Hella and disruptive innovation

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Managing Innovation

Chapter 11: Dealing with discontinuity

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(This book is an innovation history of the German company Hella and also explores current challenges along the innovation frontier and the way the firm is managing them)

Chapter 11: Dealing with discontinuity

When Sally Windmuller started tinkering around with accessories there wasn't a car industry as such. Instead a series of inventions had begun to pave the way for one – but quite what it would look like no-one knew. There wasn't a market in the traditional sense – only a handful of people were wealthy enough to but the new vehicles each of which was being hand built in customised fashion. A visit to the town of Lippstadt showed plenty of personal transportation, all of it the horse and cart variety in its various forms. Two-seaters, four-seaters, omnibuses, flatbed trucks – any kind of cart pulled by almost any kind of animal. But a motor car?

And there wasn't an organised industry with a network of suppliers bringing in the parts which a few large assemblers could put together to build vehicles to a standard design and in the volumes which would make them economic to sell to everyone. That revolution was to take another thirty years and the hands of Henry Ford and his team to bring to the streets of Germany. Instead there were entrepreneurs like himself, seeing latent opportunity and trying to find ways to convert it into something real.

Of course anyone with a time machine could have seen what was coming and the huge changes in the marketplace for transportation. Sally Windmuller's instincts were right – this became a huge industry and effectively disrupted the cosy world of players linked too tightly to the horse and carriage world. Some of them adapted and moved on with the new technology, others fell by the wayside.

It's not always about spotting opportunity – sometimes it's about not being able to change fast enough when something different appears on the horizon. New industries based on new technologies bring with them big challenges for established players. It's a familiar pattern – think about many sectors which dominated the nineteenth century and how those industries rose and then fell away as technology created new markets and drew customers away from the old businesses.

Back in the 1850s there was a huge industry in the northern USA based on ice harvesting – flooding fields, cutting blocks of ice, insulating them and shipping them southwards where they were needed to preserve food. Thousands of people working to produce millions of tons of ice – and all washed away by the wave of technological change triggered by Herr Linde working in his Munich laboratory on the development of refrigeration [i].

Or the world of lighting – transformed by Thomas Edison, Joseph Swann and others to one based on the new technology of electricity. Suppliers of oil and wicks, candles and even gas lamps lost out as the new opportunities in the electric lighting field began to emerge. Entrepreneurs like Fredrik and Gerard Philips set up Philips Metaalgloeilampfabriek N.V. in Eindhoven in 1891 to take advantage of the new wave, riding it successfully towards becoming one of the world's largest electrical/electronics companies a century later.

Patterns of innovation

Fortunately discontinuity doesn't happen all the time – there are long periods in between where there is relative stability and which favour the established order. It's a pattern sometimes called 'punctuated equilibrium' – and understanding it can provide important clues for innovation management, because different strategies are needed at different points in time.[ii]

During the early stages of a new technology or a new set of market conditions there is a 'fluid' stage in which neither technology nor market is mature and where the picture is of many entrepreneurs experimenting with possibilities. Most of these fail but eventually one model – not necessarily the most technologically sophisticated but the one which fits best with the market context – emerges to become the 'dominant design'. [iii]

Like a crystal in a super-saturated solution this provides the point from which the industry grows and in its consolidation and maturity phase innovation follows a trajectory of incremental improvement. James Bright documented the growth of the lighting industry and showed how following the breakthroughs on which Edison and others built the industry the growth then rested on a continuous stream of improvements. And although there were occasional flurries around the edges – fluorescent lights, xenon and other discharge technologies, etc. – the industry stayed pretty placid until the emergence of LEDs in the late part of the 20th century. Radical innovation was replaced by systematic incremental improvement, especially around the processes though which lights were made in the increasingly concentrated and large-scale industry.

Disruption from the edge

In this model industries become increasingly mainstream, exploiting the dominant design in a stable network with a few strong players and deep relationships amongst key suppliers and major customers. But at the edge of this orderly world there are entrepreneurs constantly searching for chinks in the wall, overlooked doorways which might offer opportunities to enter the game and disrupt it.

One way of doing this involves finding a group of people whose needs are not being met or are met poorly by existing technologies. Think about low cost airlines and the challenge here was around *who* was doing the flying. There was an established mainstream market using a dominant design – most airlines looked and behaved in the same way, offering similar services and prices to customers (or their companies) rich enough to afford this mode of travel as an alternative to slower rail or road options. But a few entrepreneurs began asking the question 'who doesn't fly yet – but might?'

This led them to focus on the unserved markets – for example, students, backpacker travellers or pensioners on limited incomes. Offering them the chance to fly would require some radical re-thinking of the product offer, something with few frills but the opportunity of a safe flight for a low cost. Behind the scenes a great deal of process innovation would be needed to cut costs, speed up expensive turnaround times at airports, multi-skill staff to improve labour productivity and so on.

All of this experimentation and learning took place at the edge – it was of little concern to a mainstream club of airlines operating out of central airports and serving their established markets. But gradually the new entrants refined their model and its offer began to attract customers from the mainstream – the financial logic was hard to escape. Safe simple flying at a fraction of the 'normal' price was very attractive over most short-haul routes – and suddenly the stable world of air travel was disrupted. Many major airlines couldn't make the transition and those which did follow the new entrants were for some time at a disadvantage until they too could learn the new rules of the game and the tricks whereby it could be played.

Disruption of this kind was first identified by U.S. professor Clayton Christensen who developed a theory around it, drawing on many cases from a variety of sectors[iv]. Common to all of them was the role of entrepreneurs working at the edge and suing a new combination of technology – often simpler and cheaper – to provide a 'god enough' solution to the unmet needs of a fringe market. That innovation is then improved by learning from and with the new market and it draws other customers away from the mainstream, fuelling the accelerating move towards full-scale disruption.

It may not always be simpler technology or lower price but the model of disruption is based on things happening at the edge of the current market focus and involves new networks of layers – customers, suppliers, and above all entrepreneurs.

One of the roles played by entrepreneurs (first identified by Joseph Schumpeter, the godfather of innovation thinking) is 'creative destruction' – looking to disrupt with a better idea which simultaneously replaces the existing one. Nowhere is this more visible than in business model innovation where entrepreneurs change the rules of the game by creating a new and better game. Business models are basically a formulation of how an idea can create value, a roadmap for innovation. Changing the business model may involve new technology or serving different markets but it can also involve re-arranging the existing pieces in a new way. George Eastman's contribution was not to invent the camera but to find a way of bringing it into the homes of everyone. Henry Ford did the same with the motorcar and Steve Jobs with computing devices. Recent examples like Über or Air B'n'B simply bring a new way of organizing existing resources like cars or accommodation but they have similar transformative power.

Discontinuity and disruption

So we need to recognize that discontinuity happens – we can't always predict it but it is out there. It may come from technology or market trends, it may be entrepreneur –led – but it is going to happen. Whether it disrupts an industry or a particular organization's operations depends on how well placed that organization is to anticipate and act to minimize the threat, open up the opportunity.

What's the problem?

The trouble is that the very things which allow an organization to move from being a start-up entrepreneurial venture to a large established business can also limit its ability to search at the edge and react quickly. All organizations begin as small start-ups and exploit the advantages of entrepreneurial spirit – agility, risk-taking, being able to spot opportunities and being flexible in finding ways to exploit them. As they grow so repeating the innovation trick becomes a matter of building structures and processes to make things happen. Innovation becomes more organized and operates as a system.

Such innovation systems offer a powerful engine for delivering growth based on innovations within core areas, exploiting technical and market knowledge to advantage. But they also run the risk of becoming too focused on the current business and of losing the entrepreneurial capacity to explore at the edges of the current business, finding unlikely opportunities and connecting them back to the mainstream.

This tension – between 'exploit' and 'explore' - is well-known and common to all organizations. Smart businesses recognize the need for a capacity to operate in both worlds – to develop what is called 'ambidexterity' in their innovation approach. (Ambidextrous people can work with equal facility using either hand whereas most people have a dominant had which they use for most tasks). They seek to build on their core strengths in their mainstream innovation systems but also to build a capacity to explore in different ways, to recapture the 'venture spirit' which characterized their early foundation.[v]

Innovation as a framing problem

Just as human beings need to develop mental models to simplify the confusion which the rich stimuli in their environment offers them, established organizations make use of simplifying frames. They 'look' at the environment and take note of elements which they consider relevant – threats to watch out for, opportunities to take advantage of, competitors and collaborators, etc. Constructing such frames helps give the organization some stability but it also defines the space within which it will search for innovation possibility.

In practice these models often converge around a core theme - although organizations might differ they often share common models about how their world behaves. So most firms in a particular sector will adopt similar ways of framing – assuming certain 'rules of the game', following certain trajectories in common. And this shapes where and how they tend to search for opportunities – it emerges over time but once established becomes the 'box' within which further innovation takes place.

It's difficult to think and work outside this box because it is reinforced by the structures, processes and tools which the organization uses in its day to day work. The problem is also that such ways of working are linked to a complex web of other players in the organization's 'value network' - its key competitors, customers and suppliers - who reinforce further the dominant way of seeing the world.

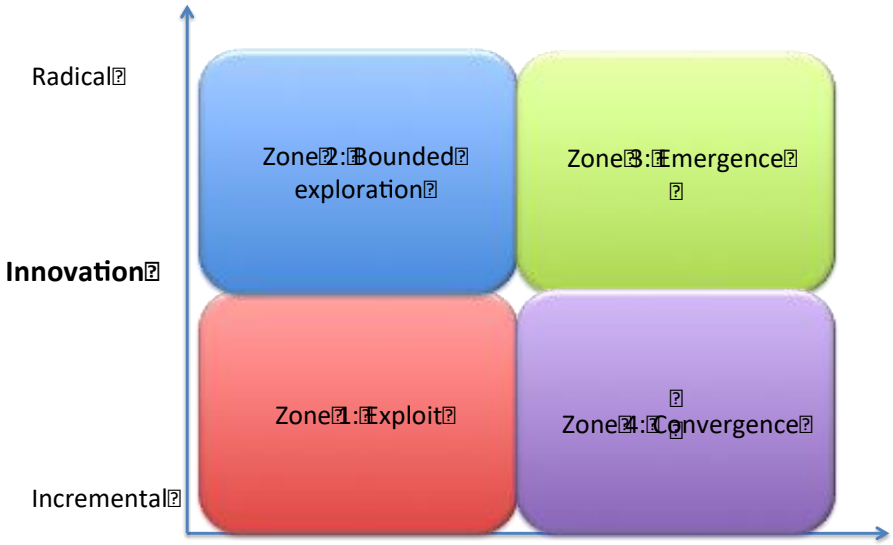
Powerful though they are, such frames are only models of how individuals and organizations think the world works. It is possible to see things differently, take into account new elements, pay attention to different things and come up with alternative solutions. This is, of course, exactly what entrepreneurs do when they try to find opportunities - they look at the world differently and see opportunity in a different way of framing things. And sometimes their new way of looking at things becomes a widely accepted one - and their innovation changes the game.[vi]

Rather like the drunk who has lost his keys on the way home and is desperately searching for them under the nearest lamp-post 'because there is more light there', firms have a natural tendency to search in spaces which they already know and understand. But we know that the weak early warning signals of the emergence of totally new possibilities – radically different technologies, new markets with radically different needs, changing public opinion or political context – won't happen under our particular lamp-post. Instead they are out there in the darkness – so we have to find new ways of searching in space we aren't familiar with.

How can this be done? By luck, sometimes – except that simply being in the right place at the right time doesn't always help. History suggests that even when the new possibility is presented to the firm on a plate its internal capacity to see and act on the possibilities is often lacking. For example, the famous 'not invented here' effect has been observed on many occasions where an otherwise well-established and successful innovative firm rejects a new opportunity which turns out to be of major significance

A map of innovation search space

As we saw in chapter 1, organizations need to explore a variety of areas in their search for innovation opportunities. The figure below shows this simple map again.



Zone 1 corresponds to the 'exploit' area we looked at earlier where we are working in familiar territory and looking to exploit the knowledge base which we already have. Zone 2 is about exploring but within the context of our existing frame, pushing the frontiers but in directions we are familiar with. Zones 3 and 4 bring in new elements and combinations and requires a different and more open approach to search. This is especially tricky where the different elements interact with each other to make a complex emergent system which is difficult to explore in systematic fashion.

Of course it isn't just about seeing what's around the corner – organizations also need to find ways of working with those threats/opportunities, creating new ventures and integrating them with their mainstream. Today's entrepreneurial experiment could be tomorrow's mainstream business.

The challenge for established organizations is that while they may have built effective systems for working in zones 1 and 2 they require very different capabilities to deal with the right hand side of the picture. In these areas the key skills are those of an entrepreneur, able to work flexible in unclear and fuzzy environments and experiment with possibilities in that space. The kind of characteristics needed here include:

- Flexibility – able to reframe, to see differently
- Explorer – open to new possibilities, challenge, adapt, change
- Agility – able to move amongst different options, link different worlds
- Ambiguity – tolerant of 'fuzzy' front end
- Risk-taking – prepared to experiment and fail
- Probe and learn approach to strategy

So mature organizations need two types of innovation structures, one focused on the mainstream and the other to manage the very different challenge of exploring well beyond the lamp-post.

Table 11.1 illustrates these two 'archetypes'

Table 11.1: Two different types of innovation organization

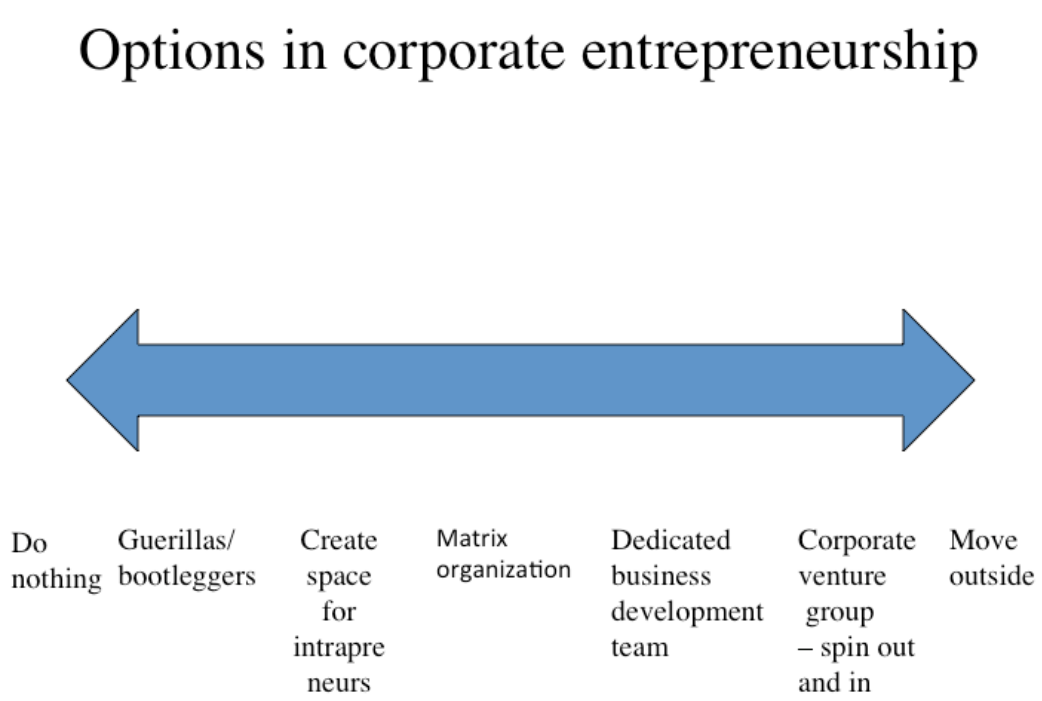
Type 1	Type 2
Clear and accepted set of rules of the game	No clear rules – these emerge over time. High tolerance for ambiguity
Strategies path dependent	Path independent, emergent, probe and learn
Clear selection environment	Fuzzy, emergent selection environment
Selection and resource allocation linked to clear trajectories and criteria for fit	Risk taking, multiple parallel bets, tolerance of (fast) failure
Operating routines refined and stable	Operating patterns emergent and 'fuzzy'
Strong ties and knowledge flows along clear channels	Weak ties and peripheral vision important

Building internal entrepreneurial capacity

So how can an organization recapture a venture spirit and build an entrepreneurial capacity? And once they've chosen a model how can they make it work – what are the methods and tools to enable innovation routines?

Many different approaches have been tried and we can usefully position them along a spectrum of options, as in figure 11.2 below.

Figure 11.2: Options in corporate entrepreneurship



The range runs from allowing people a little free time and the licence to think differently at one end through to setting up dedicated teams and structures and even spinning out a separate agency with the responsibility to act as an entrepreneurial satellite to the main business.

Each of these options has strengths and weaknesses and table 11.2 below tries to summarize these.

Table 11.2: Strengths and weaknesses in different venturing approaches

Option	***Strengths***	***Weaknesses***	***Examples***
'Guerillas/bootleggers'. Most organizations will have some people who are 'natural' entrepreneurs and who may, from a mixture of frustration or enthusiasm, try to change things. They represent a potential source of innovation, especially if they can be identified and encouraged.	Natural motivation for change and the willingness to explore and take risks with new ideas.	Limited numbers and may find it difficult to operate in the corporate environment. Lack of time, resources and networking means they may end up frustrated and unable to achieve anything. In the worst case they may become so frustrated they leave and sometimes set up their new venture outside the business.	Some studies of frustrated entrepreneurs who end up having to leave the company because they could not get support; in some cases the new ventures they found are direct competitors to their original organization. More positive is the incidence of

			'intrapreneurs' – internal entrepreneurs who achieve something radical in spite of the mainstream system. They often work in their spare time and take pleasure from challenging the mainstream system. Examples include the Novopen in diabetes care,
Create space for intrapreneurs Allow individuals some element of time and space within which they are encouraged to explore new ideas This can be a long-term arrangement or a short-term campaign. For example many internal innovation contests (like 'Driving e-novation') are an attempt to mobilize such a venture spirit and to create the conditions within which people can surface novel ideas.	Multiple minds looking at wide range of options – diversity and volume. People will often bring their own energy and time to the projects on which they work.	Limited resource commitment means that it may take a long time to create new venture. Relies heavily on individual energy and effort to match the commitment by the organization. Links to key people, resources, networks and knowledge may not be easily available in this 'bottom-up' approach.	3M and their famous 15% policy, linked opt key successes over many years. Examples include masking tape, Scotch tape and Post-It notes. Google allowing engineers to work 20% of their time on personal projects. Examples of innovations arising from this include Gmail BMW encouraging 'bootleg' projects – they call them 'U-boot projects' which operate below the radar screen and are unofficially supported. The 3

			series estate was developed by such a team in its early days. DeLaRue and their 'sabbatical' approach – also BAe Systems – encouraging new thinking and circulation. 'Driving e-novation'
Matrix organization allowing people a significant part of their time to play an entrepreneur role alongside their main role.	Allows more time and offers the potential to create mixed teams and combine knowledge sets	Higher cost and formal resource commitment Conflicts between core and entrepreneur roles Bounded exploration because of time limits and pressures of the mainstream projects – sometimes hard for team members to reach 'escape velocity'	Temporary project teams working to create breakthrough thinking.
Dedicated entrepreneur development team	Full-time commitment and potential to create knowledge sets and networks. Can bring in outsiders to enhance diversity Gives the group sufficient time, resources and a	Resource costs and tensions between the entrepreneurial group and the expectations of rest of organization. Connections back to the mainstream may get lost and the team enjoy a different 'lifestyle' of which others are jealous and which separates them off.	Lockheed's 'Skunk works' where a dedicated team was licensed to think and operate outside the mainstream and which enabled breakthrough thinking around novel aircraft designs and stealth technology Apple's 'pirate' team which

	licence to search and explore Freedom and flexibility Small startup culture	Problems of knowledge transfer and assimilation back into mainstream Challenges of building a wider network of connections internally and externally beyond the team members Risks and expectations sometimes out of alignment – short term expectations for results Problem of where to begin search beyond the lamp post and the difficulties of framing new ventures.	developed the new i-computer BT's 'Wakaba' teams, dedicated short-term groups licensed to explore novel ideas
Corporate venture groups - Spin out These are a full-time part of the organization with the responsibility to use the resources (knowledge, finance, systems, etc.) f the organization in novel ways and to open up new lines of business. They aim to spin out new ventures – as start-up businesses, as licences sold to others, as acquisition targets for others, etc.	Offers ways of using the organizations' resources in novel fashion. External focus, exploring new markets for knowledge and new business connections. Key part of an open innovation strategy	Costs of running a dedicated unit Risk of new ventures not succeeding Problems of finding new networks and connections Intellectual property management	University spin-off model – Silicon Valley, Route 128, Cambridge effect 'Satellite ventures' – spin offs from the main organization but held in close orbit and often supported with key core services like HR, IT, etc.
Corporate venture groups - spin in These mirror the above (and are often combined) but their focus is bringing in novel	Acquire 'ready made' entrepreneurial culture and novel ideas	Finding relevant targets Assimilation problems – how to	Pharmaceutical industry working with small biotech start-ups

ideas from outside via licensing, merger/acquisition.		bring the knowledge into the mainstream Culture clash between old and new 'Elephant effect' where the rules, structures and operating procedures of the mainstream business stifle the entrepreneurial culture of the acquisition, like an elephant accidentally sitting on a mouse!	
Venture banking, where the group acts like a venture capital arm of the mainstream business, providing risk funds to support internal and external exploration			Corporate venture funding units in Intel, Nokia, etc. 3M internal venture bank

The challenge to organizations is to configure from these choices a suitable response to the potential threat/opportunity in discontinuity. Rather than assume a single magic bullet most smart organizations seek a combination of responses drawing from across the spectrum. But increasingly there is interest in setting up a dedicated group to work apart from the mainstream business and operate in entrepreneurial fashion – a corporate venturing unit.

This sounds like a good idea – but it's important to recognize that these groups often fail to deliver on the (high) expectations of the parent organization. In particular research suggests that many failures can be attributed to wrong expectations – setting up vehicles without a clear understanding of what and how they can help. For many organizations the search is for new sources of growth but for others it is harvesting/exploiting what is there but underutilized. Julian Birkinshaw and colleagues carried out extensive research around this theme and identified four types of venturing:[vii]

- ***'Harvest' venturing*** where the main aim is to turn underused resources into cash. A good example is Lucent ventures which was set up to capitalize on the huge knowledge bank represented by Bell labs, essentially commercializing unwanted IP. It involves new venture startup because existing routes to commercialize the IP like licensing don't work.

- ***Eco-system venturing*** where the company invests outside in key startups which may play a role in the wider ecosystem in which the parent company operates. An example would be Intel Ventures which looks for complementary businesses in its wide ecosystem and helps them get started. The value here is that they represent an extension of your knowledge base, a closely coupled network.

- ***Venture capital venturing*** where the company acts as a source of risk finance. This approach is difficult since venture banking is not the company's core expertise so unless there are particular skills or inside tracks there is a high probability of poor performance

- ***Innovation venturing*** stimulating entrepreneurship within an existing function or area. The value here is that it creates entrepreneurial capacity to explore at the edges of the mainstream. Its advantages are around speed and breadth of search; a good example would be Shell's Gamechanger model which encourages extensive and future-based search for radical opportunities at the edge of the company's mainstream search space.

Why it matters to Hella

As we saw in the introduction to this chapter Hella is facing a world which looks remarkably similar to the one in which Sally Windmuller began the business. Big technological changes which create opportunities for novel mobility solutions – think driverless cars, intelligence built into all aspects of mobility and suddenly we are in the realms of science fiction, like those images in 1960s movies. And equally big social and economic shifts which create very different market conditions – can we sustain the motor car as a model when it is playing a big role in choking our cities to death? Do we really need to own an expensive asset which spends most if its time lying idle – a status symbol which might have outlived its relevance for a younger generation? Is the option of integrated mobility the new Holy Grail and the solution no longer a car for Everyman but access to a reliable, cheap 24/7 transport option?

There's plenty of speculation in this world and equal parts of hype and hard evidence. But it certainly qualifies as a 'fluid state' in Abernathy and Utterback's terms and we can see – as they predicted – a swarm of entrepreneurial players exploring and experimenting in this space.

It's not just intelligent automobiles – the sustainability argument is also pushing the technological frontier with a similar fluid state around power systems. And this involves the network challenge just as Thomas Edison realized he needed a whole system of power generation and distribution to make his electric light bulb a commercial success so the electric or alternative fuel models like hydrogen need a network of support.

And its not just technology there is a strong market element in this fluid state. Players like Tata and Renault-Nissan have placed heavy bets on the market growth coming from a new aspirational middle class wanting their version of the Model T promise – a car for Everyman which everyone can afford. The Nano, Kwid and other models are essentially the product of 'frugal engineering'

simplifying down to a core low cost platform and then using scale economies to make this work and to then add back (at a premium) different modules.

And its also about business models – there are opportunities in the space for rethinking the way the mobility game is played. Uber has grown from a small startup to be the biggest provider of transportation services in the world – yet it doesn't own a single car or truck. Its business model around co-ordinated sharing across a platform represents another possible direction for innovation. Better Place was for a while the biggest start-up in history, able to attract over $200m in venture capital to get off the ground a novel model for solving the battery recharging problem with electric cars. It sounded plausible enough as a pitch to bring on board the ex President of Israel and the Chief Executive of Renault-Nissan as active supporters and sponsors. It crashed spectacularly – but like any entrepreneurial idea in this fluid state it wasn't a complete failure, there were powerful lessons to be learned and other opportunities in the space.

So there's plenty going on and much of it has the potential to shake up a company like Hella. The challenge is to find ways of exploring a highly volatile space in which there are almost certainly powerful threats and rich opportunities. At the minimum there is a need for some insurance against being disrupted.

But Hella's innovation capacity is constrained. First of all it's very busy churning out an impressive stream of new products and the process technologies to support their delivery. There isn't the 'free' resource to explore at the edge.

Second Hella's networks are based on strong ties – they have been built up over decades and represent rich channels for information flow. But – as we saw in the previous chapter– there is a risk in this that the strong ties and well-developed value network is not necessarily the one which will matter in the future. And with architectural changes comes a risk of being cut off from the new important knowledge streams.

Third is the inertia common to any successful business – why swap a relatively low and manageable risk portfolio for oddball stuff with high risks and potential costs? How to encourage exploration when we're doing fine right now?

What Hella is doing

That's the rationale behind Hella Ventures, an initiative which the company has been taking during the past three years aimed at building capability to handle disruptive innovation. The origins of Hella Ventures go back to extensive discussions about the challenge of disruptive innovation and the need to develop a response; these were initiated by Jürgen Behrend and included workshops and an i-Circle meeting. This led to an internal 'white paper', a discussion document setting out the challenge and looking at two core questions:

- How should/could Hella approach the potential challenge of disruptive innovation – missing growth opportunities in a new wave? Or even being challenged at the heart of its core business?

- Which organization form – and accompanying tools, processes, techniques, governance, etc. - to adopt?

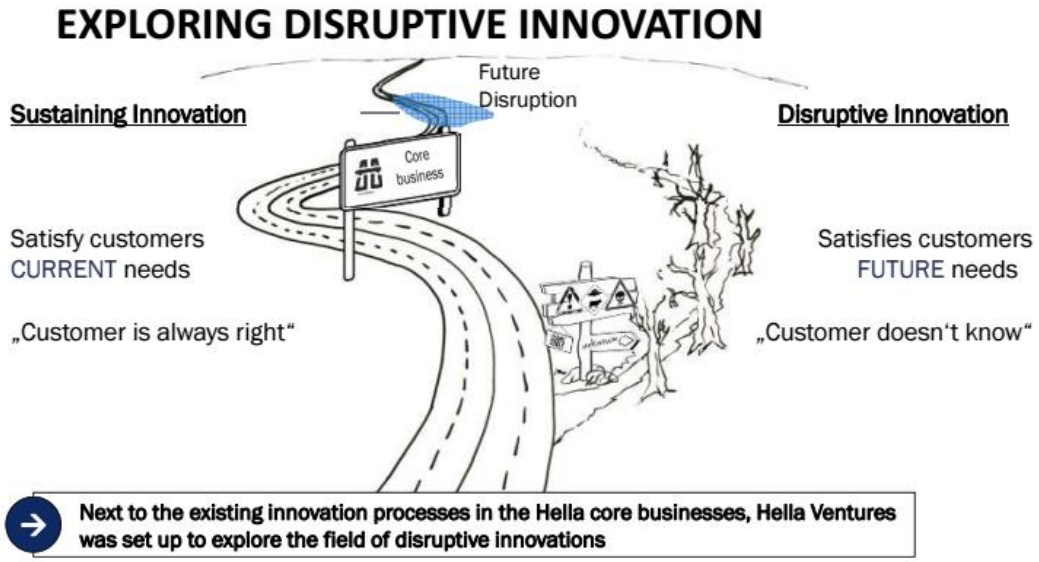
A range of possible strategies were explored and Hella Ventures emerged, with two main elements:

- A group based in Silicon Valley group looking to explore in the long-term (7 years plus) trying to pick up weak signals about key trends and lay the foundations for new networks to support entry into these emerging fields

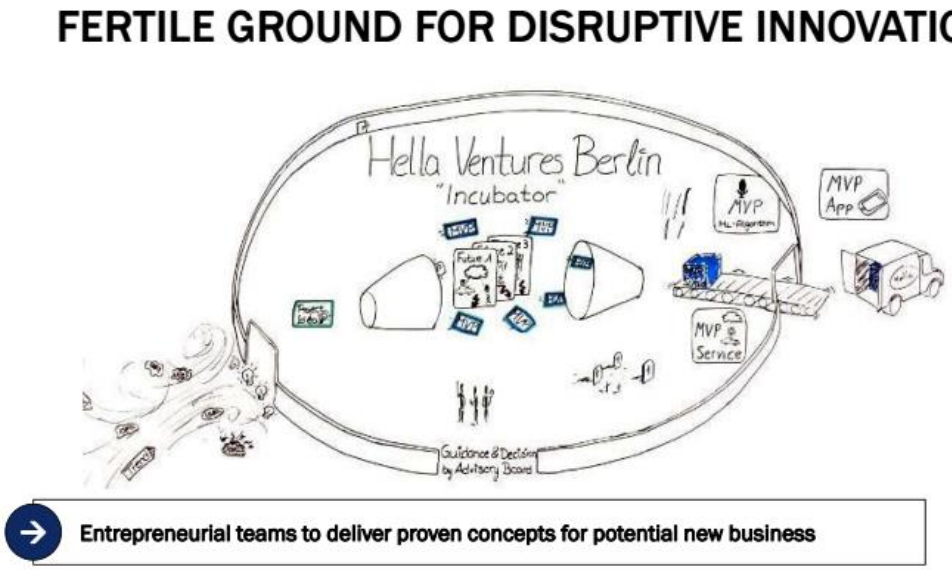
- A group based in Berlin group concentrating on a closer timescale and looking to find leverage of Hella's knowledge base in new fields and to bring new technology/market opportunities to the relevant parts of the company.

The Silicon Valley operation (described in more detail in chapter 10) is essentially a scouting operation while the Berlin group is an innovation venturing unit in the typology outlined earlier. Both groups were established in 2015 and have been on an extended learning journey with important lessons for both Hella's innovation capability and also its knowledge base.

An i-Circle meeting in early 2017 reviewed progress so far with the Berlin operation and members of the Hella ventures team shared some of the experience in developing not only a series of projects which may well have potential for Hella but also in creating an underlying capability for working with disruptive early-stage innovation ideas. They began by positioning the unit as a parallel effort going 'off-road' to explore possible new options for the company – as figure 2 suggests.



Working from new premises in an old electrical factory converted into start-up spaces the team (some 15 strong) have been working on a model of working based around entrepreneurial teams using an approach called 'lean start-up'. In essence this involves identifying possible areas of interest at the edge in terms of technologies and markets, and then quickly coming up with a 'minimum viable product' (MVP) which can be tested. The idea is not to design the perfect solution at the start but to start a learning journey – feedback quickly helps focus further development and allows for 'pivoting' around the original ideas, strengthening it and sharpening the core concept.



Examples of such projects were presented, showing the fast learning and also highlighting some of the exciting new technologies with which the Berlin team are playing, including machine learning. They even brought a demonstration of a small robot vehicle which began to learn to find its way around a maze without hitting the walls.

Results….

It is still early in the life of Hella Ventures but there are already encouraging signs. First it is clear that a set of innovation routines have been developed and embedded; the ways of working around lean start-up and minimum viable product have become well-established and add to Hella's entrepreneurial skill-set. There have also been some early wins, with promising new ideas connected back to mainstream business units for further development.

The challenge for the future is to maintain the focus and develop a process for cycling through a stream of entrepreneurial ideas, building them into coherent business models and developing them to the point where they can be spun back into the company, spun out as stand alone ventures or otherwise move forward.

Notes

[i] Utterback, J., *Mastering the dynamics of innovation*. 1994, Boston, MA.: Harvard Business School Press. 256.
[ii] Tushman, M. and P. Anderson, *Technological discontinuities and organizational environments.* Administrative Science Quarterly, 1987. 31(3): p. 439-465.
[iii] Abernathy, W. and J. Utterback, *A dynamic model of product and process innovation.* Omega, 1975. 3(6): p. 639-656.
[iv] Christensen, C., *The innovator's dilemma*. 1997, Cambridge, Mass.: Harvard Business School Press.
[v] Birkinshaw, J. and C. Gibson, *Building ambidexterity into an organization.* Sloan Management Review, 2004. 45(4): p. 47-55. And Tushman, M. and C. O'Reilly, *Ambidextrous organizations: Managing evolutionary and revolutionary change.* California Management Review, 1996. 38(4): p. 8-30.

[vi] Day, G. and P. Schoemaker, *Peripheral vision: Detecting the weak signals that will make or break your company*. 2006, Boston: Harvard Business School Press.
[vii] Buckland, W., A. Hatcher, and J. Birkinshaw, *Inventuring: Why big companies must think small*. 2003, London: McGraw Hill Business.

Further resources

You can find a number of useful resources – case studies, video and audio and tools to explore some of the themes discussed in this chapter at www.innovation-portal.info

In particular:

Case studies of sectors (imaging, music, lighting) and the patterns of change, continuous and discontinuous

Case studies of organizations and their approach to managing discontinuous change – Philips Lighting, Coloplast, Cerulean

Tools and frameworks for working with ideas raised in the chapter including a Discontinuous Innovation Audit

Reflection questions

1. Find an example of a discontinuous shift - for example a major change in technology, markets or regulatory environment. Look at the players within that sector and explore what they did (or did not do) to ride with the waves of change. What else could they have done? Who were the newcomers trying to enter the space and how did they play their game?

2. You've been asked as consultants to recommend ways of enhancing innovation capability in a large organization similar to Hella. They already have effective 'steady state' capability for managing innovation under 'normal' conditions – what else would you recommend? What structures and 'routines' do they need to:

- search beyond their lamp-post?
- handle the 'immune system' and persuade the company to do something very different?
- implement what may be alien ideas, incompatible with current skills, resources and 'how we do things here'?

3. What are the skills required to manage a unit set up to spearhead discontinuous innovation from within a large organization like Hella? How would you build a team to find and develop radical solutions whilst also maintaining the bridges back to the mainstream organization?