Arthur D Little

R&D Viewpoint

From idea to results: Insights into world class idea enrichment

Findings from Arthur D. Little's R&D Management Best Practice Study

We are entering an era that will demand unheralded levels of creativity as companies constantly innovate and reinvent themselves to succeed in the search for growth and margins. The portion of revenues from ***breakthrough innovation*** is expected to grow four times faster than incremental innovation.[1] This places increasing pressure on companies to generate a steady stream of high quality ideas that can eventually deliver top and bottom line growth. Our global study of R&D best practices shows that some of the leading companies are rising to the challenge by launching ***time-limited ideation challenges*** for key strategic issues and then instituting a ***dedicated process to enrich and select*** winning ideas. To support this, ***senior leaders*** devote a significant amount of their time to ideation and ***are involved*** from start to finish. Lastly, innovation leaders prevent excessive infant mortality of radical ideas and ***ring-fence resources*** to maintain a balanced R&D portfolio.

Why is managing ideas so important?

The situation is probably not unfamiliar – all too often brainstorms or other methodologies are used to generate a vast quantity of ideas but this doesn't seem to translate into a healthy balanced portfolio of R&D projects. The inherent 'creativity' of your people isn't lacking and the strategy is in place but somehow the "killer ideas" just don't seem to emerge. Getting this stage right is important for several reasons:

- Cost – ideas are initially free but as time passes the sunk cost grows and grows. Getting the early stages right is important as otherwise money is wasted on failed or misaligned developments.
- Ideation is hard – there is a reason they call it the "fuzzy front end" – as it is much more nebulous than the downstream development processes. Risk is harder to manage as uncertainty is at its highest and outcomes unpredictable.
- Putting the groundwork in place to exploit ideas requires drive, ambition and vision to mobilize the significant cross-functional and cross-divisional support required for success.

Innovation ranges from new radical business models (e.g. Uber) to low technology marketing changes (e.g. Absolut Honey flavored vodka). However, the focus for this study was the process of creating and managing ideas that require significant R&D before commercialization within technology-intensive industries.

ADL's Study: Perspectives on R&D Best Practices

In 2013, Arthur D. Little (ADL) completed its 8th Global Innovation Excellence Study (GIES), a global, cross-industry survey of trends and best practices in innovation management. Drawing on over 1000 responses across the last two GIES it shed new quantitative light on the basic key question: what innovation management techniques achieve the best return on innovation investment?

In 2014-15 ADL followed up with a study to gain more in-depth qualitative insight into emerging R&D management practices. 23 case studies were developed with 15 companies identified as innovation leaders. These global participants have an average revenue of $30 Bn and are spread across a broad range of technology-intensive industries (including medical devices, pharma, consumer goods, specialty chemicals, food and beverage, oil & gas and industrial equipment). The firms are evenly split between those headquartered in the US and Europe.

From the rich material that these companies shared with us, ADL identified common challenges and insight into how these innovation leaders are responding. Anonymized case studies and quotes from our interviews and meetings have been used to illustrate best practice.

1 Härenstam, Thuriaux-Alemán and Eagar, 2015, http://www.adlittle.com/breakthrough-innovation-survey.html

Case Study 1: Grand ideation challenges

Company A is in the oil & gas industry sector and has a turnover well in excess of $50 Bn. It launches **time-limited external challenges to gather ideas to tackle key targeted strategic and operational issues.**

Back office support

The tight deadlines for challenges have required Company A to develop a very robust "back room" process and the capability to handle hundreds of submitted ideas in a short timeframe. Every potential idea is subject to an assessment that results in rejection or enrichment of the initial idea.

Customized assessment criteria

The process uses different assessment criteria for each business challenge. The review panels are composed of a fixed number of generalists who run the idea management process and some specialists for each challenge.

Online portal

There is a dedicated open innovation portal, where challenges are illustrated and the system tracks a number of KPIs on a dashboard for idea management: numbers of ideas, the review stage, evaluation and feedback, etc. Company A has integrated LinkedIn with its innovation portal to make it possible to share ideas and insight discussions with a wider audience.

Building insight

As well as a source of ideas in alignment with the strategy, one particularly novel outcome of the challenge approach has been the use of multiple internal and external contributions to generate broader and more general insights on challenge topics. These insights are captured and used to structure the feedback provided to idea generators as part of the enrichment processes, which helps to create a long-term relationship.

What do leading companies struggle with?

Four main challenges within ideation and idea management emerged from the study.

Finding ideas in alignment with strategy: Companies need to generate good original ideas in line with their strategy. In general there are three main sources of inspiration for ideas:

- Customer requests for incremental improvements to existing products. The desire to please existing customers is a noble one, but these requests typically translate into very limited growth and will sometimes only maintain existing market shares in existing markets – in the modern world you can't aim to stand still.
- Technology developments – typically unearthed by R&D personnel these can be an important source of new growth. They often result from reserved technology 'tinkering' time (e.g. WL Gore and 3M) or partnerships with universities and can be important in demonstrating technical leadership.
- Ideas that are guided directly by the strategy and are therefore closely aligned with it are typically acknowledged as the most valuable, destined to make the most significant contribution. These tend to be derived from insight into future market needs and are often based on relevant megatrends.

It is important to strike the right balance between the three sources mentioned above but it is this last category that offers the most value in the long run but is also the most challenging.

Managing quality vs. quantity: Many tools are available that can help generate a vast quantity of ideas – the real challenge is emerging from this process with sufficient good business opportunities, well-crafted and well-articulated, that are aligned with the company strategy and ready to enter the R&D development portfolio. Open innovation approaches, in particular, can suffer from this as innovation portals often end up drowning under a vast quantity of submitted ideas that are framed around the perspective of the submitter rather than the strategic needs of the company. Assessment of these ideas and managing the resulting IP minefield can often tie up significant resource.

"What do you do with 500 ideas?"

- Director, Innovation

Coping with the fragility of ideas: Ideas are fragile - infant mortality is to be expected of course and is desirable as the pipeline should be loaded with an excess of ideas to promote competition. However, it is important that the good ideas survive and are not killed early because the potential was not apparent due to inappropriate assessment criteria being used.

Finding breakthrough ideas: Breakthrough innovation is hard and ADL's Breakthrough Innovation Survey showed that 88% of companies are dissatisfied with their breakthrough innovation performance.[2] To maintain a balanced R&D development portfolio it is important to have a source of new breakthrough opportunities that can be integrated into the portfolio. As with R&D development portfolios, we often see idea portfolios that are far too heavily weighted towards incremental innovation. Creating breakthrough ideas requires looking further afield and tends to be more challenging e.g. in the Breakthrough Innovation Survey 80% felt it was important or very important to look externally for ideas but only 39% were satisfied with their performance at this.

2 Härenstam, Thuriaux-Alemán and Eagar, 2015, http://www.adlittle.com/breakthrough-innovation-survey.html

Case Study 2: Idea enrichment process

Company B is in the chemicals industry with a revenue of around $10 Bn. It has a multi-stage process for ideation which focuses on identifying the correct challenges to pursue and then connecting with ideators (including using grand challenges) to seek potential opportunities.

Idea enrichment process

The later stages of this process are designed to enrich and select ideas; a process flow for this is shown opposite. This is performed using a small 4-5 person idea committee, which is cross-functional and multi-BU to enable cross-fertilization. Subject matter experts are sometimes asked to add comments and integrate ideas.

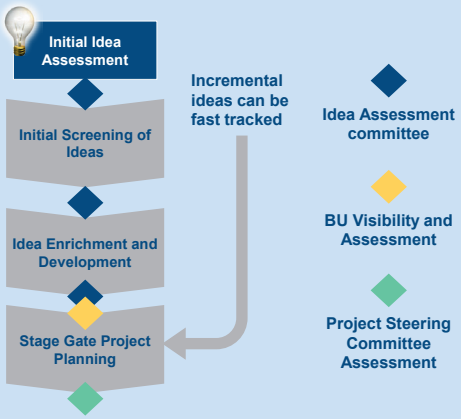
Link to BU/stage gate process

The BU gets visibility of ideas before the stage gate project planning stage and appoints a Project Leader and Steering Committee. This Steering Committee is responsible for approving the project is ready to start by validating the project plan, resources and deliverables.

Flexible process – customized by type of innovation

Lower uncertainty incremental ideas can be fast-tracked through the process to speed the route to development.

The main focus is high value add for modest effort.



What insights into best practice emerged?

Typically companies that face these challenges have developed a strategy and have the required resources in place – the problem is often with the processes and, sometimes, the organizational structure. In ADL's analysis, four practices emerged which can help to address the challenges.

1. Launch grand challenges: Launch time-limited grand ideation challenges that are in alignment with company strategy. Each challenge should run for a limited duration (typically a few months) and be advertised to a range of internal and external sources of new ideas. This might involve a web portal and announcements at research seminars, conferences and other meetings to raise awareness. To get a valuable response, it is essential to not only ask the right questions but also to ensure they are framed and worded correctly.

The approach described in case study 1 catalyzes idea generation in one area and helps to ensure that the submitted ideas are aligned with the strategy. However it requires a significant cross-functional backroom effort to assess challenges, consider synergies, enrich ideas, and provide feedback to idea creators. Internal contributors can be asked to comment on submitted ideas but also on the topic – one of the key benefits of this approach is it gathers and aggregates insight from a diverse range of sources to build holistic understanding of the issue.

2. Allocate resources for idea enrichment: Many tools for idea generation have been developed over the years and most include a selection stage. However, only relying on generating sufficient raw ideas and then hunting down the proverbial needle in a haystack is an inefficient approach. In contrast to this, top innovators view the post-creation management of ideas as a distinct enrichment process in which complementary ideas can be combined – or rejected ideas shed light on those that are taken forward. Case study 2 shows they implement a multi-stage process to gradually review, enrich and select ideas – with each selection gate opening the door to increasing resource for investigation:

- The first review uses qualitative business-driven criteria and leads to a commitment of minimal resources for investigation into major show-stoppers. This will typically involve a few man-hours effort per project as the key at this stage is to generate far more potentially high-value options than there are resources to develop.
- The second review uses a broader cross-functional decision-making committee armed with better information, which potentially permits a more detailed exploration, typically with structured contributions from a multi-disciplinary team to enrich and widen the solution space.
- By the final stage, surviving projects can be plotted on portfolio diagrams to give a holistic view of all projects, ready for prioritization. Project proposals are prepared and the first pivotal 'go/reject/hold' decisions are made. Projects are selected to balance the portfolio of activities and will be allocated significant resource as they move into an implementation stage.

In all of this, it is important to find an efficient solution – as the workload can easily spiral out of control if good organization, reporting and assessment mechanisms are not developed.

"It must be very lean, very reactive and simple"

- Innovation Excellence Manager

3. Engage senior leadership: As in so many aspects of innovation, senior engagement and support is key. Creating and enriching good ideas is one of the most challenging activities a company has to perform. Uncertainty and risk are high and often confidence is low so it is too easy to kill good ideas that could blossom. By way of example, one benchmark arranged monthly slots in the diary for ideation to secure VP attention. Another ensured senior (CEO-2) BU champions for every selected idea chartered for development. This provides visibility to the BUs of R&D activity and a steadying hand on the tiller.

"The Group VP spends half a day per two weeks on ideation…only a board meeting is higher priority

- Director R&D

4. Use a different process for Breakthrough ideas: Breakthrough ideas need to be managed in a different way to incremental innovation. Breakthrough ideation requires the suspension of disbelief to prevent imperfect ideas from being rejected because they are not fully developed. In our recent Breakthrough Survey, 60% of participants recognized modifying the ideation process as important or very important, but three quarters had either not or only partially implemented this:

- Modified selection criteria to manage increased risk and uncertainty, and reduced knowledge.
- Increased stages of enrichment (including chartered knowledge or competence building projects if required).
- Creation of separate organizational groups, if appropriate.
- Development of a 'radical' mindset - flexible and open to opportunity without imposing unnecessary constraints.

Conclusion

Many companies are unsatisfied with their innovation efforts and part of this is undoubtedly due to challenges around ideation and idea management. The required contribution of breakthrough innovation is ever increasing and this just adds to the pressure. However, it is clear that some companies do develop strong processes and reap the rewards - and the practices we have outlined can help. Ask yourself:

- Do you know your key strategic challenges? What is stopping you launching a 100 day targeted challenge?
- How well do you enrich ideas? Do you just pick and choose or do you learn from the losers as well?
- Does your senior leadership have regular slots in the diary to support and engage in ideation process? If not, why not?
- Do you have separate processes for radical ideas?

The good news is that there are a clear set of processes and best practices that can be implemented to greatly enhance the management of ideation. These practices generally don't require extensive organization change. What you do need, of course, is the will to change.

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Arthur D. Little

Arthur D. Little has been at the forefront of innovation since 1886. We are an acknowledged thought leader in linking strategy, innovation and transformation in technology-intensive and converging industries. We navigate our clients through changing business ecosystems to uncover new growth opportunities. We enable our clients to build innovation capabilities and transform their organization.

Our consultants have strong practical industry experience combined with excellent knowledge of key trends and dynamics. Arthur D. Little is present in the most important business centers around the world. We are proud to serve most of the Fortune 1000 companies, in addition to other leading firms and public sector organizations.

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