

## The Innovation Lens:

### A Market-Driven Approach for Identifying the “Next Big Thing”

By Raglan Tribe

*“... Because its purpose is to create a customer, the business has two -- and only two -- functions ... Marketing and Innovation. Marketing and innovation produce results, all the rest are costs ...”*

*Peter Drucker*



### Abstract

The ability to develop and launch new products and services is critical for the long-term future of any business, yet 90% of new developments result in commercial failure.

This article discusses some of the issues with innovation and highlights proven processes that ensure every launch is a winner. Topics covered are:

- Why you shouldn't listen to the Voice of the Customer
- The search for Six-Sigma Innovation
- How to identify Innovation Hotspots
- On Demand Concept Generation

## **The Importance of Innovation**

The creativity and inventiveness of people is a vital ingredient for any business. However, it is only through innovation, the implementation and exploitation of their ideas that a business is able to compete and prosper.

Already, the competitive landscape has significantly changed with globalisation. Now appearing are many new competitors from low-wage, dynamic economies. For instance, China has given birth to some 50 automakers, such as Geely, Chery, Great Wall Motors and Brilliance. Who knows which of these fledgling car companies will become the global giants of the future? Staying competitive will require a step change in innovation performance [1].

As Peter Drucker points out, the two key activities within any business are Marketing and Innovation. Marketing allows the identification and understanding of suitable hungry markets. Innovation allows the fulfilment of the market’s need in some unique way that customers value greatly. Without marketing there is no customer pull. Without innovation, the proposition is copied or disrupted by competitors. In the longer term companies that don’t innovate die [2].

## **Innovation Failure**

Everyone knows that innovation brings rewards but it also brings risks and high rates of failure. Every innovation starts with an invention, something unique or original that sets you apart from your competitors.

Accurate figures are hard to come by, but according to Peter Bissell and Graham Barker [3] the invention statistics look something like this:-

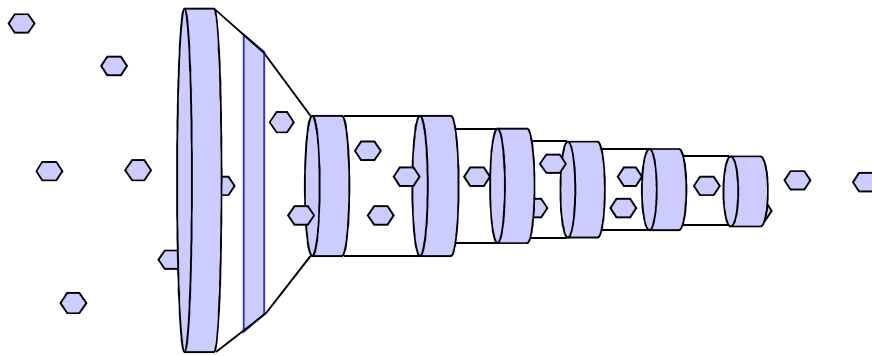
- Only 1 in 100 inventions cover their costs
- Only 1 in 300 inventions make a significant difference
- Only 1 in 1400 inventions is a world beater

According to Clayton Christensen [4] three out of five new product developments are scuttled before reaching the market and Robert Cooper [5] reports innovation success rates of only 25% when they do reach the market. Surely, if innovation success was measured using six sigma metrics, it would be the worst performing business process.

Even successful invention brings risks in either the form of speedy imitators or litigation due to infringement of other people’s intellectual property. Often the best and most radical ideas pose the greatest challenge - generally, people do not like change and sometimes the innovation attacks your own business model.

The process of turning an idea into a successful innovation needs to be managed. Whilst risk and failure is an intrinsic part of the innovation process, it can be mitigated by the sensible introduction of innovation processes such as pipeline management, stage gate or phase review project portfolio management as shown in figure 1.

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**Figure 1: Managing innovation risk by pipeline management**

The pipeline process encourages many ideas upfront, channelling down to a steady stream of commercial successes through to the tail end whilst eliminating early innovation failures at project phase reviews. Project activities are scheduled so that new technologies are de-risked early and filtered out before they get a chance to fail publicly in the marketplace. Show stoppers are not left until the end.

With all these tools for managing risk, why is it still going wrong? Why isn't there a constant stream of innovation successes?

A survey of 188 global CEOs conducted by The Economist [6] showed that most problems with innovation are nothing to do with risk. Instead, the survey cited the following reasons for innovation failure:

1. Time and cost over-runs (60% of respondents)
2. Competing development priorities (53%)
3. Poor upfront market research (52%)
4. Failure to gather sufficient or relevant end-user input (44%)
5. Poor inter-departmental communications (39%)
6. Over engineering (24%)
7. Lack of design-for-manufacture (20%)

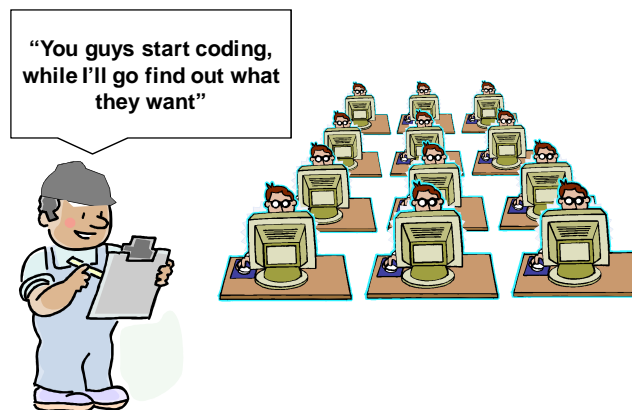
Many reasons are down to good old fashioned project management. Often there are so many under-resourced projects in the development pipeline that when one project deviates, it can topple the whole project portfolio.

But the wrong input from the market is the key to many innovation failures. Often referred to as the fuzzy front end, poor upfront customer research or gathering insufficient or irrelevant data from the end-user means the project has no clear objectives in terms of what it is trying to achieve or what market needs they are trying to satisfy.

## Pitfalls of the Voice of the Customer

So what’s stopping organisations from getting the right customer input?

It’s tough at the start of a project. As teams start assembling there is enormous pressure to start working on a solution, any solution before the right question is properly formulated. Often the upfront market research activities are short-circuited to satisfy the desire to get going.



**Figure 2: The desire to get going often short circuits customer research**

It is imperative to do proper market research in the first instance but getting the right customer input is the next hurdle. The mantra for the last 20 years has been to listen to the voice of the customer but the raw input must be carefully processed. Understanding the sentiment and context behind the customer voice is everything.

Customers are not qualified to invent new solutions with the development technologies. They tend to say what they want or need based on the current market solutions. For example, “I want traction control or ABS”. This does not help development selection 5-6 years ahead of market introduction. Sometimes solutions are assumed in customer captured specifications. For example “I want positive feedback in the brake pedal” assumes that the solution will be ABS.

In fact, the voice of the customer is a minefield that can seriously confuse the project front end. Typically, the end user provides ambiguous, incomplete, contradictory and sometimes misleading responses to market surveys. Furthermore, because part of buying decision behaviour is driven by emotions, the customer might not be in the right mood to think about the survey questions.

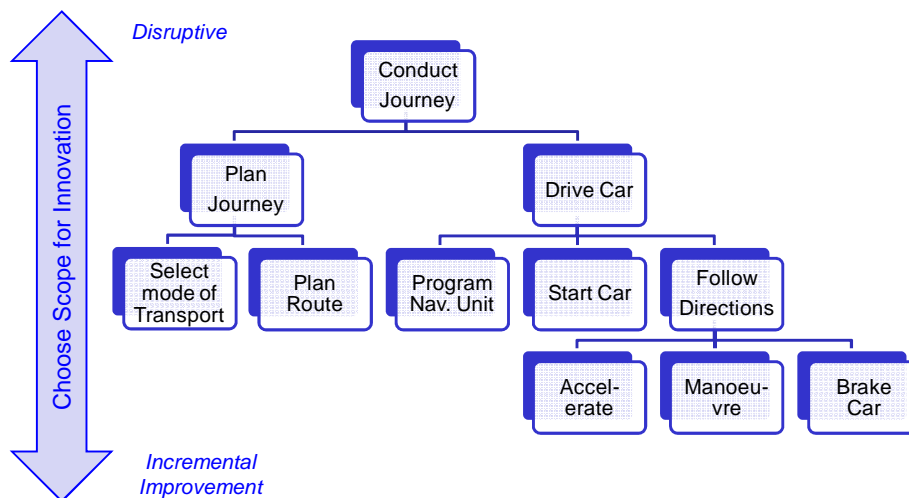
Even within the development organisation and across the supply chain, the language of customer requirements is confused. For instance, what is the difference between wants, needs, desires, requirements, specifications and solutions?

## Focus on Customer Jobs

So if the voice of the customer cannot be trusted, what approach should be taken? A useful solution to these problems is Anthony Ulwick’s Outcome-Driven Innovation [7] which focuses on the jobs that customers will do with or without the solutions available. By starting with the job that the

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customer wishes to achieve, each step the customer must take to achieve that end goal is broken down to derive a hierarchy of jobs. See the example of conducting a journey in figure 3.



**Figure 3: Customer Jobs for conducting a journey**

This level of detail enables the organisation to question how radical their innovation strategy needs to be. They can identify problems and issues at each level and therefore potential areas for innovation. Innovations higher up the hierarchy will be more radical or disruptive, whereas changes to the detailed jobs at the lower end of the hierarchy tend to be more incremental. Whilst most innovations are incremental, it is healthy for the organisation every now and again to rise up the hierarchy and look at more fundamental innovation strategies.

### The Search for Six Sigma Innovation

Having selected the correct job scope in the hierarchy, detailed market investigation takes place to robustly capture the context. Critical insight includes:

- Job issues – what problems do customers experience today and tomorrow as a result of any trends?
- Job constraints – are there any constraints on the solution? For example, meeting emission regulations or keeping within legal speed limits.
- Job outcomes – these are measurable and prioritised metrics that judge the success of a job from the customer’s perspective. For instance, one outcome for “manoeuvre car” could be minimising the error in metres between the desired car trajectory and the actual trajectory. The customer is unlikely to state these metrics in the same language as the innovator but they can be readily inferred from the customer input. By breaking down the process and applying these detailed metrics, the innovator is now in a position to apply six sigma methodologies to the innovation process.

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- Competing solutions – what are the current and predicted solutions for supporting this job? Interestingly, benchmarking competing solutions against these outcomes helps determine the actual levels of attainment. This is vital intelligence for understanding gaps and opportunities for improvement.

This approach provides robust marketing input for the innovation process that engineers can use to invent and make trade-off decisions. Furthermore, the jobs and outcomes tend to be relatively stable; it is the level of attainment of competing solutions that change as the market evolves.

There are many primary and secondary ways to gather this customer input that include: ethnographic research, interviews, focus groups, surveys, dealership feedback etc. However, a detailed description of these techniques is beyond the scope of this article.

### **Innovation Hotspots**

Already a rich picture of the customer requirements is beginning to emerge. However, the focus for innovation still needs to be set. This is achieved by comparison of the competitor outcome attainment with the outcome importance. Valuable opportunities for differentiation occur where the outcome has a high importance with low levels of attainment across the competing solutions. These hotspots represent under-served market requirements and offer easy pickings for innovation.

However, the reverse is also true. Outcomes with low importance but high levels of competitor attainment offer opportunities for feature and cost removal. These over-served outcomes often occur when R&D labs keep improving a feature due to past success, but do not know when to stop.

More difficult to satisfy are outcomes with high importance and high levels of competitor attainment. In these instances, raising the scope of the job or disruptive innovation maybe the only way to break through the market barriers.

Innovation hotspots flag up all different types of innovation opportunity, not just **product and service innovation**. For example, **new market innovation** - why pick the most competitive area. Instead find a new market with “Blue Ocean” [8] around it where jobs and outcomes are still unmet.

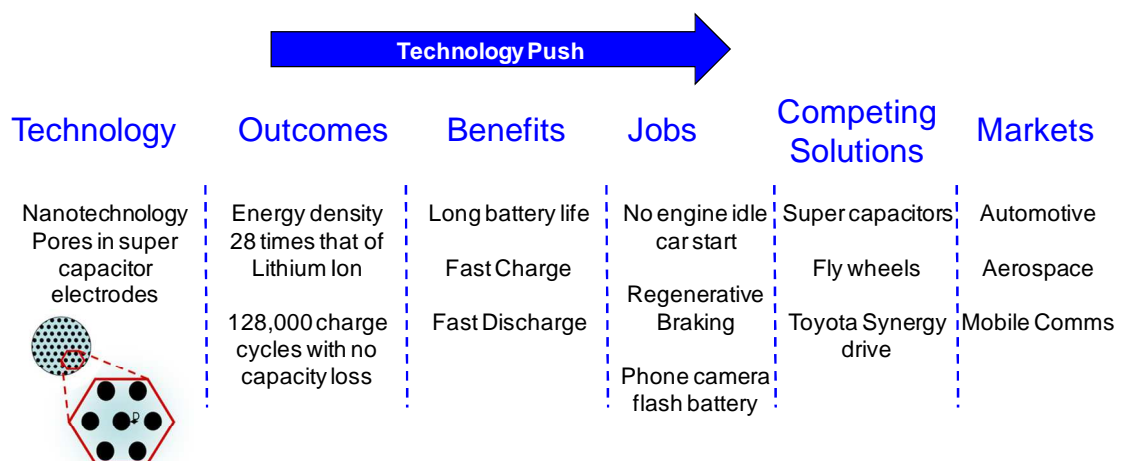
**Operational innovation** can reveal spectacular improvements across the whole portfolio. The automotive industry has been very successful with quality improvement and cost reduction operational improvement. However, there are many untapped opportunities for automotive business model innovation.

**Disruptive innovation** is what technologists would naturally like to do, introducing radical new approaches that make an impact and change the rules of the game. But is the idea compelling enough to overcome all the associated risk? What can the solution be used for? Disruptive innovation solutions can often be the entry requirement to a mature market but then it's the easy incremental innovations that make the money, the low hanging fruit.

## On Demand Concept Generation

Once the right customer input has been gathered, then inventing new concepts is easy. A good starting point is a War Room – fill the room with wall to wall post-it notes containing the customer input. Then some simple generation techniques are:

- Features curve – The “less is more” approach. By taking features out, the result may be to improve the simplicity of the interface, reduce cost or weight and improve the customer experience.
- Edge craft [9] – taking an important outcome and making it hugely different so customers remark about it. The opposite of remarkable is good, not bad. Nobody remarks about good. People expect it to be good. This builds a viral marketing aspect into the product as customers feel compelled to tell each other about the remarkable benefits. This method doesn’t just apply to product features; it can be anything to do with the customer experience.
- Disruptive technology push. As discussed, the natural bent for R&D centres is to produce disruptive technology. This approach works forwards from the technology. There are many assets in many companies that may have been rejected in the stage gate process that could be used in other industries. What outcomes would the technology allow, what features and benefits would that bring? What jobs are addressed? What competing solutions and markets could this match?
- Learn from other industries. Often a solution may be out there but just used in a different arena. Why reinvent, when you can borrow from others and apply to your own industry? Leverage the effort that has already been spent and use it where you can.



**Figure 4: Example of Disruptive Technology Push**

## Conclusion

Innovation is the act of invention and implementation through to market exploitation. Companies should never stop innovating or disrupting or else they will stagnate and ultimately become subsumed by other people’s innovations.

Whilst innovation is essential for long term survival, the associated risks and high failure rates are obstacles to many new product launches. But there are many opportunities to tighten up the innovation process to ensure success.

Look at the customers through an innovation lens. Put the customers’ wants and needs first and understand how to translate their desired objectives into quantifiable and attainable outcomes. Consider emotional outcomes as well as functional. Then generate solutions for these outcomes and, importantly, measure the success of these efforts.

The innovation lens casts a new light over the market, provides fresh insight which naturally inspires innovation excellence.

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## **Raglan Tribe Brief Biography**

Raglan Tribe is Managing Director of Mindsheet Limited, which he started early in 2003 to market his extensive expertise in Innovation and R&D management. Mindsheet helps its clients achieve business advantage from innovation and technology. They specialise in helping companies develop breakthrough products and services in highly complex environments where understanding how to deliver value to customers requires deep insight into their operations and behaviour.

Prior to Mindsheet, Raglan was the Group Research and Development Director of the bank note business De La Rue plc. At De La Rue he implemented their development programme for supporting the introduction of the Euro.

Previously, Raglan had 12 years of automotive experience as the Chassis Systems Director of TRW Automotive and the R&D Director for LucasVarity Automotive. He has a Bachelor of Science degree in Computer Systems and upon graduation he gained 5 years Systems Engineering and missile guidance experience at British Aerospace.

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