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# BUSINESS

## Britain's innovation challenge

Despite a business-friendly economy, Britain needs a more effective innovation infrastructure to encourage growth

Des Dearlove, Suntop Media

**S**INCE THE 1980S, THE British economy has undergone a dramatic transformation. Huge swathes of industry have been stripped out of the public sector and privatised. Trade union power has diminished. And previously protected industries have been deregulated. As a result, the country has one of the most market-oriented and business-friendly economies in the world.

But while these changes have successfully encouraged growth, there remains a puzzle: research consistently shows that, despite these improvements, the economy continues to underperform relative to other developed nations. National productivity and prosperity have improved in absolute terms, but still obstinately lag those of rivals such as the US.

The market reforms of the 1980s stimulated growth but were insufficient to close Britain's productivity gap. Moreover, the world

has now moved on. The rise of India and China and other lower cost economies means that competing on cost is no longer a viable strategy. To succeed in future, Britain needs to compete on added value – especially its knowledge base.

This is a strategy that suits a more advanced economy. For example, the US has benefited greatly from exploiting its knowledge base in high-tech industries. A similar challenge now faces Britain. This places importance on innovation, especially the ability to harness the country's strong science base.

Every year, Britain spends £21 billion on creating new knowledge through the science system in universities, research institutes and companies. This forms part of an estimated £600 billion spent by OECD countries around ▶





► the world, involving around three million researchers. Evidence suggests that Britain is good at producing scientific knowledge. For example, the country is ranked third only to the US and Japan for academic citations, with an impressive 11.9 per cent world share. Britain also ranks fifth in the world for doctorates produced per unit of higher education spending on research and development (R&D), while the US is ranked twelfth.

Yet despite its impressive performance in this area, Britain lags behind other developed economies in converting new ideas into commercial applications. With the exception of a few sectors such as pharmaceuticals, British businesses have not been effective at capturing and leveraging know-how. This is true both in terms of creating new products and services, and improving processes and practices.

Anecdotal evidence supports this view. Famous examples include the body scanner developed by EMI, and pioneering work on the world's first computer at the wartime code-breaking centre Bletchley Park – both of which drew on Britain's science base but were commercialised outside the country. Similarly, British managers have been criticised for their failure to adopt the latest management practices.

The challenge now facing Britain is not simply to create more knowledge, but to capture it in ways that have a positive economic and social impact. Primarily, this means converting the knowledge base into economic value through commercial innovation. This requires Britain's innovation infrastructure to become more effective at identifying and capturing useful know-how.

So what do British firms, research teams and policymakers need to do in order to make these ambitions a reality? This is a question that has been examined in detail by the Advanced Institute of Management Research (AIM). If Britain is to

**Firms should proactively manage their networks and networking activities.**

innovate successfully in a global economy, the AIM researchers suggest that four issues in particular need to be better understood.

First, competition in R&D is not between countries; it is between research teams operating within and across countries. It is vital therefore to ensure that conditions in Britain are conducive to research teams succeeding here, and to British firms succeeding in research carried out across the world.

Second, policy and practice need to work together; there are complementarities between policy formation and business practice. Innovation involves actions by firms (and their collaborators); the role of government is to ensure that the appropriate infrastructure is provided so that firms can respond effectively to changes in the economic environment.

Third, policy should be consistent and clear in its direction. There have been many policy changes recently, following various innovation reviews. An important principle is that policy shouldn't change too frequently. Too much change will lead to uncertainty and mean that policy is less effective at encouraging firms to change their behaviour. Investing in innovation is a long-term goal; if firms don't know what future policy will be, then they will be less likely to invest.

Finally, and perhaps most importantly, it is vital to recognise that it is up to firms to innovate and the best thing governments can do is to stay out of their way. The first objective of policy should be to ensure that regulations don't impose too much of a burden on firms and thus provide disincentives to innovation. The second objective must be that if there are market failures, then policy should intervene to try and correct them, but only if it can do so effectively.

With these four points in mind, the AIM researchers urge the government and British businesses to pursue three specific strategies:

embracing open innovation, mastering higher-order innovation and developing innovation networks.

### Open innovation

Globalisation presents many challenges. Policies that focus on increasing domestic activity, and particularly on encouraging firms to relocate R&D away from international centres of excellence, may come at a cost of isolating these firms from international markets and knowledge systems. And focusing policy on these larger firms risks further strengthening the position of dominant firms.

Changes in the economic environment favour greater flexibility. It is important to focus on policies that facilitate entry and exit and experimentation, and allow successful entrants to grow and challenge the market position of incumbent firms.

What sort of institutional reforms matter? Complementary policies promoting flexibility, higher education, well functioning financial markets, flexible labour markets that encourage the acquisition of general skills, and greater cooperation between the science base and private sector.

In future, innovation involving collaboration across organisations and national borders will be increasingly important. A growing number of firms, including the consumer products company Procter & Gamble in the US, and BT in Britain, are adopting this approach.

Britain has one of the most open innovation systems in the world in terms of cross-border flows, but is less good at collaboration across institutions such as universities. Its strong science base offers enormous opportunities in this area. British firms and universities are also well placed to collaborate with upcoming countries such as India and China. It is vital that these opportunities be grasped.

Lower cost economies in India and China mean that Britain must now compete on added value – especially its knowledge base.

be flexible with resource allocation, which is critical when a firm is experiencing discontinuities.

### Developing innovation networks

Britain's science base could be better harnessed by developing innovation networks around the top research universities. Global innovation networks would also support technology transfer. British firms already use their R&D investment in other countries as an important way to access new technology and import know-how into Britain.

International links will be increasingly important, to create networks that span the globe, including the rapidly developing economies of Brazil, Russia, India and China.

AIM suggests that policymakers should consider measures to stimulate the formation of innovation networks. These include establishing centres for collaboration in priority areas; fostering a diversity of partners; establishing more network intermediaries in universities; strengthening the role of business angel networks on a local level; and encouraging syndicated investments to improve the quality and the quantity of investment in entrepreneurial firms.

The research also indicates that firms should proactively manage their networks and networking activities; collaborate with third parties such as trade associations and science partners who can act as neutral network brokers; and recognise that venture finance networks offer more than just funding.

The first step is for managers and policymakers in Britain to realise that networking is a critical capability for their organisations – and should be managed as such.

Managers must recognise that no company is an island. The failure to develop networking capability is a self-limiting strategy. ■

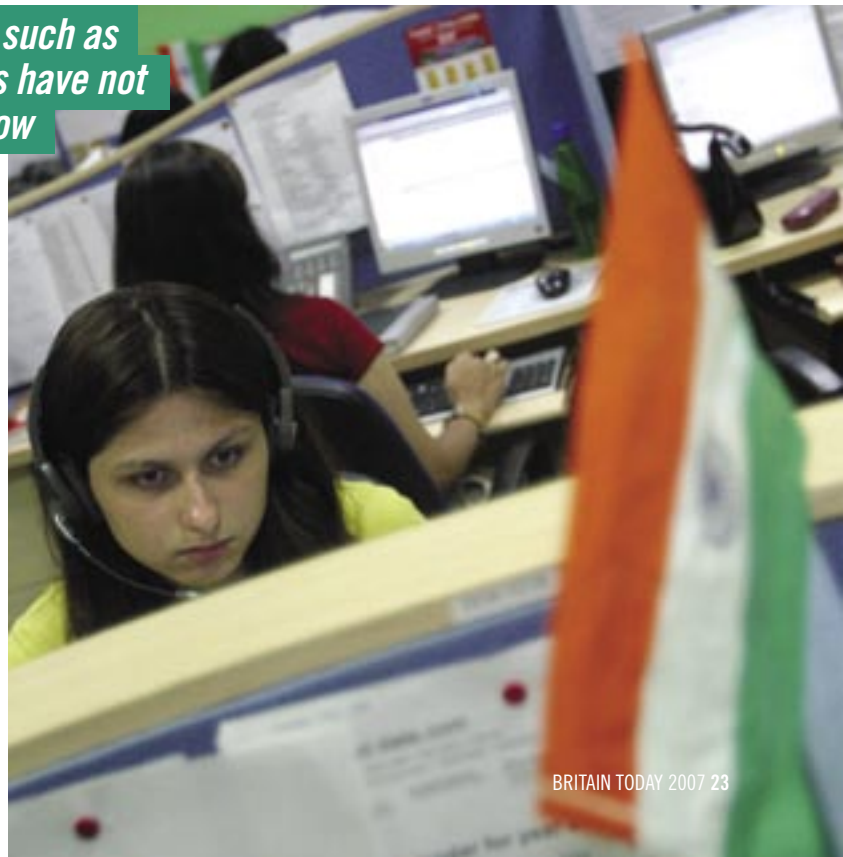
*With the exception of a few sectors such as pharmaceuticals, British businesses have not been effective at capturing know-how*

### Higher-order innovations

There is an important distinction between the run-of-the-mill innovations in products and processes that all firms engage in and the higher order forms of innovation – such as business model innovation, 'discontinuous' innovation and management innovation – that very few have mastered.

British firms need to find ways of understanding and managing these different forms of innovation. Many organisations here and elsewhere are currently experimenting with new innovation practices. There is a great opportunity for British firms to learn from and adopt new practice in this area to move up the value chain.

In particular, it is critical that British firms prepare for discontinuous shifts. Specifically, British managers should seek ways to broaden their vision, to look out for signals of possible discontinuities; develop alternative strategic frames, using different business models to examine discontinuities; and



# The business of business schools

## IT'S TIME TO REFORM THE CURRICULUM

PROFESSORS KEN  
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Evolution of Business  
Knowledge Research  
Programme



**S**INCE WORLD WAR II, a quiet revolution has been changing the face of higher education. We are not talking about the opening up of what had been largely the preserve of the elite. Equally fundamental to a radical reshaping of the higher education landscape has been the growing emphasis on practical skills and the need to mould what was previously controlled by academics with their ivory tower agendas into a force for the good of the national economy.

The yardstick has gradually changed. Universities are now to be judged not on some abstract notion of their contribution to knowledge, but in terms of a more specific accountability for preparing the 'human capital' that is required in an increasingly complex modern world.

In this reshaping, the growth of the business school has been a key indicator and symbol of the present and future of higher education, and perhaps the identity of the university itself.

The business school as we have come to know it first appeared in the United States at the turn of the 20th century, and spread to Europe in the 1950s and 1960s.

***Business schools have been criticised from within their own walls and by business clients – they are not producing the kinds of graduates that business and society actually needs***

Landmarks on this side of the Atlantic were the creation of INSEAD at Fontainebleau in 1959, and the London and Manchester Business Schools in 1965.

In the last half century, and particularly in the last two decades, there has been a remarkable proliferation of business schools almost everywhere. In the UK, there are now more than a 100, and in both the United States and China, close to a 1,000.

A growing proportion of higher education students are studying for business degrees at undergraduate and postgraduate levels. In the UK, this proportion is on track to reach as much as 20 per cent of the total in the not too distant future. The postgraduate Masters of Business Administration (MBA) has become the most internationally recognised degree, and graduating from one of the top business schools – Wharton, Harvard, INSEAD or London – typically leads to a high-flying career in one of the world's leading corporations.

Yet for something so apparently successful, the business school is a much-challenged institution. The contestation comes from within and without. Criticism of the business school dates back to its inception. As the disputes over Oxford's business school demonstrated, not everybody agrees that business as such deserves its own schools. Some faculty in old-established disciplines have

resented what they see as the business school's leavening of the university's traditional academic mission.

But for university management, the economic case has been too strong and any resistance has eventually been disregarded. In the new world of higher education, the market is, if not monarch, a very powerful voice, and university 'customers' – 'students' to those who cling to the old nomenclature – have unequivocally demonstrated their willingness to study for business degrees. Particularly significant here has been international demand, and the promise of a seemingly endless supply of potential entrants from countries such as China and India.

Business schools have also been criticised from within their own walls and by their business clients. Here, the criticism is two-fold: that the schools are not producing the kind of knowledge that places their research at the level, say, of economics, where Nobel prize-winning work is being done; and that they are not producing the kinds of graduates that business and society actually needs.

Enron casts a dark shadow over the whole business school milieu as, until its fall from grace, the company was a leading recruiter of top MBA students and was widely admired both inside and outside the United States.

The criticism of MBA teaching is that it is over-preoccupied with the bottom line and a particular model of business: Anglo-Saxon, shareholder and short-term focused, with too much allegiance to and trust in the market at the expense of developing a governance model equipped to deal with the ethical and environmental challenges of the modern world.

What does the future hold for the business schools? It seems unrealistic to expect that demand for their services will continue to rise or even stay at the same level. Elite schools are likely to prosper.

For the rest – and there are many thousands worldwide in this category – the future will most probably be harder. Business school degrees, except those from places like Harvard, are fast approaching commodity status and will struggle to command the premium fees that they currently enjoy.

More importantly, the business school curriculum is ripe for reform. The focus on finance and economics requires urgent rethinking, and there must also be more engagement with both the social sciences and other disciplines that are taught in the rest of the university, so as to explore the possibilities for creating new forms of knowledge that are truly consistent with the emerging needs of business and society, the knowledge economy and a globalising world.

In other words, the lesson that the business schools need to learn is that the business of the business school is more than business. ■

Ken Starkey and Nick Tiratsoo's book, *Business Schools and the Bottom Line*, will be published by Cambridge University Press in June.

# SMALL ISN'T SOCIALLY RESPONSIBLE

Smaller companies must begin to embrace corporate social responsibility

## AT A GLANCE

Small businesses are generally content to survive by any means but many commentators are calling on them to recognise the importance of sustainability and social responsibility. This should be a core business practice.

**C**ORPORATE SOCIAL RESPONSIBILITY' (CSR) – the generic term for the social and environmental contributions and consequences of business activity – has largely been associated with the Britain's bigger companies. But according to researchers at BRASS – the Centre for Business Relationships, Accountability, Sustainability and Society – it's now time for CSR to play a greater role in the business of Britain's smaller firms, too.

The research team has been looking at why so few small and medium-sized enterprises (SMEs) currently embrace the idea of CSR. And in trying to understand the barriers to taking up CSR, BRASS has highlighted lessons from those small businesses that have taken CSR to heart. It turns out that the majority of small business owners find even the term CSR off-putting. Some find it difficult to understand while others believe the word 'corporate' implies CSR is only for large companies.

Added to that, the motivational pressures that attract larger companies to CSR are not so evident in smaller firms. While the growing visibility and global impact of large companies and brands have heralded calls for greater transparency and accountability, smaller companies remain largely invisible and are unlikely to view CSR in terms of a risk to their brand image or reputation.

For them, issues closer to home are far more likely to hold their attention. Many are simply content to survive. And provided they are making a decent living, they see little need to reduce the bottom line with CSR-related schemes.

Environmentalists are calling for companies to recognise the importance of the sustainability and social responsibility of business. Globalisation, the growth of the media and communications technology and economic development have led to a shrinking world, they say, in which firms of all sizes are increasingly visible. There are basic CSR issues for which all SMEs have responsibility, including the creation of a good working environment where diversity is encouraged, the fair distribution of wealth and protection of the environment.

On a positive note for businesses themselves, adopting CSR can bring benefits. In practice, CSR is about companies managing their business processes in ways that produce a positive impact on society: it's about 'very best business practice'. And when companies voluntarily adopt the CSR principles, they can contribute to the success and sustainability of their business as well as society as a whole.

But CSR is not an 'add-on' to how business is run; it is at the core of how companies do business and should be integrated into every aspect of their

activities. The researchers claim that the potential benefits of CSR range from improved image and reputation to increased employee satisfaction and motivation, cost savings and increased efficiency.

BRASS highlights these kinds of benefits in 24 individual SMEs that display the very best CSR practice. For example, Kent Art Printers (KAP) is a family business employing 35 people in Chatham, Kent. The firm is intent on improving its environmental management and has won numerous environmental awards in the past five years.

By introducing waste streaming, KAP has cut by half the amount of waste going to landfill over three successive years. Outdated IT equipment is sent to a local charity, CyberArk, which provides computers to the needy. And old office furniture is sent to a local charity, Home from Home, where it is refurbished.

KAP won a Business in the Community 'big tick award' in 2004 for impact on society by a small company. The firm undertakes fund-raising in company time, staff are released to do business-related lectures for schools and the company also hosts in-house school science visits.

In the 2006 City of London's liveable city sustainable development awards, KAP picked up two out of the eight awards for sustainable procurement and resource conservation, and the overall award for outstanding achievement. The firm's owners are convinced of the business case for its CSR activities. It raises staff morale and job satisfaction, but it has also raised the firm's profile and increased sales.

Other smaller companies can reap similar benefits, the researchers argue. But they warn that care is needed in implanting CSR practices. Conventional approaches are based on the assumption that large companies are the norm and these approaches have been developed in and for large corporations. But SMEs are not 'little big companies' and CSR approaches that work in corporations cannot simply be scaled down to 'fit'.

An integrated approach is needed to help SMEs understand what CSR means for them and how to integrate it into core business practices. Support organisations must develop tools specifically for smaller companies, not simply adapt ideas designed for large companies. Ultimately, the preferred way of learning for SMEs appears to be through their peers. Any future CSR model would do well to rely heavily on the practical knowledge gained from real-life examples. The best way for a small company to approach CSR is to 'make a difference where they can', looking at their greatest area of impact and developing targeted activities. ■





## MULTINATIONALS BREED FUTURE COMPETITORS IN CHINA

Western multinationals must take a long-term view when investing in the Far East

**T**HE FACT THAT CHINA is an increasingly attractive market and a magnet for foreign direct investment is not news. But as Western multinationals rush to grab the advantages of cheap labour and growing disposable incomes, many of them are unwittingly sowing the seeds of their future demise. Dr Simon Collinson from the Advanced Institute of Management Research has been looking at British, European and US firms operating in China, and finds that some are breeding their own future competitors through local alliances and joint ventures.

This phenomenon goes beyond the one-off transfer of patents and brands to include the capabilities that firms need to produce new and better products and services. So while Western firms are learning about China, Chinese firms are learning how to innovate. This raises two crucial questions: which industries will Chinese firms eventually come to dominate; and how long will it take?

The unprecedented rise of foreign direct investment into China – now running at over \$60 billion a year – has created the largest array of international mergers and acquisitions, alliances, joint ventures and partnerships ever witnessed. These are clearly a major source of complementary assets, resources and capabilities for the Western multinationals and the local companies involved.

Both sides are learning from each other and developing new innovative capabilities through mutual co-operation and knowledge sharing. But experience teaches that the costs and benefits of such relationships are unevenly distributed. Over

time, strategic and organisational misalignment can evolve, and 'learning races' often develop with both sides competing rather than collaborating as mutual reciprocity gives way to self-interest.

For Western managers engaged in alliances and joint ventures with local firms in China, this kind of give-and-take is a necessary part of the process of market entry. But in their enthusiasm to get into the Chinese market, many managers have been too focused on the short-term cost-benefit trade-offs and have failed to understand or account for the long-term implications of such relationships. In many

### AT A GLANCE

As large Western companies seek to take advantage of China's cheap labour market and blossoming economy, they must realise that successful alliances in the short term could turn into competitive threats in the long-term.



cases, current strategic opportunities will turn into future competitive threats.

Dr Collinson has examined a range of alliances and joint ventures between multinationals and their Chinese counterparts in a variety of industry sectors. He first asked 'who is learning what?', and found a variety of knowledge 'spillovers' resulting from both intended (agreed, reciprocal and sometimes formally contracted) and unintended transfers and learning activities. Common examples of the latter include copying brands, patent infringements and transfers of intellectual property (patents, products, designs, etc.) that were outside the scope of the partnership.

In addition to collecting evidence of such one-off transfers (where knowledge is embodied in something tangible), the research maps flows of knowledge and expertise that support the development of innovation-related capabilities on the Chinese side. These are less tangible but arguably more important, as a key source of a more sustained ability among Chinese firms to innovate and thereby evolve longer-term competitive advantages.

There are numerous examples of both discrete, one-off transfers and capability flows from Western firms to Chinese counterparts. Pharmaceutical firms have 'lost' pharmacology dossiers to both competitors and collaborators: local Chinese firms then use these in both effective generics and ineffective fake therapeutics.

Brands and other trademarks are regularly 'customised' for local use by Chinese firms. And technologies are reverse-engineered regardless of patents and intellectual property rights. In economic development terms, this is akin to stealing fish rather than learning to how to fish. The real improvements in the innovative capabilities of Chinese firms come through learning relationships with multinationals.

These may be supply-chain relationships where cheap components manufacturers evolve into capable suppliers with expertise in continuous improvement product design. They may be joint ventures where the Chinese side initially deals

with local distribution but gradually learns about branding and customer-led product and service development. Or they may be technology alliances where the Chinese partner builds up a distinctive edge through local science and technology networks.

Why does all this matter? Looking up from the micro-level of joint ventures and corporate innovation practices, there are lessons for managers from the bigger picture.

First, large-scale growth and development trends in China show a notable shift from an economy based on cheap-labour manufacturing to one characterised by innovation, high technology and the beginnings of competitive knowledge-based services.

Second, history reveals something of the longer-term change likely in China. Post-war Japan, and South Korea, Taiwan and Singapore a few decades later, moved their economies along what was known as the path of the 'flying geese' – away from reliance on commodity exports and cheap labour to evolve innovation-related advantages in key industries from autos to semiconductors. The Indian software industry has made the same transition – from learning to leveraging to leading – in under 15 years.

Numerous companies show how quickly technological capabilities are evolving in China: Huawei, Zhongxing and Datang in telecoms; Bird, TCL and Konka in mobile handsets; Founder, Red Flag, UFSOFT, Neusoft, Kingdee and Top Group in software; and Lenovo in personal computers.

So which industries will China dominate and how soon? Early signs suggest consumer electronics, computer hardware, mobile telecoms, autos and certain kinds of software are destined for Chinese domination. Certain capabilities, like high-quality manufacturing, design and incremental product development, will appear sooner than others. Complex, customer-led service capabilities and radical product innovation will take longer.

And how are Western multinationals responding? Some are confident they will stay one step ahead of the new competition. Others appear resigned to being overtaken. ■

Britain is at the centre of the design of superyachts and this could provide jobs for the country's naval yards.

## Superyachts: a British business opportunity

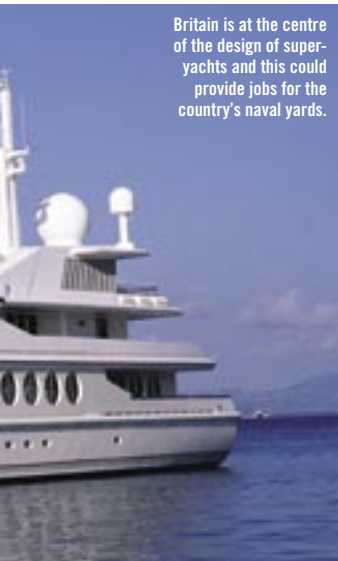
**WHAT DOES THE MAN** who has everything buy himself? For people like Chelsea football club owner Roman Abramovich and the Microsoft billionaire Paul Allen, the answer is a superyacht. And since most of the world's leading independent designers are located in Britain, there is a tremendous opportunity to combine innovative design with the national tradition of engineering expertise – and to provide new work for the country's naval yards, whose old markets have declined.

The luxury yacht industry has seen major changes in designs and technologies over the last 30 years as the function and style of the boats have become more like luxury living spaces or floating five star hotels. The new

breed of yacht – some bigger than 75 metres and worth \$100 million – are furnished with exquisite materials, the latest technology and pieces of fine art, and built to the highest standards.

Professor Rick Delbridge and Dr Tim Edwards have been exploring the relationships between the designers of these yachts, the shipyards, and the owners and their agents to understand how these huge and complex engineering projects come to fruition.

British designers – like the late Jon Bannenberg and his protégés Terry Disdale and Andrew Winch – have been at the forefront of the emerging superyacht industry. But the tension between innovation, aesthetics and function in these unique projects makes the processes of design and construction the focus of intense negotiation between designers and shipyards. Therein lies the opportunity for British skills and traditions to combine to world-leading effect. ■



# GAME THEORY AND BUSINESS PROCESS INNOVATION

Game theorists are increasingly making a contribution to economic growth

IT IS REASONABLY WELL-KNOWN that the third-generation mobile phone licence auction, which raised £22.5 billion for the British government seven years ago, was designed by economic researchers specialising in the branch of industrial organisation known as game theory.

It is less widely realised that game theorists have been making a far broader contribution to the economy, not only through advising on key public policy issues, but also through private sector consultancy and new business ventures that draw on research as a source of innovation in business processes across a range of industries.

Game theory is the part of economics concerned with the detailed rules and procedures of economic institutions – the ‘rules of the game’. But only relatively recently have the depth and breadth of robust game-theoretic knowledge been sufficient so that game theorists can with some confidence offer practical advice on institutional design.

## AT A GLANCE

Game theory is the part of economics concerned with the rules and procedures of economic institutions. Game theorists now make a broad contribution to the economy, advising on policy issues and working in the private sector.

## Game theorists are taking the lead in the design of a number of markets, most notably auction markets for radio spectrum licences

Examples of this ‘economic engineering’ include the design of appropriate mechanisms for price formation (as in different kinds of auctions), for dispute resolution (from small differences between two individuals to big international trade disputes), for executive compensation (the ideal mix of basic salary, annual bonus, share options and other forms of pay for corporate managers) and for the organisation of markets.

Market design is all about the creation of a venue for buyers and sellers and a format for transactions. Entrepreneurs and managers, legislators and regulators, lawyers and judges, all get involved, at least indirectly, in market design. Game theorists are now playing a direct role too, taking the lead in the design of a number of different markets, most notably auction markets for radio spectrum licences (as in the 2000 auction), spot markets for electrical power and labour market clearing houses.

As is often the case in scientific research, US academics have led the way. Professor Al Roth, for example, has used the principles of market design to devise a system for putting doctors into their first jobs, to propose mechanisms of school choice now adopted in New York and Boston and, most recently, to develop a unique organ-trading system that eases the shortage of kidneys available for transplant by

giving willing donors a strong new incentive to give their kidneys to strangers.

Similarly, Market Design Inc. – a consultancy founded by some of the leading lights of academic research on auction theory (including Professors Eric Maskin, John McMillan, Paul Milgrom and Robert Wilson) – has advised governments and firms worldwide on the design of electronic markets for telecommunications, electricity, business-to-business e-commerce, mineral rights, and other assets. The firm provides software and other support to implement its market designs.

An example of a Britain-based game theorist commercialising his research is Dr Nir Vulkan. Drawing on ideas eventually summarised in his 2003 book *The Economics of E-Commerce: A Strategic Guide to Understanding and Designing the Online Marketplace*, Dr Vulkan developed a decision support tool for companies doing ‘e-procurement’.

The purchasing of raw materials and indirect materials such as office supplies is a core corporate activity. Nowadays, most companies use e-procurement systems operating within large online business auctions. These give purchasers the opportunity to shift their efforts away from manual requisition and payment processing and instead devote the majority of their time to strategic issues like who to buy from and at what price.

The importance of improving the effectiveness of purchasers in such strategic tasks is obvious. A pound saved is an extra pound on the bottom line (as opposed to an increase in sales, where an additional pound is worth far less on the bottom line). A typical company spends at least 40 per cent of revenues on purchased goods and services. Therefore, any improvement in procurement’s spending effectiveness translates into significant shareholder value.

Negotia, the real-time optimisation tool that Dr Vulkan developed, is designed to empower corporate buyers in response to changes to the purchasing process due to e-procurement and supply chain automation. Negotia is a decision support tool: it acts as an online economic consultant for the organisation, recommending buying strategies.

Dr Vulkan developed the concept for Negotia while he was working at the University of Bristol’s economics department and subsequently sold it to Hewlett Packard, which has laboratories in the same city and whose research team was then focused on the need to automate the negotiation process between trading partners in business e-commerce. One of the first consultancies in Britain to sell



high-quality economic research more broadly to the private sector was London Economics, launched by Professor John Kay at the same time as he took up directorship of the Centre for Business Strategy at the London Business School in the mid-1980s.

Part of this opportunity arose from the privatisation programme of that decade, which created a new regulatory environment and new marketplaces, in which firms and governments needed sound economic advice. In addition, as Kay has pointed out, while the then newly emerging industrial organisation of game theory, contracts and information had much relevance to real business behaviour, it had been developed far from business circles and in a difficult mathematical language. There was an opportunity to translate and reconnect.

That reconnection has now happened. Dr Vulkan's commercialisation of research in game theory and the private sector consultancy activities of many other economists working in industrial organisation are typical of how economic research contributes to the economy. Economic research has also had a huge economic impact in the financial services industry – in part through the development and commercialisation of new ideas for financial products or risk management tools; in part through the transfer of personnel between academia, public policy and the private sector.

All of these are examples of the way that new ideas from academic research are converted into business innovations – in some cases, in the form of new products but more often in the form of new processes, personnel and advice on key strategic decisions or continuing business activities. Patents might be taken out, but they are of far less importance than in innovations in the natural sciences, such as the development of a new drug.

Of far more significance are new ideas and the constant process of business innovation they can generate. As Professor William Baumol argued in his 2004 book, *The Free Market Innovation Machine: Analysing the Growth Miracle of Capitalism*, successful companies and successful economies no longer compete on the basis of low prices and low costs, but on the basis of continuous and sustained innovation. ■

Romesh Vaitilingam



## A BALANCED LOOK AT THE 'BALANCED SCORECARD'

**T**HE SEARCH FOR NEW and better ways of measuring organisational performance is a recurring theme in writing on management. Numerous authors have proposed frameworks and methodologies, the most popular of which – judging by the large number of firms that have adopted it – is the 'balanced scorecard', created by Robert Kaplan and David Norton in the early 1990s. Yet the evidence that this approach has a positive impact on performance is remarkably sparse.

Research by Professors Rachel Griffith and Andy Neely as part of the Centre for the Macroeconomic Analysis of Public Policy puts the balanced scorecard to the test by evaluating its effects in 156 branches of a single British firm, half of which were subject to the new measurement system.

The empirical data they use draws on three sources: two years of participant observation in the process of designing and deploying the measure; six years of monthly profit and loss accounts for each branch; and qualitative material from interviews with branch managers.

The central idea behind the balanced scorecard is that managers can improve performance by monitoring and rewarding anything between 15 and 20 linked activities. These activities are designed to reflect both current actions that are assumed to affect future performance, and the outcomes of past actions. Performance is typically evaluated at a group level – team, branch or division – and incentive pay tends to be based on group performance against all of the indicators. In addition to forming the basis for an incentive scheme, the system provides managers and workers with information. As its progenitors claim, 'The balanced scorecard is like the dials in an airplane cockpit: it gives managers complex information at a glance.'

The research finds that overall the balanced scorecard did change behaviour. It also led to increased sales and profits in many of the branches where it was implemented. Unfortunately though, these increases were offset by increases in costs at other branches and, in aggregate, costs increased by at least as much as sales. One key factor that explains the variation in the effects of the balanced scorecard on different branches is the experience of the managers involved. Those with more experience seem to have been more effective in interpreting the information they received and taking appropriate corrective action.

Crucially, what this study illustrates is that while incentives might matter, it is still important for managers to have the ability and opportunity to respond to the information provided by their performance measurement systems. ■

### AT A GLANCE

The 'balanced scorecard' was a system created in the early 1990s as a means of measuring organisational performance. It's designed to enable managers to improve performance by monitoring and rewarding anything between 15 and 20 linked activities.

# Can public-private partnerships deliver better services?

PROFESSOR PAUL  
GROUT, Centre for  
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Organisation



**T**HE INTERNATIONAL MONETARY FUND describes public-private partnerships (PPPs) as 'a wave that is sweeping the world'. But why has a concept barely mentioned until a decade ago become such a global phenomenon? What led Britain to use PPPs to build hospitals, schools, prisons and government offices? And most importantly, do PPPs make sense as a way of delivering public services?

A PPP is a long-term contract between the government and a private supplier involving upfront expenditure by the private sector followed by long-term payments by the public sector. The private contractor owns the physical 'asset' and makes money from the payments for the services that it generates.

For example, with traditional public provision of a new road, the government signs an agreement with a contractor, pays them when the road is built and then owns and maintains it. With a PPP, the contractor builds and owns the road and the government pays a fixed fee for every vehicle that uses the road over a certain period.

The basic argument for PPPs is one of efficiency. If under traditional arrangements, the road turns out to be poor quality, then the government faces a complex legal battle to prove that bad building, rather than mis-specification or incorrect maintenance, is at fault.

But with a PPP, the government pays for the service it gets: if the road is poor quality and needs expensive repairs, then the builder pays and also suffers lost income if cars use other routes while the road is repaired. The idea is that the contractor has strong incentives to ensure good quality and to deliver on time (to start the money flowing).

But PPPs have found favour for another reason. Just as privatisation proved popular with governments for adding to treasury coffers, so PPPs are attractive as a way to get new infrastructure without paying upfront. An agreement for a new hospital signed today will only start to cost the government money once it is up and running, and the cost is spread over the next 25 to 40 years.

This argument has proved very powerful in Britain. PPPs were a natural extension to the Conservative government's privatisation policies of the 1990s. The private finance initiative (PFI), as the early projects were collectively known, brought private incentives and money into services that were not suitable for full privatisation, and made it possible to modernise infrastructure without directly raising government borrowing.

PPPs also proved popular with New Labour as a way to deliver on its promise of improving public services while convincing the City of its financial prudence. Of course, a legal commitment to pay in the future should not be different from borrowing today, but for various reasons, these are not seen as quite the same thing.

It is common to criticise the second, essentially political, argument for PPPs, and to suggest that if there are no clear efficiency arguments, then PPPs are undesirable. But since politicians are usually deemed too

short-term, it is far from obvious that the biases of PPPs are all bad.

The poor state of Britain's public infrastructure is well documented, caused in part by reluctance to commit expenditure with no immediate benefits to voters. So a mechanism that allows politicians to improve infrastructure while passing on the cost to future generations as they benefit from it seems a good way to correct the distortion.

Do PPPs work? Unfortunately, comparative research on PPPs is limited and so it is difficult to know whether the efficiency argument really works. There are case studies of the failings of individual projects, but public sector delivery is also fraught with problems so the case study approach makes comparisons very hard.

The National Audit Office (NAO) survey of PFI construction projects up to 2002 assesses them against comparable projects traditionally procured. Nine out of the 11 PFI hospitals and all seven PFI prisons were delivered on time or early. This compares very favourably with 61 traditionally procured hospitals, three quarters of which were delivered late. Of course, being on time is not the same as being better value.

The survey also compares private prisons with equivalent public prisons, concluding that the former perform well although they are among the best and worst of the sample. Taking account of quality and overcrowding, private prisons are clearly better value than public prisons, but their complex financial structure makes it harder to say whether all private prisons are better than public prisons.

There are, however, some well established problems with PPPs that arise because of the long-term contracting structure. One is procurement. Because a single provider signs a long-term contract, the chosen company enjoys some monopoly power. As a result, any benefits that the contractor can make from this must be extracted upfront in a competitive bidding process.

This leads to a major change in the status of public sector jobs. In traditional provision, those involved with service delivery have a critical role and procurement is somewhat secondary. With PPPs, delivery shifts more to the private sector and good quality procurement is the critical role of the public sector.

Another big issue is renegotiation. One in five of the PFI construction projects assessed by the NAO were expanded within a few years of contract because of changing needs. Detailed renegotiation rules are now built into contracts and we await evidence on whether this resolves the problem.

Despite these problems, there are lots of good reasons why governments favour PPPs and plenty evidence that they work well. Combined with the 'political' benefits of postponing payment, it is clear why PPPs are proving so popular around the world. They are a legitimate part of a package to deliver better public services and are definitely here to stay. ■