HYPE

Growing Adaptive Innovation
Through an Innovation Maturity Model

HYPE Innovation White Paper

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1. Executive Summary

Innovation has become a much more strategic activity in the modern enterprise, and recently its importance has grown. That is partly a result of innovation playing a larger role in transforming the way companies work and expanding their opportunities in different markets.

Innovation as a discipline is struggling to reflect this larger role. Many innovation managers might feel frustration because innovation is not taken seriously enough. Yet the reality is that innovation is transformative and strategic. Its strategic role needs to be embraced with new thinking and new techniques because the nature of products is changing fast.

For example, in the case of some product segments, there is an ever more important set of innovation and investment activities post-product launch. These include: the development of customer ecosystems, developer ecosystems, or content ecosystems, and a growing dependence on integration with customers, partners, and third party platforms.

Innovation, then, is no longer just about a new product. Innovators have to find ways to manage new downstream activities as well as to help shift the balance between product and service in the new economy. Spurred on by these needs there is now a wide variety of innovation techniques.

However, very little has changed in the way companies go about making decisions about new product or service offerings.

Decision making is still stuck in an ROI/financial KPI paradigm, as if business still relied solely on a product reaching a shelf where it can earn a margin. Instead, there is a growing need for companies to develop new business models, new revenue streams, new capabilities, and new relationships. And, apart from that, there is also a growing uncertainty over product uptake even though ROI and financial KPIs assume predictability.

This mismatch leaves companies with plenty of new ideas but not necessarily the right ideas nor the means to exploit them.

In this paper we propose a 3 Phase Innovation Maturity Model that will help companies plot their way through the innovation maze. By focusing on maturing different competencies, in effect by becoming **adaptive innovators**, companies can develop the capabilities that help them make the most of their innovation investments.

2. Introduction

Companies need a more structured and rational way of approaching innovation to ensure good use of resources, but they also need to be more adaptive, because circumstances change much more rapidly than they did in the past. Even the nature of products is changing.

Over the past decade, but the last five years in particular, the range of innovation activities a company might be involved in has mushroomed. And innovation has become more central to how a company brands itself, especially internally.

As yet, though, there is no real roadmap for how a company becomes innovative. There's also a lack of strong metaphors for the culture they need to adopt. Open innovation is an option but "openness" has drawbacks, particularly when companies generate huge numbers of new ideas and then have to find ways to make good decisions on where the place their bets.

The innovation maturity model has three stages, all of which represent a part of the experience of innovation. Each phase also reflect the need to adapt decision-making to make the most of new innovation activity.

When thinking about innovation maturity it is also important to understand that innovation is a dynamic activity. It changes. Innovation is often treated as though it were a static entity when in fact innovation is changing all the time – the techniques, concepts, processes and support tools are in constant evolution. In fact they have never been as dynamic as they are today.

The table below illustrates some of the developments:

			Adaptive Innovation		
Productivity	**Quality**	**Strategy**	**Social**	**Computational**	**Design**
> Lean	> Continuous improvement	> Open, Collaborative	> Crowd	> Ecosystems	> Software and interface design
> Toyota Production System	> Six Sigma	> Structured decision making	> Social	> APIs	> Reverse and frontier innovation
> Ford assembly	> TQM	> Strategic planning/futurism	> Community	> Open source	
> Scientific Management	> Total Quality Control	> TRIZ	> Market research	> Object Oriented	> Service design
	> Statistical process control	> Labs	> Labs	> Software	> Product design
				> Moore's law	
			Emerging innovation frontiers in design, hardware and biology		

Haydn Shaughnessy, July 2013

Figure 1. The Evolution of the Innovation Environment

For most of the 20th century, innovation technique was aimed at improving productivity and quality, within a fairly stable strategy environment. Aside from that, academic and industrial laboratories undertook invention work and that's what we thought of as **real** innovation.

Today all those activities continue. Alongside them, though, is a new area of activity that reflects the more disruptive times we live in. Let's call it **adaptive innovation.**

In adaptive innovation, the goal of a company is to ensure its prosperity over the long term by adopting all the techniques necessary to give it resilience and new capabilities.

All the activities on the right of the diagram above are adaptive techniques that, taken together, transform the way enterprises function.

But these techniques are not primarily about productivity, quality or strategy. They are about change. They are about bringing new skills in, or new social participants through events like hackathons and jams, or subverting the hierarchy with ideas from under-developed markets, or incorporating open source, or making more use of the diversity or collective wisdom of the crowd.

These are techniques of adaptation. They don't guarantee quality or productivity but they do allow companies to develop in fundamentally new directions. If you have that capability, then you are on well on the road to adaptation.

To find out how companies evolve these new competencies, and how best to make decisions on what to invest in, in innovative environments, we interviewed executives and managers in a total of 30 companies. These were in-depth interviews, lasting from 40 minutes to one hour, and the respondents were CTOs, strategists, CIOs or people directly responsible for innovation activity. Most of the interviewees opted to remain anonymous so that they could speak freely.

2. Analysis

The companies we talked to were primarily large ones, with over 5,000 employees, in a broad range of industries with a concentration in ICT, financial services, media, logistics, and healthcare or pharmaceutical. We were particularly interested in how they made decisions around innovation.

When it came to applying a major criterion to decision making, we asked whether companies still applied ROI or a variant of this (Discounted Cash Flow or Net Present Value) or whether they made investment decisions based on, for example, exploring new revenue streams or adding to the company's foundational capabilities.

Half of those who responded to this question said ROI or a variant was the main criterion.

"We are heavily driven by ROI. We need to show ROI over years. I have tried to introduce a stage ahead of that where we can spend on projects but it can be hard to spend because of other constraints like people swallowed up by other projects."

– Innovation lead at a major logistics firm

Surprisingly only 5 companies made investment decisions based on exploring new revenue streams, while 9 made decisions based on adding to the company's foundational capabilities.

Only about 12% of respondents make positive decisions about innovation projects based on a long term transformation strategy. For most, the trigger for action is either a desire to be first to market or to be a fast follower.

Surprisingly, even those companies that have a transformational agenda like to talk of themselves as having a strong core competency that they are reinforcing.

Companies typically draw on decision-making criteria from their stable, predictable past.

At the same time, executives find it very difficult or un-political to stray very far from convention in what they say, even when they are trying hard to change. If they are not sticking to the ROI/financial metrics any more, then they are sticking to the idea of core competency.

What this means is that at least half of companies, on the face of it, are applying old and conventional criteria to situations that require change and the majority build out a business case that is highly rational, dependent on market conditions being predictable, being able to offer a USP or unique asset, even though the setting is one that needs change.

It was not unusual to find people in these organizations looking for a catalyst to overcome this contradiction:

"We have a problem countering risk aversion. We have not had a crisis that forces us to really work for the breakthrough – we've always managed to do enough to maintain our position. And the players around us are not pushing us enough really. Trying to make sure potential breakthroughs are found and sold internally is difficult."

– Innovation lead at a major transportation company

However, we also found a group of companies that thinks of innovation as a broad-based process of discovery.

This group, typically more conceptually driven companies, is more likely to show a willingness to let even the financial metrics of decision making be part of a discovery process. That means, they set out to discover new financial metrics as their projects evolve. They are more inclined to take bigger risks and yet are actually less likely than the former group to engage with very low cost, lean innovation that involves customers in fail-fast, fail-cheap processes.

The proportion of companies involving customers in their product development processes, compared with those that don't, is about 50-50. However, of those that describe themselves as

primarily transaction-focused (the strong ROI companies) 75% do not involve customers in their product development processes. The transaction-focused companies are marginally more likely not to involve customers in fast iteration cycles on products and services whereas an ideas-focused company is much more likely to involve customers rather than not involve them - by a ratio of (4:1).

In innovation environments, companies therefore divide into groups based on whether they are:

- Very ROI or financial KPI-driven
- The degree to which they are involving customers in product and service development
- The degree to which they are able to set a transformational agenda for themselves or the degree to which they remain reactive
- The degree to which they are dependent on conventional business thinking, especially around core competency
- The degree to which they invest in new competencies or learning as part of their innovation effort
- Their ability to marry innovation with strategy and vision

Reviewing the interviews and analysis, it is possible to draw up a simple innovation maturity model that reflects these parameters. When thinking about a maturity model it is important to have a clear definition of what it represents.

Companies with a strong ROI focus and a strong dependence on core competency tend to manage innovation in ways that frustrate the core objective of changing a product, process, or market.

This does not mean that change does not take place. They might, for example, deploy an idea platform and generate valuable new ideas for products and processes. From there on, though, the desire to use conventional metrics to judge the performance of projects, can hinder innovation. In some cases, they might even find they have no decision making processes for new projects. In what ways then can they mature?

You'll see in phase 1 of the maturity model that we have included many ideation-based activities. This is all basic activity that has benefits and disadvantages, many of them caused by or related to conventional decision making, or the absence of decision making.

By phase 2, companies are doing much more to build more complex and nuanced decision-making competencies, for example by bringing in more customers.

And by phase 3, they are much more discovery-based, are investing more in the decision-making capabilities of their people and are swapping out mechanical or linear processes for complexity, because by this phase, they feel comfortable with uncertainty and nuance.

3. An Innovation Maturity Model

Sub-Phase	Stakeholders	Innovation technique	Decision process
1. Idea generation	Select Employees	Stage gate	ROI
2. Idea generation	Broad – Employees, public, supply chain	Awards or prizes	Cost savings/ROI
3. Open innovation	Universities	Award	Breakthrough science or invention
4. Process or product improvement	Expert	Stage gate or challenge based	Total addressable market, patentability; competency; partner and IP availability/ROI
5. Solution seeking	Social	Hackathon, jam...	Novelty/business case
6. Problem solving	Specialist or targeted	Challenge-based, jury	Technical/ROI

3.1 Phase 1: Idea Flow

In the first phase of the model, companies work primarily with idea generation and idea flow. This is the big promise of open innovation – more ideas and a funnel of some kind to process them through to product or service launch.

It is not as easy as it seems. Decision making practices are often under-developed in companies that try to expand their idea and opportunity funnel. They rely on decision criteria drawn from existing decision processes and priorities – such as cost savings and very visible ROI. They rely on a business case framed as a conventional business plan. And they try to move projects through a set of stage-gates by applying conventional ROI metrics.

What is wrong with this picture? Three things:

1. The first is that innovation requires a different type of decision criterion. Typically a project will have to find a place in a new kind of business environment, for example one where there is more need to address multiple niche markets, or where there is a distinct ecosystem of collaborating competitors, or where business advantage lies in creating a long term environment for customer and non-customers to interact. The project itself might only indirectly provide the returns and needs to be assessed against a changing landscape.
2. Companies will be managing very many ideas and typically lack the decision processes to do this.
3. Not many employees are equipped to make decisions about complex, uncertain markets. In fact many organizations are incentivized not to innovate.

"We don't communicate innovation well. And we have sales staff who have their favourite product and won't sell new things. As long as they make their numbers, they don't care. It has the effect sometimes where we do not sell a new product at all...
If I say to a designer here is a new product idea, can you sell it? And how many? It's easy to say yes without accountability. It becomes really hard to build a decision process that integrates the people who have to sell."

– Innovation lead at a major logistics company

In the first phase, less attention tends to be paid to developing sophisticated decision models or to training innovation practitioners or decision makers to develop their sensibility to new opportunities over the longer term.

There are phases within this phase – summarised in Table 1. While there are simple ideation and stage-gate processes around cost and simple ROI, there are also projects that have a more sophisticated prioritization model behind them.

Often, though not always, this means that innovation will be very cost-focused, not just because many companies are still seeking cost efficiencies, but also because cost-saving is an easier decision to make in the short term.

Nonetheless there are benefits to be gained from Phase 1. In sub-phase 5 they can realize benefits from fast-paced social interactions among developers who have a store of novel solutions that they want to try out in a public space. In general, they also have the opportunity to ground the innovation culture and build credibility for the processes they introduce in the later phases 2 and 3. Phase 2 and 3 require more delegated decision-making, more trust and more personal responsibility and Phase 1 can be a proving ground for that.

Phase 1 actions include:

1. A strong focus on cost savings
2. A cultural shift towards innovation and collaboration (see below)
3. A new social orientation in innovation and experience of working with external innovators
4. The development of specialist insights from the use of experts
5. The development of an idea flow

The downside is that in Phase 1 companies generate too many ideas and create confusion over how decisions are made. They quite often generate trivial ideas and they may not address strategic issues. Nor do they provide a way to overcome specific structural and cultural problems in enterprises.

3.2 Phase 2: Customers and Competency

The experience of running phase 1 projects often leads companies to grow their ambitions. They become aware of fault-lines in the open innovation process and of weaknesses in their own understanding of decision-making.

They typically talk of a return to core business, from a position of having tried too many alternatives.

"We had a new CEO two years ago who felt we were going in too many directions with too many companies in too many countries. Now we are screening all the companies and countries we are in to make a total of fifty activities and no more. We are going to a narrower range to leverage synergies and add value to a limited number of clients."

– Executive at leading global bank

At this point they are also more customer driven, introducing Minimum Viable Product (MVP) and lean innovation iterations into the early stages of projects. They also broaden out their decision criteria to include a much stronger focus on customer requirements.

There is also a point in this phase where there is more emphasis on introducing product and service design skills prior to any significant stage-gate being reached. That makes the investment more substantial but it also means that products already have some significant prototype value before having to face rejection-acceptance processes.

Companies might also at this stage engage in a more structured way with crowds – via crowdsourcing (for example on specialist technological sites like GrabCad), or crowdfunding.

The ROI/NPV/DCF decision model is pushed back a little at this phase, as innovation leaders find space and funding for projects to grow and to ground their credibility. But conventional financial metrics are still the dominant mode – companies are looking for new products that have a better or at least acceptable ROI, even though innovation managers know they need breathing space.

Another characteristic of this phase is that companies will map out their time-horizons more effectively, reintroducing a chronology to their idea flow, making more of where ideas fit in the short, medium and long-term. Although in the past companies had 2, 3 and seven year product cycle thinking, today they need to do much more to ground products in active relationships with customers rather than rely solely on insights. That makes the creation of a chronology a different type of discipline.

Sub-Phase	Stakeholders	Innovation technique	Decision process
1. Product development	Employees	Simple MVP, lean innovation, design thinking/start-up challenges	Customer feedback/ROI/ juries, bias management techniques
2. Meshing product development and marketing	Product manager	Crowdsourcing/ Crowdfunding	Big Data, data-driven but granular decision making
3. Augmenting foundational capabilities	Partners	Collaborative development, e.g. combined services via Cloud	Risk management, IP management
4. Design patenting and service design	Shareholders	Patenting	Long-term IP protection

Phase 2 Actions include:

1. A return to focus
2. More use of innovation technique such as lean innovation rather than simply relying on ideas and funnels
3. More emphasis on timescales and connection with strategy
4. More space for projects to grow before facing a moment of truth
5. More social engagement, e.g. via hackathons, but a more directed use of social innovation

3.3 Phase 3: Strategic Options Planning and Complex Decision Making

In stage 2 companies are engaging more deeply with customers and the supply chain. They are also making a higher investment in product design early in a product's lifespan.

In stage 3 they are likely to make a bigger investment in the long term customer ecosystem and/ or the developer or content ecosystem as well as executive innovation skills and in the company's foundational capabilities. They will go beyond core to acquire or develop new competencies.

As one interviewee put it:

"How you connect is transformed. You know how customers are succeeding with your product. You don't go out every six months and interview them.... You have direct privacy, security, and success insight every morning and that goes well beyond what CRM gave us. How customers interact with us is becoming much more immediate and more continuous."

– Amar Haspal, SVP, Autodesk

The fact is that this type of advantage is part of the transformation of business and is a long-term gain requiring long-term change. The nature of investment in phase 3 is more aligned with that long term logic. To make it happen, executives have to push back on traditional financial metrics.

They move away from a stage-gate model and adopt "graduation" processes that are much less rigid, more intuitive and more relationship-based than stage-gate is. It is also more discovery-based.

> *"In the established business, financial metrics play a more important role. The new areas mean you have to be entrepreneurial, have a good testing profile, and be good at learning, be more fluid. When transforming, everything becomes discovery, including the financial side."*
>
> *– Christ Thoen, CTO, Givaudan*

There is more emphasis on executive empathy in nurturing products with potential and employees who have ideas and execution capability. Investing in executive sensitivity and in maturing team dynamics becomes increasingly important.

> *"We are willing to fail forward. People don't get penalised if their product doesn't get commercialised. Failing has led to bigger successes."*
>
> *– Vincent Voron, VP and Executive Director of Marketing Studio, Dolby*

Sub-Phase	Stakeholders	Innovation technique	Decision process (more options-based)
1. Innovation downstreaming	Employees, customers	Ecosystem management	Non-ROI, developing strategic capabilities, deepening customer life cycle opportunities, opening new revenue streams
2. Growing the strategic portfolio	Employees, executives	Rapid iteration management	Complex graduation criteria, long term vector analysis, discovery based financial metrics, new learning opportunities
3. Opening innovation to third parties and ecosystem development	Customers and suppliers	APIs/platform based innovation, investments in community and ecosystem	Discovery-based metrics, Big Data
4. Long term transformation	Employees, shareholders	Strategic options planning	Complex graduation, long-term vector analysis, discovery based KPIs, new learning opportunities

There is also a deeper search for new business models and financial KPIs.

"Digital allows us to completely reinvent how we engage with our customers, allows us an ongoing dialogue, and allows us to redesign the monetization principles and restructure the money flows."

– Alberto Prado, Vice President Digital Innovation at Philips Consumer Lifestyle

Phase 3 Actions include:

1. Recognition of an entirely new relationship with customers, including big data but also a post-CRM level of continuous engagement
2. Much stronger awareness of transformational vectors in the economy and where the company has to get to, stronger use of vision
3. A higher likelihood of connecting innovation and transformation
4. More emphasis on developing distinct innovation skills and decision making
5. Maturing employees in the innovation process
6. A strategic options approach

4. Conclusions and Recommendations

Companies that want to develop their innovation capabilities often neglect the non-financial returns or the delayed financial returns that stem from investing in a broader capability set and in new decision capabilities.

The belief, early on, is that more ideas will produce more breakthrough products and that the judgments about these can be done in a simple linear set of stage-gates.

As they start to wrangle with innovation, however, they develop a more nuanced view of what it takes to make their people good decision makers. They develop different metaphors for a product journey – graduation rather than stage-gate; they are more willing to look at broader benefits and to count these in to the ROI; and they develop the capacity to create options for themselves rather than seeing every project as a go-to-market journey.

In between these two stages they become much better at bringing customers into the journey with them; they re-set their time horizons; they introduce more social aspects to innovation but they also become more focused.

The 3 Phase Maturity Model can help companies identify where they are and to accelerate capabilities with confidence.

The big lesson is that companies need to graduate their innovation efforts to a strategic options planning mode. In this mode, the interaction between strategy, vision and innovation is clear, iterative, well communicated and well managed.
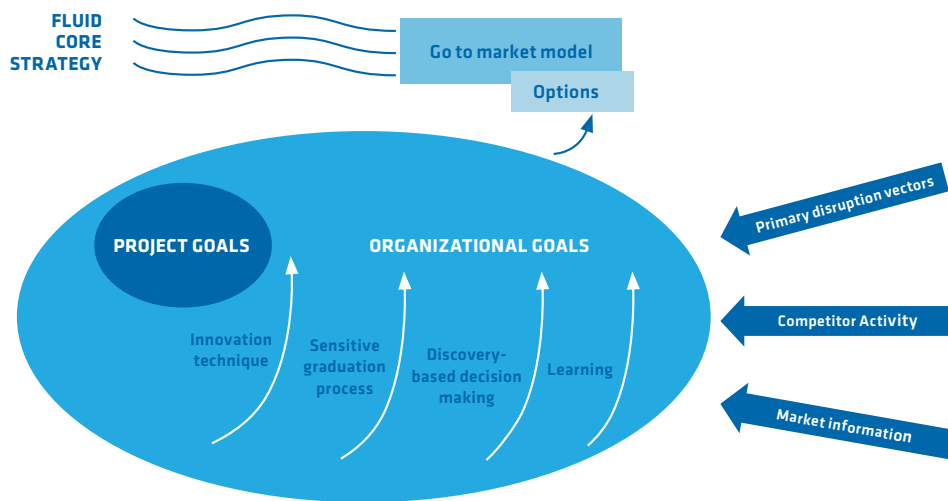

Figure 2. A Schematic View of a Strategic Options Approach

Strategic options planning relies on a number of improvements to executive decision making rather than on simply proliferating new options.

The goal is for a company to have more options to deploy in the market and to have the foresight and insight to know when to make a move. They reach that stage in Phase 3. A chief recommendation however is that they start out with it in mind.

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HYPE Innovation is a global leader in end-to-end innovation management software. HYPE's powerful platform allows organizations to engage thousands of employees in idea generation and collaborative problem solving. We help you focus on measurable business outcomes that can be tracked through to execution. Companies work with HYPE for our flexible products, our deep expertise in innovation management, and our long history of success with some of the largest organizations in the world. Our client community includes global companies such as GE, P&G, Bombardier, DHL, Roche, Nokia-Siemens, Daimler, Airbus, General Mills, Saudi Aramco, Bechtel, Clorox, Deutsche Telekom, and many more.

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