

From F1 to SME, Formula Innovation's research yields new Formula for Innovation.

Crockford, Gaul, Sambrook. January 2104

Formula Innovation came about from internal questioning of Innovation practice within Formula 1. The company was formed as a separate body in 2011, to help convey the science behind Innovation and to aid the development of successful Innovation programmes. In March 2012, Formula Innovation was engaged by the Technology Strategy Board (TSB) to investigate a single analytical framework for Innovations across a range of organizations. The project assessed how organizations actively managed their Innovation portfolio and the efficacy of current Innovation management tools. A new framework for Innovation management was developed and tested that would improve Innovation success, through a range of activities, from leveraging current knowledge within the organizations to creating focused opportunities worthy of entering an Innovation process and protecting the Innovation's value. Formula Innovation differentiates itself from many 'silver bullet' approaches to Innovation and instead brings insight and structure to an organisation's Innovation practices. This allows them to create and refine their own Formula of Innovation.

The Need for a More Systematic Approach to Innovation Management

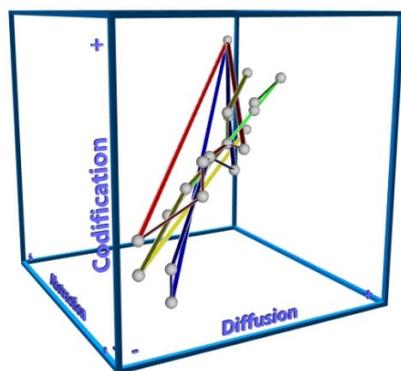
Formula Innovation's research for the TSB identified a number of factors that are holding back the advancement of Innovation in the UK. It became apparent that organizations struggle to differentiate between different types of Innovation, typically using the same approach to manage a range of Innovations.

Current models of Innovation also tended to be linear or sequentially based, giving little consideration to the influences of the environment in which the Innovation would mature. In response to these issues, the research established a framework that brought together Knowledge Asset Management, Best Practice from Formula1, (in terms of speed and repetition of Innovation) and established academic research on Innovation practice. The framework improves the scale and probability of an Innovation's success, through visually representing where an Innovation is in its maturity and providing a better planning and decision making tool for the Innovator, Sponsor and Investor alike.



Developing a framework that meets the needs of Investors, Funders and Innovators

The framework was developed in conjunction with multiple organisations, from F1 teams, Medical Device and Defence sectors, FMCG, the Energy sector and SMEs. For each of the participant companies, time was given by company personnel to establish and map a chosen Innovation within the framework.



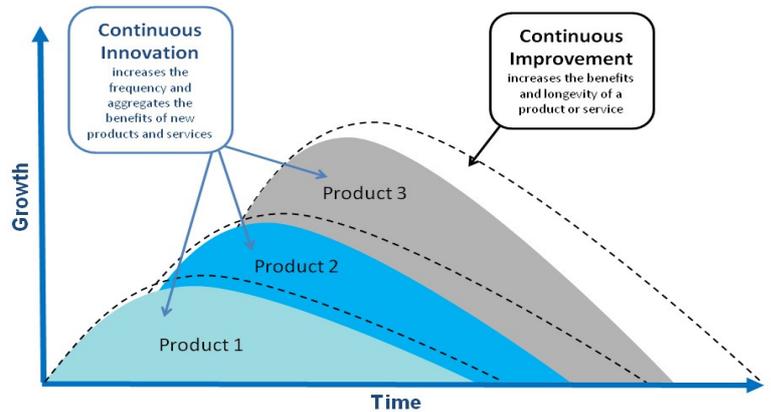
The mapping process enabled these organisations to understand the form and stages that their Innovation took. By comparing all of the Innovations within a single framework, it was possible to describe and explain the needs of the differing types of Innovation, the stages of Innovation maturity and the effects of the environment as the Innovations matured. By establishing a common language and visual representation of the Innovations, informed collaborative discussion between the participating organisations was achieved, without any risk to Intellectual Property. The research established that the new framework facilitated the visual plotting of predictive pathways for all types of Innovation and allowed appropriate review points to ensure better informed decisions.

The Common Language developed and allowed, for the first time, conversations between Investors, Management, and Project Teams with regard to the risks and rewards for each stage of the Innovation pathway.

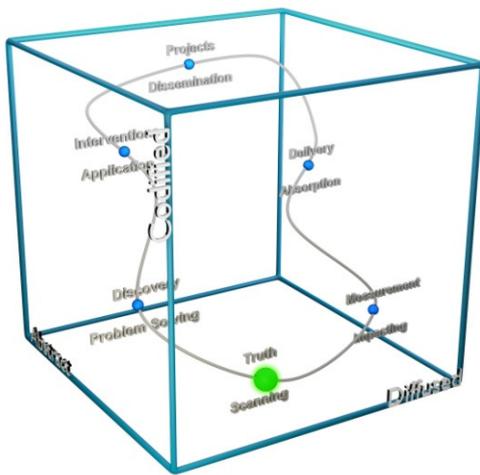
Understanding the leveraging of an organisation's Knowledge Assets and the differing types of Innovation.

Clayton Christensen in 'The Innovator's Dilemma' describes the dangers of treating Innovation as if it were one entity. Christensen considers Innovations to be either 'Sustaining', or 'Breakthrough/Disruptive'. From our experiences of working with organisations from so many different corporate sectors, it was established that organisations gravitate towards producing 'Sustaining' Innovation because current management techniques 'lean' towards a strategy of Continuous Improvement.

With few tools to quantify and support 'Breakthrough' or 'Disruptive' Innovations, a lack of cultural ambition and conservative management thinking, it is little wonder that organisations prefer to 'Improve', rather than produce really 'Disruptive' Innovation. One example is Nestlé, which illustrates an example of a hybrid Innovation strategy. As a 'Sustaining' Innovation, Nestlé produced a premium blended and filtered coffee product, "Gold Blend". Nestle then provided a 'Breakthrough' Innovation, through the introduction of "Nespresso" which disrupted the 'coffee at home' market.



Providing "Nespresso" machine and pods, Nestle allowed the user to make, 'Barista' coffee, at home, easily. Nespresso currently accounts for a significant proportion Nestlé's turnover, showing that 'Disruptive' Innovation can provide valuable new revenues, whilst helping to retain brand strength in an established market sector.

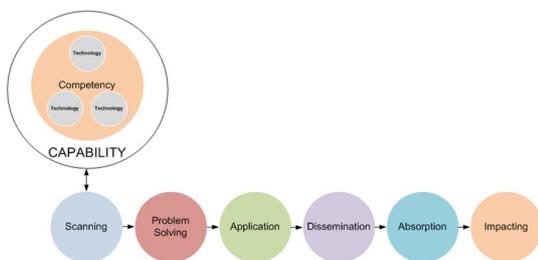


'Breakthrough' and 'Disruptive' Innovations differ considerably from 'Sustaining' Innovations. This requires analysis beyond current product and service offerings coupled with leveraging the underpinning knowledge that lies at the heart of the organisation. The Innovator needs to 'Scan' through its internal 'Technologies' and 'Competencies' and develop new 'Capabilities' in order to breakthrough or disrupt effectively. iTunes, for example, solved the Napster legality issue by providing a capability upon which users of the iPod could download and enjoy MP3 music. Apple already had the 'Competency' and 'Technologies' to provide a solid state MP3 replay platform. By developing a new 'Competency' in a new market place, Apple sowed the seeds for its iPhone's success, by adding the additional capability of mobile telephony into its devices.

Skype placed its VOIP 'Competencies' and 'Technologies' into an internet platform 'Capability' for consumers, enabling disruption in the telephony marketplace on a global scale. Netflix took its streaming media 'Technologies' and 'Competency' into the Internet marketplace, allowing the consumer a Video on Demand 'Capability'. Netflix and YouTube now account for 50% of all Internet traffic in the US.

From Formula Innovation's framework research, the maritime military partner established dominance in its sector by developing a new 'Capability' which drew on its 'Competencies' and 'Technologies', but developed a new 'Capability' in line with a future change in maritime legislation.

But how do we set a strategy to achieve Breakthrough Innovation?



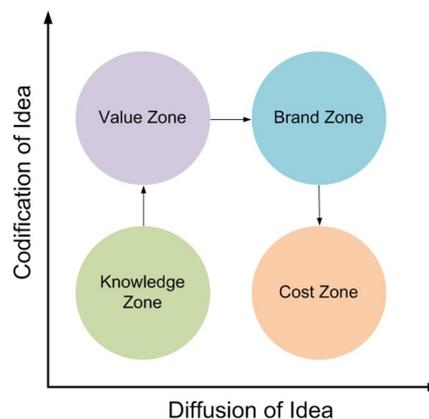
Breakthrough Innovations require a 'Knowledge Asset' approach to Innovation formation coupled with a Culture where such innovations can mature. Developing new 'Capabilities' may be possible from realigning current in-house 'Technologies' and 'Competencies', however it is most likely that the Innovator will need to find new partners to build 'Capability' with, as well as implementing a culture that may have to accept change. Formula Innovation's framework provides analysis of how to generate Innovation, be it of a 'Breakthrough' or 'Sustaining' nature.

If you ask the Innovator what their biggest frustration is, the response is normally; "Risk aversion inherent within the organisation". Risk aversion is caused by not knowing, or getting a sense for the Innovations likelihood of success. This is why

Formula innovation have developed a visually rich framework, that allows all parties to understand, where the Innovation is in its maturity, coupled with the factors influencing its success and the effects of recalibration. This allows for better Innovation planning, faster decision making and shared ownership of issues.

Enabling a Richer Innovation Culture through visually representing an Innovation's maturity

For an Innovation to become of value it must reach a level of formation that investors and stakeholders can buy into and accept. The closer to this 'Value Zone' the Innovation gets, the more likely it is that others can copy it. Most Innovations will become diluted to some manner in the market place over time. Soon the journey for the Innovation will take it to the 'Brand Zone' where reputation will sustain revenues, before eventual demise of the Innovation will lead it into the "Cost Zone". Betamax provides an excellent example, where the Innovation of video cassettes was consumerized by both JVC and Sony. Both JVC and Sony developed home video cassette recording systems, so entered the Value Zone together. Sony had the better product in Betamax, but JVC were able to destroy Sony's 'Brand Zone' holding, by moving to a 'Cost Zone' strategy with VHS.

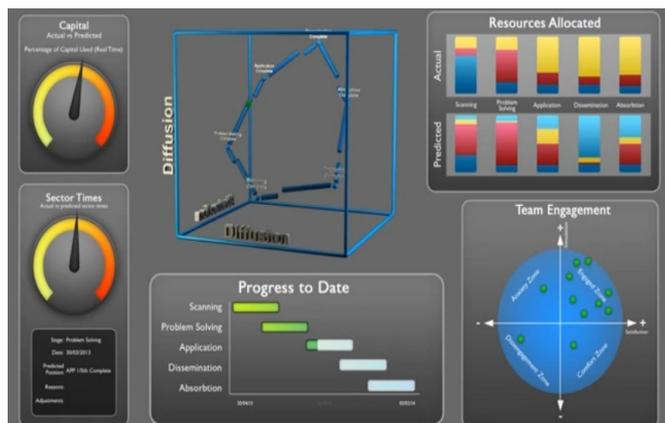


Such a format war was replicated in 2008, when Sony, perhaps having learnt from Betamax, used their 'Brand Zone' strategy to remove Toshiba's rival product (HD-DVD), also in the 'Brand Zone', by persuading the Film Studios and retail distributors to take Blu-Ray as the High definition video disc standard. Toshiba moved to Blu-Ray production and the format entered the 'Cost Zone'. Working with the framework test organizations, using a visual depiction of an Innovation's maturity, was found to be a highly effective means to explain an Innovation's potential to the organization.

Using a common language and the visual framework with the partner organizations, it emerged that the biggest single aspect affecting Innovation was culture. The FMCG organisation had the fastest and most direct pathway through the framework, born from years of knowing where knowledge lay within the organisation and how to leverage it. The energy sector organisation took a curious route around the framework as they redefined themselves in line with their defence industry parents. Using the waypoints of the Innovation framework, the company was able to explain both internally and externally where the Innovation was in terms of its maturity, what the issues had been at each stage and its how its plans needed to be refined in order to move forward.

Pulling it all together

The framework developed by Formula Innovation, incorporates tools and techniques, to help Innovators plot a predicted path for their Innovations and anticipate the barriers to Innovation maturity.



Working with our partners, we have been able to increase the probability and scale of an Innovation's success. Traditionally Innovation management has been difficult, because of the lack of a common language. Even the most Innovative organisations disagree internally on where an Innovation is, with respect to its maturity and its value. The Formula Innovation framework helps overcome these issues by presenting the Innovator with a visual representation of its Innovation pathway. From ideation, to partnership, Open Innovation, Knowledge Asset evaluation and management, through to Cultural alignment, Formula Innovation's framework helps organisations make faster, more informed decisions.

Innovation is not easy, it is hard work, and until now unquantifiable. Using Formula Innovation's tools and techniques we are finally able to visualise the potential of an Innovation idea, to look beyond the creator's enthusiasm and strategically look to see the implications of the Innovation for the Organization, in terms of Culture, Commitment, Financial Investment and Reward. Finally we believe we have created a framework which organisations can use to create their bespoke formula for Innovation.

$$f_{inv} = \frac{\text{Knowledge}^{(Assets)} + \text{Strategy}^{(Direction)}}{\text{Culture}}$$