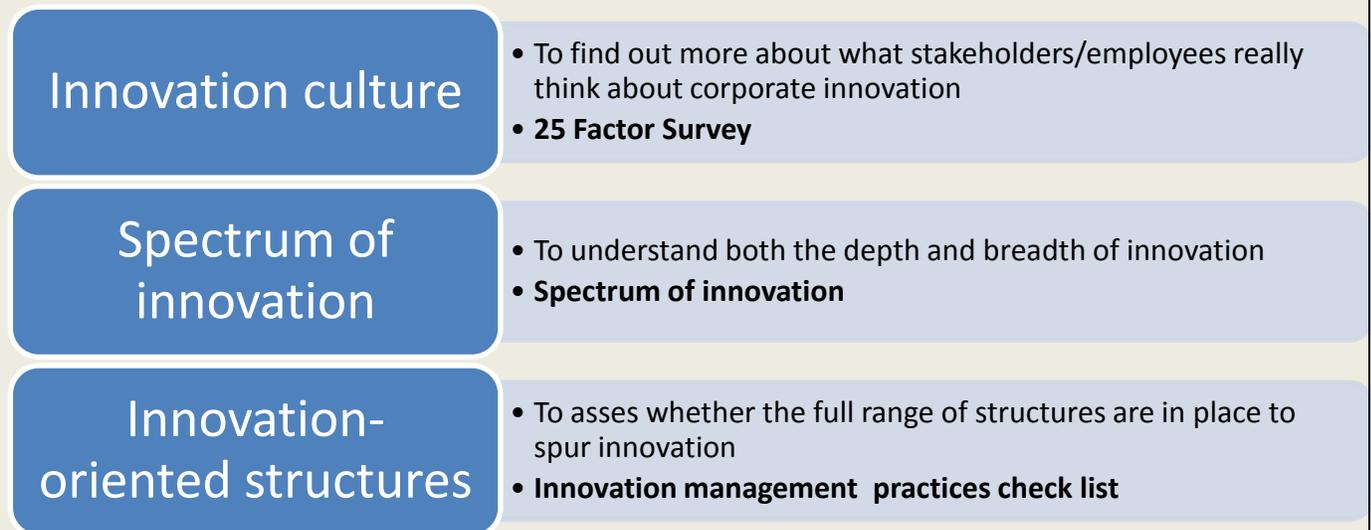


## Understanding the Role of Innovation in a Corporation

### An Innovation Assessment Tool [IAT]

The IAT consists of three main elements



Each element is explained and an example provided

The **IAT** is a tool for better understanding the role of innovation in the corporation. By articulating three dimensions of innovation; culture, structures, and a tool which describes the full range of innovation activities, from fundamental science through to continuous improvement, one can identify gaps, broaden the understanding of innovation, and compare activity and performance with peers and competitors.

Determining the **innovation culture** is aided by a survey of stakeholders/employees' perceptions about the management practices impacting innovation. Knowing the opinions of others in the organization is a means of identifying major concerns, and gaps in policies and practices. Results can lead to focused action on actual and perceived problems.

Having a template which describes the **full range of innovation** in the corporation can be a help in identifying gaps and opportunities for innovative initiatives.

There are a variety of **organizational structures** which can be put in place to spur innovation. The check list, which is based on researching the practices of highly-innovative companies, can be used to identify gaps.

## Innovation culture

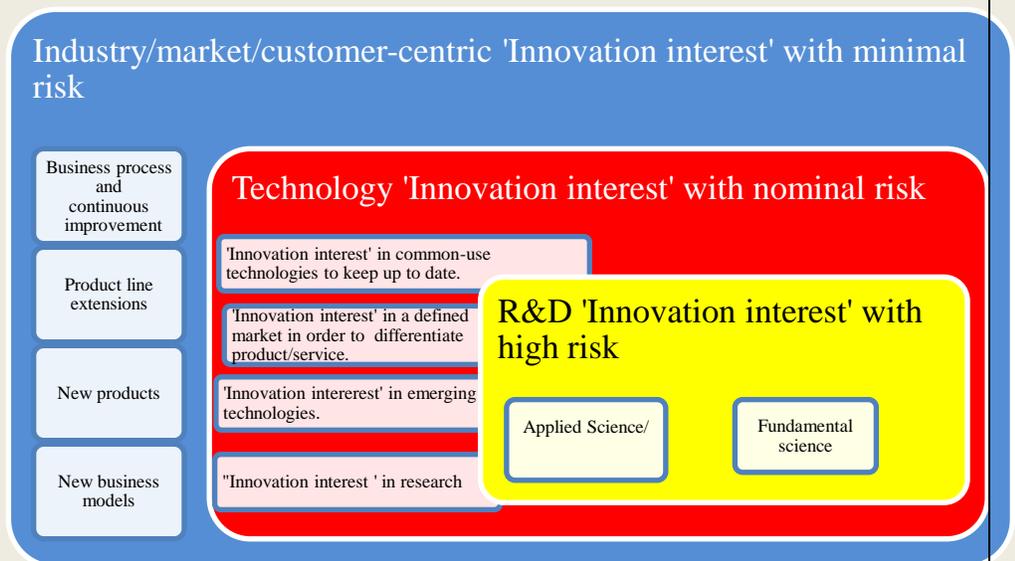
The 25 Factor survey is shown below along with the ideal range of responses.

Factor #	Innovative culture issues	Ideal Range	Explanation of results and respondents opinion where applicable
1	Management's view on profits.	1 to 2	Management is prepared to wait a reasonable time for a payout from innovation, but not too long. Management is not looking for short-term profits.
2	Management's view on the importance of innovation.	-(3 to 4)	Management explicitly and aggressively looks for innovation.
3	Tolerance of mavericks.	-(2 to 3)	Management really does have a high tolerance for mavericks in the organization.
4	Planning emphasis.	2 to 3	Management, when planning, put a strong emphasis on looking for opportunities and is less focused on rationing resources.
5	Tolerance for failure.	-(2 to 3)	Management has a reasonably high tolerance for failure.
6	People and their interactions	3 to 4	Leaders, by way of their management practices, put a great deal of emphasis on the management of people and their interactions.
7	Career for and recognition of innovators.	1 to 2	It is important to place some emphasis on recognizing innovators.
8	Tolerance to a corporate norm.	0 to -1	Respondents opinions are on both sides of this Factor and not very strong either way. Perhaps not an important Factor!
9	Tolerance for risk (Planning)	0 to 1	The assumption of risk is an important element in spurring innovation and starts in the planning process.
10	Intra-firm communications formality.	-(3 to 4)	The emphasis in an innovative culture is on a minimum of formal communication and an encouragement of openness through less formality.
11	Use of work independent work groups.	-(2 to 3)	Viewed as an important management practice in a culture which supports innovativeness.
12	Decision making is broadly based.	2 to 3	Input from the whole corporation is a value associated with innovative companies. Less autocracy and more participation.
13	Formality of decision process.	2 to 3	Respondents indicate a desire for more informal and less formal decision making.
14	Rewards for innovation.	-(3 to 4)	Respondents advocate the use of specific rewards for innovation.
15	Planning or action orientation.	-(0 to -1)	No clear indication from respondents.
16	Attitudes towards mergers etc.	-(1 to 2)	Responses seem to indicate that it does not matter much whether there is an open or closed attitude to major structural changes at the corporate level.
17	Company versus personal loyalty.	0 to 1	Divided opinion – with a slight view that there should be some encouragement for personnel working towards personal development.
18	Hierarchy; centralized or decentralized.	-(2 to 3)	Definite desire for a decentralized organization with little hierarchy.
19	Availability of resources.	2 to 3	The indication, or past evidence, of resources being available for innovation is a definite incentive to be innovative.
20	Staff versus line involvements.	0 to 1	Divided opinion – but could be a significant Factor in a given situation. Some argue for lots of staff involvement; others are opposed.
21	Retention of innovators.	-(1 to 2)	In the ideal culture for innovation, innovators should stay with the corporation but respondents' reality seems to be that innovators leave.
22	Innovative tradition.	2 to 3	Quite important for the corporation to be seen to have a tradition of innovation. Hard to get, perhaps easy to lose.
23	R&D budget levels.	1 to 2	Should be better than the competition but not over the top either.
24	Perception of innovation trend.	2	Somewhat similar to responses to Factor #22. Perceptions in themselves act to encourage a culture for innovation.
25	Role of employee groups.	-(1 to 2)	Not a hugely important Factor. Opinions were divided and not given a heavy emphasis on either side.

## Spectrum of innovation

The scope of innovation ranges from high risk investment in fundamental science through to lower risk associated with incremental continuous improvement. Few if any corporations engage directly in the full range of

innovation. Most corporations rely on or have partnerships with research institutions engaging in the most fundamental sciences. Corporations engage in applied science and most certainly in technologies relating to their own industry and, as well, keep a watchful eye on technologies which could disrupt their competitive advantage. A template for thinking about the full range of technologies – here referred to as the spectrum of innovation - is shown above and an example of its application in the case of Starbucks is shown below.



Starbucks's Innovation Profile <sup>1</sup>		
Type of Innovation	Evidence of Innovation by Type	Comment
<b>Science</b>		
Fundamental Science	None	Not expected in this industry
Applied Science	VIA development based on the chemistry of 'freeze-dried' technology/ Roast curve relationship	Unusual depth for this industry
<b>Technology</b>		
Research	R&D spending as a % of sales/ Intent to be the 'coffee authority': maintaining a watchful eye on developments/'Know how'	Coffee is in Starbucks DNA
Emerging technologies	?	Unclear
Differentiating technologies	Quality of product/ R&D to develop less expensive soluble powders [eg. VIA]/ Sandwiches without a cheese smell/ Ethically-sourced coffee/ Merging coffee with a 'place'	Combination of 'technologies' provides the differentiation
Common-use technologies	Loyalty program/ Clover equipment/ Mastrena equipment to improve quality, speed, and view	Keeping up to date with technology
<b>New business models</b>		
New products	Store design [seating, wi-fi, comfort/'Street-named' stores/ Coffee quality and price/ Pike Place Roast/ Frappucino/ Coffee – 'bold'/ Sandwiches/ Branding realization [eg. Digital Ventures]/ VIA/ Renaming coffee to designate taste rather than bean	Probably the strongest Starbucks type of innovation
Product extensions	Store openings/ Coffee variations/ Sandwich selections/ Coffee but in out-of-store locations/ Limited release reserve coffees	This type of innovation has propelled growth
Business/continuous improvement	IT/ In-store information systems/ Mastrena = speed	Came as an afterthought after Starbucks decline

<sup>1</sup> Starbucks believes that innovation is in their DNA<sup>1</sup>. The company has introduced many innovations of all types over its history. Some innovations are more important than others. See full information on Starbucks spectrum of innovation visit; <http://www.corporateinnovationonline.com>

## Innovation-oriented structures

Innovation Management Practices <sup>2</sup> Check List Successful management of innovation <sup>3</sup>				In place
Innovation Management Initiatives		Examples from DSM Practices		
<b>Employee/stakeholder surveys relating to innovation</b>				
	The scope of the survey is not available but it is assumed that the survey would touch on matters at least related to innovation; such as communication, rewards etc.	2011: % report up from first survey in 2007		x
<b>Dedicated organization arrangements to spur innovation</b>				
	Use of technical, business and executive champions			?
	Use of task forces	Multi-disciplinary teams		x
	Use of venture teams			?
	New venture division	DSM Venturing established.	Explores emerging markets and technologies.	x
	Business incubation	Innovation Centre works to establish new growth 'platforms'.		x
	SBU proliferation	Not yet in common use		
	New business development within SBU	Separate centers established.		x
<b>Acquisition/Divestiture</b>				
	Strategic acquisition	10 partnerships and acquisitions in addition to Sinochem and Martek		x
	Spin-off	JV on bio fuels global licensing		x
	Spin-in	Not evident		
<b>Financial Mechanisms designed to spur innovation</b>				
	Corporate venture capital	DSM Venturing		x
	R&D partnerships	Many examples		x
	Licensing	Intention in bio fuels joint venture		x
<b>Technological structure designed to broaden and deepen innovation competencies</b>				
	Central R&D	Established an Innovation Centre at corporate level.	DSM has a corporate research program focused on development projects.	x
	Decentralized R&D	DSM is in the process of establishing centers in China and India.		x
	Balanced R&D	So stated in annual report		x
	Contract out	No evidence of total outsourcing related to innovation		
<b>Strategic alliances aimed at marrying internal with external competencies</b>				
	Joint venture	Worked with Crucell N.V. on breakthrough initiative.		x
	Three-tier venture	Engagement in Biomedical – a public private partnership		x
	Supplier partnerships			?
	Customer partnerships	DSM Dyneema with Badinotti		x
	Union partnerships	Perhaps not relevant given European model		
	Privileged relationship; with a source of technology	Dupont, POET		x
	Government-sponsored venture			?
<b>Corporate governance and innovation values aimed at spurring innovation</b>				
	Outside advisory group	Governance follows classic structure	No outside innovation group	
	Strengthened Board role	No change evident re innovation		
	CIO role	Was evident in 2008		?
	Corporate value re-orientation	Development of 'Vision 2010' – set out in 2005, commitment to innovation.	DSM should become 'intrinsically innovative'	x
	Customer viewpoint	Business groups focus		x
	Idea generation management	Implemented a project-management approach dedicated to innovation.		x
	Measuring innovation	Adopted % new product sales as main measure.	DSM uses a tool developed by an external consulting group.	x
	Incentives/rewards for innovators	Not evident for individuals.		
	Open collaboration	Interaction with industry partners and technology thought leaders re Life Sciences and Materials Sciences.		x

<sup>2</sup> Check list content was initially developed by staff of Arthur D. Little Inc. and subsequently adapted and modified by White & Partners Ltd.

<sup>3</sup> DSM, The Netherlands is the example.