



INNOVATION IN A RECESSION



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EXECUTIVE SUMMARY

It can be tempting for senior executives to cut back on innovation during a downturn, but this short-term saving is made at the expense of the long-term health of the company. Although the future trajectory of the global economy remains difficult to predict, an eventual upturn is assured, and companies must ensure that they maintain a strong innovation pipeline in order to capitalise on future demand. Put simply, an economic downturn should coincide with an innovation upturn.

However, although this theory is widely understood, the rhetoric of maintaining innovation momentum can often fall short when faced with more immediate corporate priorities. As companies face pressure to cut costs across the board, there is a danger that a widespread risk aversion, fear of failure and short-termism can become entrenched and begin to militate against the culture of bold experimentation required by successful innovation.

In this report, produced by UK Trade & Investment in co-operation with the Economist Intelligence Unit, we assess how companies can make specific functions such as research and development (R&D) and supply chain more innovative, and other steps companies can take to be innovative during an economic downturn.



Some of the trends emerging from this paper include the following:

- A downturn can often spur companies to greater heights and, for some, innovation budgets will usually be last in line for a reduction. Innovation appears to be as important as cost reduction in contributing to the ability of many companies to achieve future growth.
- Those companies that are prepared to innovate in a downturn are faced with a number of advantages. As many firms are focused on cost-cutting, there is less competition and less noise in the market. Assets can be acquired more cheaply, so the relative cost of developing a new product can be lower than during a boom period.
- Partnerships with universities, innovation partners, suppliers and even customers offer a good opportunity to share costs, spread risk and combine resources. The current economic climate has accelerated this move towards a more collaborative approach.
- The downturn is prompting the shift of innovation to emerging markets, particularly within R&D. These economies, which continue to grow rapidly while developed countries have fallen into recession, represent huge potential markets for multinationals.
- Innovation can be resource-neutral. It is not just about investment in R&D, but also about building a business culture and management practice that is willing to adopt change and reevaluate business processes on a regular basis.
- A recession is typically a time when a new competitive landscape emerges. This period can sound a death knell for some companies, but for those that are well prepared to face a disruptive future it can be a time of great opportunity.

INTRODUCTION

Most companies understand that innovation is crucial to their long-term viability, alongside good management practices across technology, people, planning and operations. Without this investment in culture, research and development (R&D) and related activities, there are no new products and services, and this becomes a huge disadvantage as companies look ahead to the end of the current downturn.

Yet despite recognising the need to keep up the momentum on their R&D efforts, many companies find it difficult to put this into practice. Senior executives may champion the need for innovation, but risk aversion and fear of failure further down the organisation can thwart their best intentions. For many companies, cost-cutting and efficiency are the new corporate mantras, and this sits uneasily with a culture of bold experimentation.

This natural response to withdraw commitment to innovation goes against the grain of both academic thinking and history. As has been shown time and again, a downturn is a good time to innovate, and spending on R&D must be maintained in preparation for better times. "Cost-cutting is undoubtedly important at a time like this, but many companies also respond by cutting innovation, and this is absolutely the wrong thing to do," says Vijay Govindarajan, Earl C. Daum 1924 professor of International Business and founding director of the Center for Global Leadership at Tuck Business School, in the US. "A period of expansion always follows recessions and usually lasts for at least three times as long. Innovation must continue throughout a recession to prepare for this period of expansion and secure the long-term viability of the firms."



INNOVATION CLIMATE

Some countries can boast a richer innovation heritage than others. The UK, for example, has long excelled at innovation and there are suggestions that UK companies have retained a strong focus on innovation during the most recent downturn. Among the G1400 companies – the world's biggest corporate spenders on R&D – the UK is one of five countries (the others are the US, Japan, Germany and France) that together contribute 79 per cent of R&D spending worldwide, according to the 2008 R&D scoreboard, which is published jointly by the Department for Innovation, Universities & Skills and the Department for Business, Enterprise & Regulatory Reform, now the Department of Business, Innovation and Skills. And in the Global Innovation Index 2008-2009, published by INSEAD, an international business school, the UK ranks fourth behind the US, Germany and Sweden.

The UK has key advantages as a hub for innovation, including a thriving scientific research community, a dominant position in innovation-rich industries such as telecommunications and pharmaceuticals, a high skills base and flexible labour market, and an open business culture. It is such an environment that has attracted many other companies to set up a base in the UK, including the likes of Google and social networking sites such as Bebo and MySpace.



In other respects however, the US currently leads in terms of productivity and raising private equity venture capital investment. Cultural factors also make a difference in helping foster innovation. In the UK, for example, it could be argued that there is less tolerance for failure. It is much easier for the owner of a failed business to resume trading in the US than it is in the UK.

Nevertheless, international comparisons show that the UK has made good long-term progress in raising productivity. There has been continued progress in closing the productivity gap (measured in terms of output per worker) with France and Germany and in keeping up with US productivity performance.

The UK is one of five countries that together contribute **79%** of R&D spending worldwide

FUNDING FOR INNOVATION



Despite the need for widespread cost-cutting to ensure survival, innovation budgets will usually be last in line for a reduction. The most recent European Union R&D Investment Scorecard, which was published in November 2009, shows a growth in global R&D investment of 6.9 per cent in 2008, although this represents a deceleration compared with 2007 and 2006.

A survey from management consultancy Accenture, also published in November, found that half of US and UK companies had increased funding for innovation in the past six months, while nearly nine out of ten respondents said that innovation is at least as important as cost reduction to their company's ability to achieve future growth.

But these encouraging figures hide a more nuanced picture. Although half of the companies in the Accenture survey have increased investment in R&D, this still leaves half that have either kept it steady or have even cut back.

Despite the need for widespread cost-cutting to ensure survival, innovation budgets will usually be last in line for a reduction



TAKING ADVANTAGE

A downturn can often spur companies to greater heights. There is a long list of innovative products and businesses that were launched during a downturn, from DuPont's development of Nylon and Neoprene during the Great Depression to the creation of Dyson in the 1980s to Apple's launch of the iPod in the aftermath of the dotcom bubble. According to a report from The Kauffman Foundation, an institution covering entrepreneurship issues, half of the companies that currently appear on the Fortune 500 were founded during a period of recession.

A downturn offers the innovative company a number of advantages. Given that so many firms are scaling back their innovation efforts, there is less competition and noise in the market. Assets can be acquired more cheaply, so the relative cost of developing a new product can be lower than during a boom period. Companies that maintain a focus on innovation will find it easier to lure talented engineers away from competitors that are cutting their investment. Moreover, a recession is typically a time when a new competitive landscape emerges. This period of "creative destruction" is the death knell for some companies, but for those that are well prepared to face a disruptive future, it is a time of great opportunity.

COBRA – NEW PRODUCTS IN A DOWNTURN

CASE STUDY

Cobra, based in Shropshire in the UK, manufactures products for the automotive interior sector, including Volvo, the VW/Audi group and General Motors. The company was established in 2002 and had experienced a healthy growth rate in recent years, as well as picking up numerous awards for its services.

Last year, however, the business was severely affected by the global economic downturn, which resulted in its order books being reduced by 90 per cent, with luxury vehicles worst affected.

Despite this setback, the business believed that it was essential to continue to innovate in order to stand out from the competition. While many other companies have responded aggressively to the recession by cutting costs, Cobra has focused its energies on product innovation. It developed a new product, safety barrier nets, with the help of a grant from Advantage West Midlands, a regional development agency, and subsequently won a contract from a Swedish car manufacturer. Cobra estimates that this business will be worth approximately €8 million over seven years.

Buoyed by this success, the company is investing further in innovation and diversifying into new areas. It is moving into the aviation industry with a lightweight airline seat that can also be used in the railway sector. Cobra has recently signed a letter of agreement with two of Russia's largest aircraft makers, the first stage in a process that could lead to potential sales of more than £150 million. Gary Seale, managing director of Cobra expects the business turnover to rise to at least £4 million next year, the vast majority of which will be generated from overseas clients.

While many other companies have responded aggressively to the recession by cutting costs, Cobra has focused its energies on product innovation



EVALUATION AND SCRUTINY

From a management perspective, a downturn is a good time to clear dead wood from the company's innovation portfolio. "It is essential to evaluate existing innovation projects during a downturn," says Michael Traem, chief executive officer of Arthur D Little, a consultancy. "This means balancing priorities and resources so that critical projects move ahead, while those that are less likely to generate a pay-off for the firm are cancelled." Ruthlessness is a necessary part of this process, particularly because team members and senior executives may have strong emotional attachments to unpromising projects, and because significant amounts of money may have already been invested in them.

One way of encouraging a more dispassionate view of the innovation portfolio is to set clear performance metrics around the successful commercialisation of research projects. Finn Strom Madsen, president of R&D at Vestas, a wind turbine manufacturer based in Denmark, describes how the revenue generated from new products and services is a key performance indicator for his department. "We know that we have to bring products to market in 2010 that will generate a certain proportion of our revenue in 2011 and 2012," he explains. "This encourages focus and helps us to bring new innovations to the market more quickly than our competitors."

With industry giants such as GE and Siemens as its main competitors, Vestas, which generated revenue of €6 billion in 2008, understands the importance of capitalising on its speed to market and focus. "Our competitors have a much larger innovation portfolio than us, but it is diluted over a wide range of product lines," explains Mr Strom Madsen.

During the current downturn, Vestas has increased its R&D budget and added 600 new staff globally to the function. But these additional resources come at a price in terms of more stretching targets. "Even though we have higher investment, we also have to deliver results more quickly and demonstrate greater efficiency," says Mr Strom Madsen.

Chief technology officers (CTOs) and heads of R&D are finding themselves under intense pressure as companies continue to expect strong results from innovation efforts. These executives must prove that they can lead and motivate their teams at a time when morale may be sagging in response to budget freezes or headcount cuts. "The CTO and their teams must be able to demonstrate the value created by their efforts," says Mr Traem.

FOCUS ON “ADJACENCY”

The need to do more with less requires different thinking about the management of innovation. Rather than make big bets on a single, radical innovation, companies should allocate a significant proportion of their resources to what Professor Govindarajan calls “adjacency innovation”. This means using core competencies to look beyond the current business into a space that is adjacent—for example, taking an existing product to a new customer segment or serving an existing customer with a new product. “Making a costly mistake at a time like this could be fatal,” he explains. “That is why smart companies focus the majority of their resources on adjacency innovation during a recession. Adjacency innovations still have good pay-offs, but they are less risky and don’t consume enormous quantities of resources.”

But product innovation, even the adjacency type described above, is still an expensive business. At a time when companies are trying to keep costs down while also maintaining the creative momentum, business model innovation offers an attractive prospect. “Companies facing a crisis, which want to do something new but maybe cannot afford it, can benefit hugely from business model innovation,” says Mr Traem.

Professor Govindarajan notes that there are many options for companies seeking to innovate around how they go to market. For example, they can consider new methods of distribution, new packaging or pricing models. “There are lots of areas other than products themselves where companies can innovate,” he explains. “These are less expensive, don’t involve R&D, and sometimes only require someone to think creatively about how take a product to market.”

Partnerships with universities, innovation partners, suppliers and even customers offer a good opportunity to share costs, spread risk and combine resources. This more open approach to innovation, whereby work flows to those organisations or individuals that are best able to conduct it, has been a feature of the R&D landscape for a number of years, but the downturn has accelerated this shift towards a more collaborative approach. Wipro Technologies, the IT services division of Wipro, is quite focused on co-innovation programmes as a business model, where it works together with partners to develop innovative new products and services. The company works on a risk-reward model where the success of the product means that the company receives a proportion of the revenues as well. “This aligns both parties’ interests because we have skin in the game,” explains Girish Paranjpe, co-chief executive of Wipro.

Mr Traem believes that innovation partnerships could go one step further, with companies outsourcing their entire R&D to external providers. “The financial crisis is driving huge interest in R&D outsourcing because companies are no longer willing to increase investment in the internal resources required to drive innovation,” he explains. “As a result, they are taking advantage of the know-how of external providers and integrating them into their innovation process.”

The downturn has added one other potential partner to the list—governments. “There is a huge amount of stimulus money in sectors such as healthcare and energy,” says Professor Govindarajan. “This means that governments have become an important strategic innovation partner in their own right.”

A report released last year, for example, emphasised the importance of partnerships in the creation of a stimulating innovation climate for the UK’s National Health Service (NHS), particularly focusing on those with education and industry. The report outlined how collaborations across universities, colleges and industry can enable all parties to share goals and run joint innovation programmes reflecting local needs.

THE APPEAL OF EMERGING MARKETS

The downturn is accelerating the shift of innovation to emerging markets, particularly within R&D. These economies, which continue to grow rapidly while developed countries have fallen into recession, represent huge potential markets for multinationals. But until recently, they were underserved by innovation efforts. The traditional approach was for companies to come up with new products and services in a central R&D lab in the West, then adapt them for sale in emerging markets. Increasingly, however, companies are shifting their R&D efforts to emerging markets in order to develop products that are better tailored to local markets.

A long list of multinationals, from GE and Motorola to General Motors, have all set up R&D centres in emerging-market countries such as India and China. Indian IT outsourcing firms, such as Infosys and Wipro, are bidding for and winning high-end R&D work more and more from leading multinationals in industries such as telecoms. In addition, generic pharmaceuticals companies, such as Dr Reddy’s and Ranbaxy, are increasingly conducting their own R&D and gearing up to compete against established big pharma companies.

During a downturn, companies may seek to improve their efficiency by shifting parts of their operations to more cost competitive emerging markets. For some businesses, R&D is the largest component of their costs, and therefore there is a temptation to shift these parts of their operations. “The cost of innovation is much lower in emerging markets” says Professor Govindarajan. “Labour and assets are cheaper, and failure is more affordable, so that means you can carry out lower cost, lower risk experiments”. Thus, the latest UNCTAD World Investment Report 2009 reported that emerging markets were benefiting from an increase in “efficiency seeking” inward investment.



However, cost is not the only determinant of innovation, but part of a complex matrix of factors that lead to innovation such as the availability of a skilled workforce, business culture, knowledge, expertise, government regulations, tax incentives and branding. In this context, these issues highlight that efficiency seeking is not always the most appropriate option for a healthy return on investment, nor for an innovation to bear fruit.

Some companies are going one step further. GE practices what it terms “reverse innovation”, which means developing products specifically with emerging markets in mind and then exporting the idea to the West. In an article in the September 2009 edition of Harvard Business Review with co-writers Jeff Immelt, chief executive officer of GE, and Chris Trimble, another Tuck professor, Professor Govindarajan described how GE developed an electrocardiogram machine in India that was designed with rural health clinics in mind. This innovation was subsequently exported to North America, where it could be used as a portable unit, for example at accident sites. This trend is likely to continue post-recession – as well as the more general shift of economic weight to emerging markets, there is a recognition that the skills available to conduct R&D in emerging markets are constantly improving, as well as being still attractive from a price perspective.

GET CLOSE TO THE CUSTOMER

The current downturn has seen a collapse in consumer confidence and a dramatic fall in corporate spending. For companies seeking to sell products and services to an audience that is reluctant to open its wallet, a clear understanding of the changing needs and expectations of customers is more important than ever before.

As many consumers adopt a more thrifty approach to their purchasing, companies have an opportunity to introduce adjacency innovations that capitalise on this trend. “Making good-quality but cheaper products is definitely something that we have worked hard to achieve,” says Julie McManus, scientific director at L’Oréal, the cosmetics company.

But she has noticed an additional trend, namely that customers are prepared to pay more, provided they have good evidence that the product is well-made and effective. “Customers want evidence that a product works and are becoming much more discerning in their buying habits,” she says. In March 2009, L’Oréal launched a new premium skincare product, called Génifique, under its Lancôme brand. This was in the trough of the recession—hardly the ideal time to launch an expensive luxury product. But Génifique has gone on to become Lancôme’s biggest-selling product in the UK thanks, according to Ms McManus, to the clinical research into the impact of ageing on gene expression in the skin that underpins its formula.

In the corporate world, there is a growing recognition that strong relationships with customers can form the bedrock of future innovation. Vestas has introduced a “Voice of the Customer” programme, which it uses to solicit new ideas from key customers, for example.

Innovation is also increasingly being used to deliver sustainability objectives. Coca-Cola Enterprises, the producer and distributor of Coca-Cola products, has embarked on an ambitious scheme to install energy management systems in its cold drinks equipment across Europe, which comprises 320,000 units housed in convenience stores and other retailers. “This equipment is plugged into our retailers’ energy supply, so we make no financial saving from improving their efficiency,” says Joe Franses, European head of corporate responsibility and sustainability at Coca-Cola Enterprises. “But they do fall under our emissions scope even though they are not on our property.”

Cold drinks equipment currently accounts for 65 per cent of the total CO₂ emissions for Coca-Cola Enterprises in Europe. Increasing the efficiency of its refrigeration therefore plays an essential role in meeting a target of reducing the company’s overall carbon footprint by 15 per cent by 2020.

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CONCLUSION

The downturn has accelerated trends that have been underway in innovation for a number of years. The adoption of open innovation principles and the more widespread use of partnerships seem especially sensible at a time when there is greater appetite for sharing risk and resources.

Emerging markets, which already looked attractive for the size of their markets prior to the crisis, are increasingly seen as desirable places to conduct R&D, because they offer the opportunity for lower-cost experimentation. It is likely that an increasing number of multinationals from developed countries will be exploring this route – it gives them access to cost-effective R&D and also offers them exposure to the fastest-growing markets in the world. Furthermore, a greater focus on process innovation, particularly in a context of sustainability efforts, provides an ideal platform to satisfy the need for both greater cost efficiency and effectiveness.

Companies should always be looking to optimise their innovation portfolio, but the need to re-evaluate projects becomes even more pressing during a downturn. It is also essential that there is continuous interest from top management in the total portfolio of the company’s ideas and how these are executed. Executives should take a dispassionate view of each project, and be ruthless in culling those that offer only limited chances of adding value to the business.

While breakthrough innovations should not be ignored entirely, focus should shift to a more incremental approach, with adjacent markets and customer segments seen as the most important areas for investment.

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