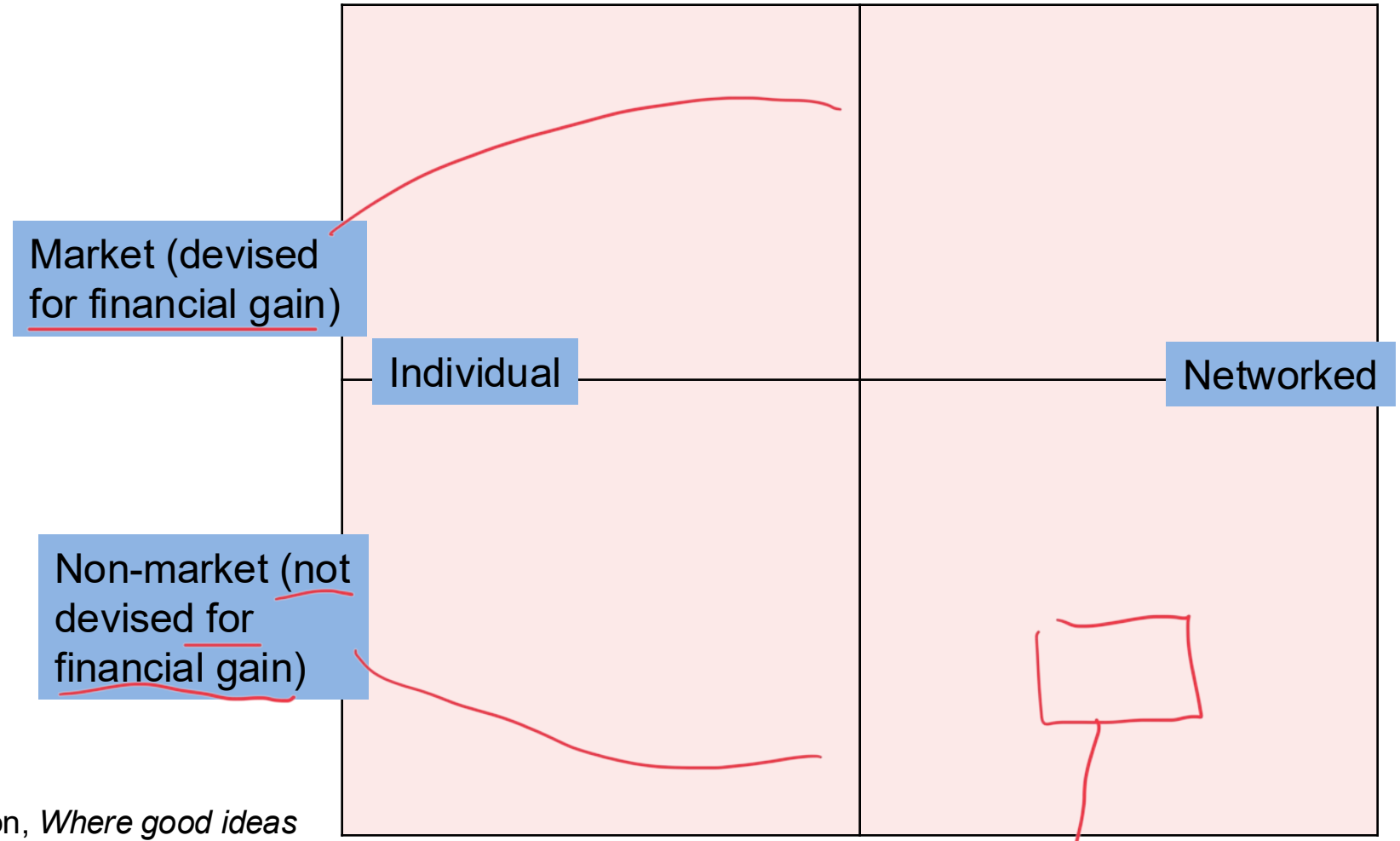
Creating a culture for generation of new ideas

- **Liquid Networks** – having a diversity of expertise and it's ideas bouncing between different expertise that can trigger the big breakthrough
- **Slow Hunch** – a great idea **slowly** fades into view over a long period of time
- **Connecting vs Protecting** – interaction leads to the overall best result… keeping an idea to oneself leads to thought stagnation because our experiences and genetic makeup usually take us down the same thought path repeatedly



https://www.youtube.com/watch?v=NugRZGDbPFU

Innovations: 1800 – now
Where good ideas come from?



Steven Johnson, *Where good ideas come from: The natural history of innovation*. ePenguin, 2010.

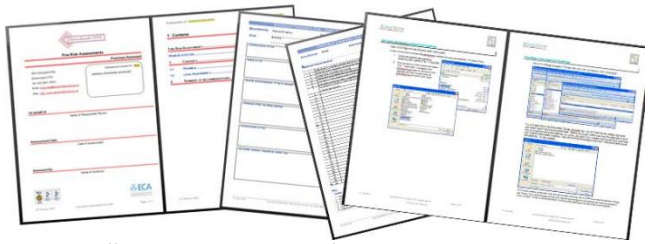
Innovations: 1800 – now

- Non-market focused approaches (not devised for financial gain) produce much more innovation than market-focused approaches
- Non-market focused approaches can lead to many new market opportunities
- Network is much more valuable than individual. This is consistent with the open innovation concept
- Quadrant 4 supports 'liquid network', 'slow hunch' as it is not driven by markets, and 'connected'

- **So when designing a culture for innovation, we need to be:**
  - **flexible (liquid networks, i.e.,** diversity of expertise**),**
  - **allocate time (slow hunch), and**
  - **be connected**

Structural dimensions which influence innovation

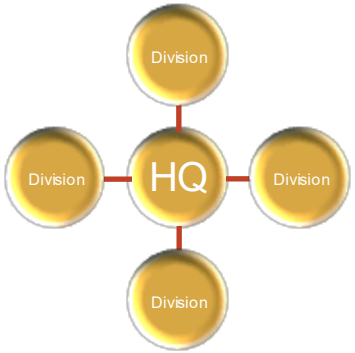
1. **Formalisation**: The degree to which the company uses rules and procedures to structure the behaviour of employees



http://www.kingserv.org/design_examples.htm

2. **Standardisation**: The degree to which company activities are performed uniformly

3. **Centralisation**:
   - Centralised authority: The degree to which decision-making authority is kept at top levels of the company
   - Centralised activities: The degree to which activities are performed at a central location



Source: Schilling (2013)

Mechanistic vs Organic Structures

- **Mechanistic Structures** have high formalisation and standardisation
  - Suitable for operational efficiency, reliability
  - Minimises variation → may stifle creativity

- **Organic structures** have low formalisation and standardisation; they are described as "free-flowing"
  - It may encourage creativity and experimentation
  - It may yield low consistency and reliability

Combining the best of small and large companies

- Some divisions (e.g., R&D, new product lines) may be small and organic
- Other divisions (e.g., manufacturing, mature product lines) may be larger and more mechanistic
- Some organisations try to do both in different divisions:
  - Tushman and O'Reilly (1996) called this the "ambidextrous organisation"

- It can also alternate through different structures over time
- Sometimes, new product development can be quite independent of even the main R&D division (e.g., "skunk works" – explained later)

In Summary, Organisational culture….

- Culture and innovation in a Digital Age - Virtuous Cycle of success from ideas/concepts

- An appetite for risk - Building a culture where people feel comfortable trying things that might fail

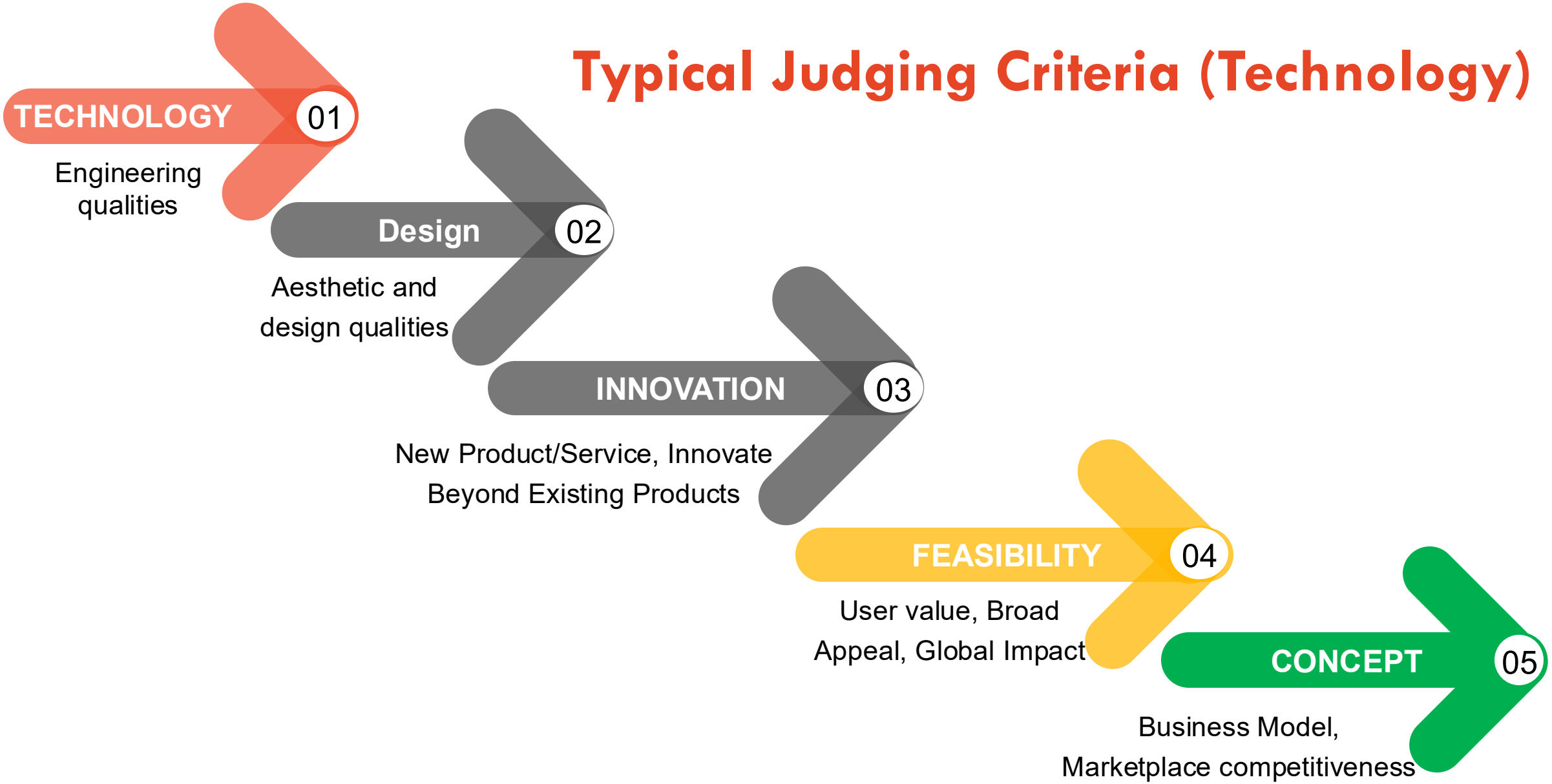
- Making bold bets – driving bold, decisive actions that enable the business to pivot rapidly, sometimes at a very large scale. Such moves require risk-taking, including aggressive goal-setting and nimble resource reallocation

Summary cont.

- Culture for innovation
  - The importance of networked individuals for generating new ideas
  - The importance of innovation openness

- Structure for innovation
  - The structure of an organisation influences the ability to innovate
  - Some large companies find ways to have the advantages of small companies

Typical Judging Criteria (Technology)

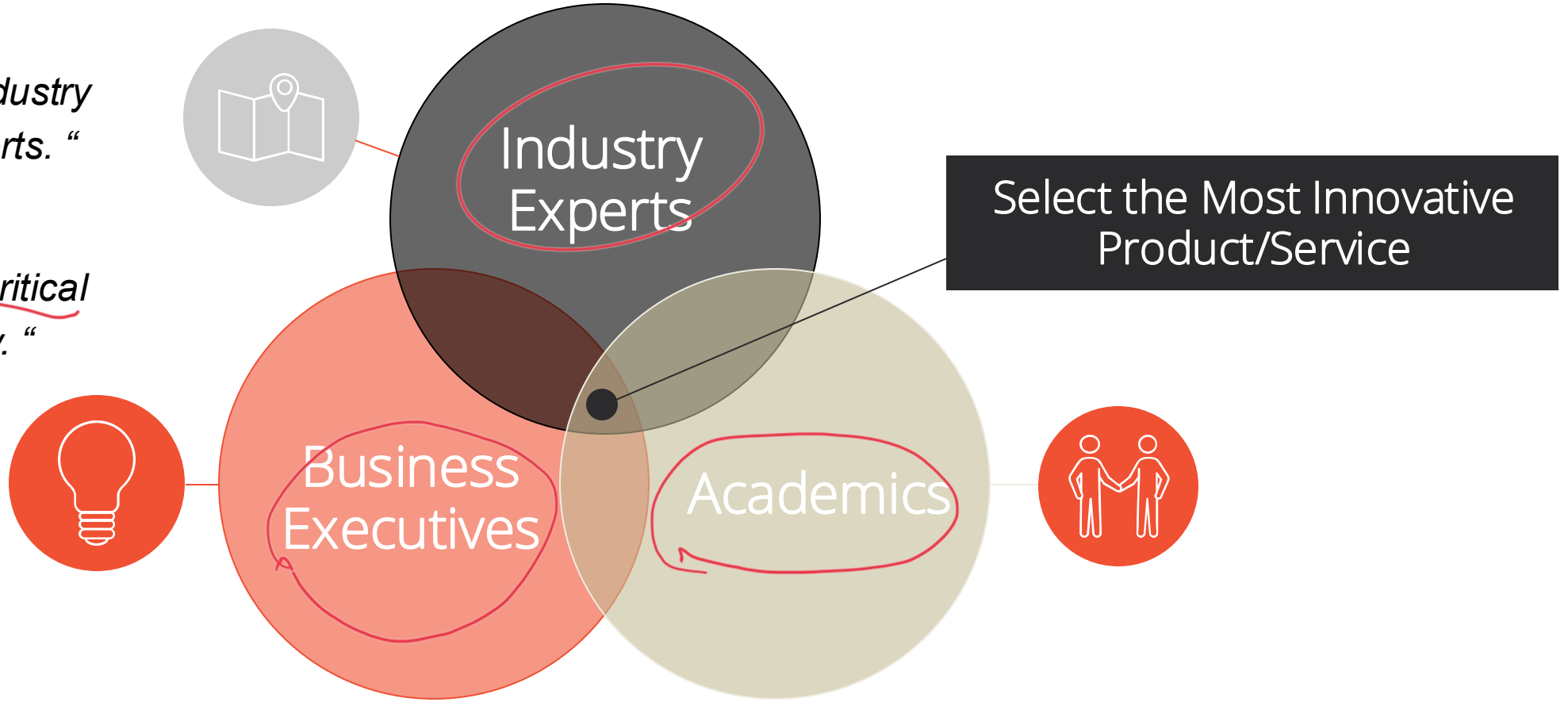


https://imaginecup.microsoft.com/en-us/support/faq (May'25)

Judging Panel

" Diverse pool of industry and academic experts. "

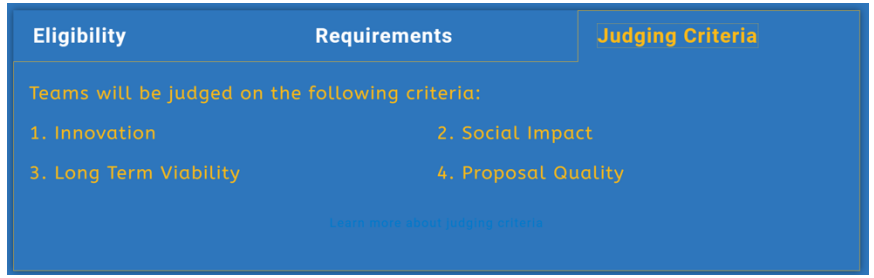
" Judge training is critical to ensure uniformity. "



http://www.edisonawards.com/criteria.php (May'25)

Examples: Berkeley's Big Ideas

- **Two-stage judging criteria:**
  - **The pre-proposal** round focuses on the extent to which the teams propose a creative solution to a social problem and the project's intended social impact,
  - **Full Proposals** are judged primarily on the project's potential social impact and the viability of the project plans.



https://bigideascontest.org/toolkit/contest-requirements/ (May'25)

Berkeley's Big Ideas

- **Incentives for Judges --** The incentive for judges to participate varies, but many choose to participate for one of three reasons:
  1. The opportunity to give back while also getting a first-hand look at some of the most innovative student ideas as they are being developed,
  2. The opportunity to build their professional networks by attending Big Ideas events and mixers where they can meet other judges, professional mentors, faculty and students or
  3. A professional courtesy to the category sponsor. It is worth noting that, generally speaking, judges who are incentivised by "giving back" and "professional development/networking" tend to be more committed and reliable judges

Imagine Cup Judging Criteria

Criteria	Description	Weighting
Technology	-Does the project make effective and appropriate use of the Azure technology features of its chosen platform(s)? -Does the project include innovations in user experience? -Does the project include innovations in technical design and/or implementation?	**50%**
Innovation	-Does the project create a new category of product or service? -Does the project clearly and meaningfully innovate beyond existing products or services?	20%
Concept	-Does the project address a clear need, problem, or opportunity and is the solution clearly explained? -Does the project have broad appeal and global impact?	15%
Feasibility	-Does the team have a credible plan for getting their project to market in terms of business model, any required partnerships, or other factors?	15%

Imagine Cup Judging Criteria

- Judging Criteria can be designed to suit the needs of the ‘competition’
  - Encourage the use of MS technologies
  - Think blue sky – young students are best at making big claims and also in achieving them
  - Maximise student engagement – this is their core aim

Harvard invent-imagine-impact (i3) Innovation

Technology & Entrepreneurship Center at Harvard

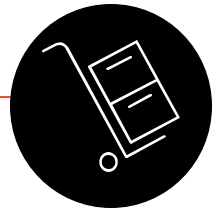
- Harvard's premier student startup competition
- Students compete for project grants and incubator space to help them realise their innovative visions.
- i3 is a year-long program that cultivates, coaches and showcases Harvard's rapidly growing group of student entrepreneurs. Every year, they receive innovative applications from students in all 12 houses, 4 class years, and almost every concentration.

- Technology and Entrepreneurship Centre at Harvard
  - *Renegade—Regulation—Resource—Requirement*

https://seas.harvard.edu/news/2013/04/imagining-impact-and-believing-it (May'25)

i3 Judging Criteria

Innovative Approach, Substantial & Measurable Impact



Skills, Commitment, Complementary Talent, & Resources

Realistic, Financially Sustainable

CES - Consumer Electronic Show

- CES Innovation Award is the world's gathering place for all consumer technologies. It has served as the proving ground for innovators and breakthrough technologies.
- The annual CES Innovation Awards program celebrates outstanding product design and engineering in brand-new consumer technology products.
- Each product category has a three-member judging team composed of an independent industrial designer, an independent engineer and a member of the trade press.
- Best of Innovation Awards honorees are invited to the CES exhibition, take home the Innovation Awards trophy and are entitled to display the CES Innovation Awards logo on the product packaging & marketing materials.

https://www.ces.tech/ (May'25)

CES Judging Criteria (from 2019)

- Criteria 1: **Engineering qualities**
  - The product should be crafted to address the quality attributes of availability, security, safety, reliability and performance.
- Criteria 2: **Aesthetic and design qualities**
  - The design attributes and user experience, including vision, hearing and perceptual design (e.g. touch)
- Criteria 3: **Product use/function and user value**
  - The design attributes and user experience, including vision, hearing and perceptual design (e.g. touch)
- Criteria 4: **Innovation**
  - How products demonstrate a new or adaptive way of solving a problem or introduce a completely new approach to solving the problem. Also, regarding the product's unique/novel features and features that consumers would find attractive
- Criteria 5: **Market Potential**
  - Understanding of competitors and existing solutions. Also, how the design and innovation of this product directly compare to other products in the marketplace.

Summary

- It is important to know the judging criteria in order to judge IT Innovation
- Although judgment is subjective, the criteria can be used to make a fair and comparative assessments
- The judgement criteria is dependent on the user / product category / event
- The judging panel should comprise of (i) Industry Experts; Business Executives; and Academics, each having complimentary expertise and knowledge