Manager Update

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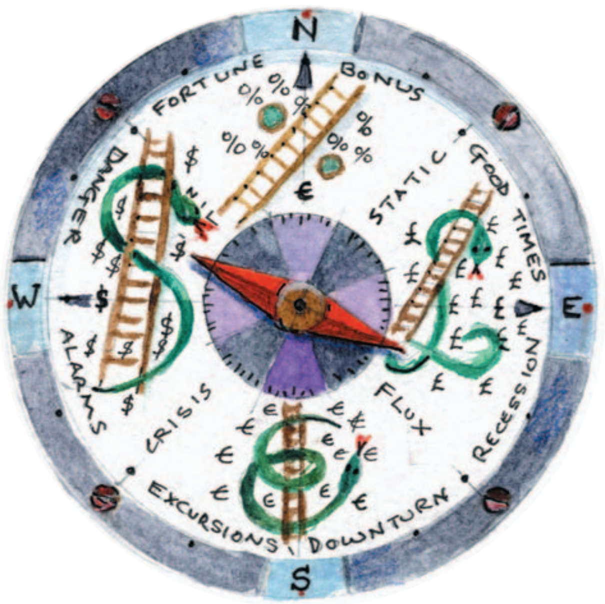

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> **Manager Update** helps the general manager keep abreast of the latest articles in specialist management journals in the key fields of strategy and organisation, marketing, accounting and finance, and human resources management.

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People value and that elusive human factor

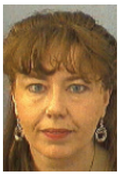
Roger Mills, professor of accounting and finance at Henley Management College.

Research suggests that investing in people impinges directly on company profitability despite the difficulty of finding credible methods of measuring the value of employees. This article looks at:

- the value of human capital;
- the demographic challenge; and
- a financial model for investing in people.

It assesses how companies should make the most of the value intrinsic in their employees and minimise unprofitable absence, eg by providing healthcare policies.

Driving growth through innovation



Susan Foreman, professor of marketing at Henley Management College.

When companies fail to grow as fast as GDP growth, they tend to suffer. This article examines how innovation can spur growth in otherwise underperforming businesses. It considers:

- the culture required to support change;
- the risks associated with innovation; and
- the way to integrate the two.

Finally, companies must identify when to compete to take first mover advantages and assess market potential and customer readiness in markets with opportunities for growth.

Employee engagement – a new construct?

Richard McBain, director of distance learning programmes at Henley Management College.

Employee engagement makes a great difference to performance in the workplace and thus to corporate success. It consists of:

- commitment;
- job satisfaction; and
- involvement.

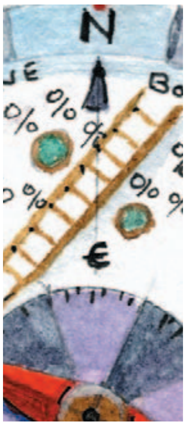
This article explores how employers can build and maximise engagement, including development of responsive line management and alterations to the culture and structure of the workplace.

Rationality, foolishness and adaptive intelligence

Ian Turner, professor of management studies and director of graduate business studies at Henley Management College.

Decision-making within organisations has been the subject of various academic studies. This article examines some recent contributions in organisational innovation and takes in contributions from James March and Gary Hamel, two leading figures in management thinking in the last 50 years. There are various approaches to adaptation, including:

- the feedback model, ie change through feedback over time;
- Procter & Gamble's new model 'connect and develop'; and
- technological innovation, which itself has enabled companies to use new tools which, at least in theory, should reduce cost.



People value and that elusive human factor

A strong case for investing in people – because it may result in improved company performance and profitability – emerges from US research which takes into account the importance of financial management of employees and prospective demographic changes. **Roger Mills**, professor of accounting and finance at Henley Management College, looks at some of the factors involved in assessing the value of employees.

Finance directors recognise that financial management of employees is important

Reassessment of the operating and financial review (OFR) is an important signal as to the significance of the human resource in the prospects of the business. As a result, the case for focusing upon the potential financial management of employees is recognised as important by finance directors. Prospective demographic changes predicted by the United Nations may have a very significant impact upon company performance and upon how employers think about investing in people.

In a recent study of human capital reporting by Print (assessing 97 UK FTSE 100 companies), it seems that although many companies publicly thank their employees for their contribution to the company's success, there's little evidence of how this important asset actually contributes to the performance of the business. Nor is there much evidence of how companies effectively manage and develop their people to create value.[1]

The Print study was intended as the first part of a research project to review the reporting on human capital in UK company annual accounts prior to the introduction of the reporting standard 1 (RS1), which would have required all listed companies to produce an OFR in their annual accounts for financial years on or after 1 April 2005. A subsequent review of reporting on human capital was intended following the introduction of RS1 in 2005/2006. UK chancellor Gordon Brown has decided to reopen discussions on OFRs, just nine weeks after he promised to scrap the company reporting regulations.[2]

There is no accepted way to measure the value of human capital

The OFRs, under which listed companies were required to produce a forward-looking annual statement on aspects of the business such as employee concerns, were scrapped by the chancellor in November as the government tried to highlight its commitment to cutting red tape. The decision backfired. Business groups claimed the move was 'baffling' and would damage the human resources department's efforts to boost its credibility. Employers also complained that they had spent millions of pounds preparing for OFRs only for them to be replaced by a 'business review'.

The consultation in those replacement rules, which was due to end February 2006, has now been widened by the government to allow comments on issues such as social, employee and environmental affairs. The consultation will run until 24 March, with the government intending to incorporate the new reporting rules into the Company Law Reform Bill, which is currently going through parliament.

Value of human capital

A company's value is often considered to be the value of its assets. Clearly, though, there has been considerable debate and discussion of people as a vital asset in organisations, whether in the private or public sector, and the recognition that their skills and knowledge are crucial factors in a business's competitive advantage. Yet, from a financial reporting perspective, there has been no generally-accepted procedure for measuring the quality and effectiveness of human capital. Indeed, from the accounting perspective, human capital – people – are treated as costs except when they are 'purchased' on a contract, such as football players. Increasing moves to class employee stock options as an expense means there is a development towards identifying a 'truer' cost of people, ie including their remuneration package. The emphasis, however, remains on employee cost rather than value.

Many financial specialists, like company finance directors, have voiced frustration at their inability to measure the return on investment in employees and want a greater role in managing human capital.[3]

One recent survey, for example, found that more than two-thirds recognised human capital as a major driver. Businesses spend about 36% of their revenues on human capital expenses like pay, benefits and training, but only 16% of financial managers understand the return they are getting, or felt that they knew how to measure a return on investment.[4] As the survey commented, 'CFOs see the importance of human capital to business success but cannot apply ordinary financial discipline to what is often their company's largest investment'.

The demographic challenge

Clearly, there are real challenges associated with capturing the value of people and a framework that facilitates a meaningful dialogue seems essential. One of the basic prerequisites of value-based management is to develop a valuation model that's demonstrative of potential value creation. Typically, this is built with reference to the financial statements from which prospective free cash flow estimates can be derived. Interestingly, these statements are not very explicit about the real costs of people, and the point can be well understood if the framework is stripped back to simple value drivers.

In building a valuation model based upon a simple value driver framework that looks at the ability of the sales growth rate and the margin to be derived from the added sales revenue, provision has to be made for replacement and incremental fixed capital investment.

Assets are depleted over time and need to be replaced to ensure current capacity and thus sales revenue can at least be maintained at existing levels. Investment is also necessary to allow growth in sales capacity. In the case of the replacement of fixed capital, benchmarks exist to establish whether machinery is functioning adequately and its condition. The same is obviously not necessarily the case for people.

Demographic trends are also a concern. For example, population projections to 2300 by the Population Division of the United Nations Department of Economic and Social Affairs show (medium scenario) a potentially rapid greying of the world population, with the median age rising from 26 today to nearly 50 years in 2300.

According to these same projections, the world population will stabilise at 9 billion in 2075, remaining at the same level in 2300.[5] The rapid population growth of the last decade has added unusually large numbers of young people to the UK. This will become especially apparent at mid-century as this younger generation grows older and lives longer. The number of people of pensionable age is projected to rise from 11.1 million in 2004 to 17.5 million (pensionable at 65) by 2050.Young dependents (aged under 16) are projected to fall by 1.4% from 11.65 million in 2004 to 11.48 million in 2031, and old dependents (pensionable age) to rise by 37.9% from 11.13 million in 2004 to 15.34 million in 2031. The working age population will likely rise 8.4% from 37.1 million to 40.2 million and become gradually older.

Human capital is widely recognised as a major driver

While the workforce itself isn't shrinking, there are some concerns about it being 'inactive, overweight, spaced out, and stressed'. In fact, the government's aim is to bring 80% of the working age population into employment. This would improve dependency ratios (to the working age population that supports it) and, along with higher retirement ages, remove the 'need' to raise birth rates or allow 'excess' immigration and settlement. The new debate about the dependency ratio in Western Europe, where as little as 65% of the 'active, employable' population is thought to be in work in recent years, raises major questions.

Do countries need to raise the qualifying age for state pensions, are current levels of state income support in certain countries a disincentive to seek work, and how should we deal with the alleged liberality in certain regimes, such as in the Netherlands, in classifying adults as medically unfit for work rather than unemployed? The answers may not be clearcut, but its clear that demographic changes will have some interesting implications!

Demographic changes will have interesting implications for employers

Let us return to the analogy for developing a valuation model. With a higher rate of obsolescence, a sensible valuation model would have a stronger focus on the replacement fixed capital requirements to ensure that the existing level of demand could be satisfied. It is obvious that depletions to the capital base would have important ramifications for the ability to meet current targets.

Does the same analogy not hold for people? If the prognosis for this increasing working population is that it will be older and potentially more prone to illness and being less fit, is there not a corporate, as distinct from a state or individual, response? If people are really important there may well be a strong financial case to focus upon measures of the capability of the human resource to deliver. Such measures can be roughly distinguished into two parts. The first, which would deserve attention in its own right on another occasion, is about productivity.

There should be a corporate response to an ageing population

The UK chancellor has repeatedly called for increased productivity in the economy. In fact, recent studies have challenged his claim that productivity has been increasing either relative to the economy of a few years ago or compared with other economies. Indeed, UK productivity has been falling further behind that of the US, according to Bart van Ark of The Conference Board.[6] Plainly, there are issues of both public and private investment in those aspects of education and training which can affect the productivity of labour and capital.

Furthermore, there are controversial assumptions as to the value in terms of costs and revenues produced when one worker replaces another, eg an immigrant for an indigenous employee or a younger worker for an older one. For example, the British productivity improvement relative to France and Germany is entirely due to an increase in working hours in the UK, according to the Conference Board's figures. This raises an interesting point on whether Britain's longer working hours compared with those of pre-accession EU countries reflects British workers being healthier than their Continental counterparts – or, rather, underlies the claim that the health of British workers is inferior because it's associated with longer working hours.

Indirect costs of ill-health may exceed direct medical costs

The focus here is on the second type of measure which might well be captured under the heading of 'wellness'. This could be even more compelling if it can show that investing in wellness programmes is worthwhile from an established financial perspective. For this, it is useful to review developments in the US.

A financial model for investing in people

In the US, a programme that improves the quality of care received by employees can provide four potential benefits to an employer: reduced medical expenditures (for both employees and their families), less absences, improved productivity, and reduced turnover due to employees' perceptions of the value of their total compensation package. Interestingly, even in countries like the UK with nationalised health insurance or health service programmes, the last three of these benefits still apply. Obviously, an employee in poor health will likely be more absent from work and may well be less productive when he or she is actually there. One study has suggested that these indirect costs of poor health may actually exceed the direct medical costs.[7] To quantify the benefits to an employer of investing in their workers' health, it is important that all sources of benefits should be considered.

A typical company, though, estimates how a health-benefit or health-care quality-enhancing programme will affect their bottom line by considering only the direct medical costs they reimburse as health benefits. This leads to programmes where the investment return from the reduction in direct medical costs yields a positive benefit, for example in the form of a positive net present value (NPV). According to Nicholson et al over 40% of employers have disease management programmes for expensive and debilitating conditions such as diabetes, heart disease, and asthma, where the evidence suggests that the NPV from direct medical savings alone may be positive.[8] However, the same authors indicate that fewer than 25% of employers have implemented such programmes for lower back pain and obesity.

The key problem again reflects the challenge of quantifying investments in people as the benefits of reduced absences and improved on-the-job productivity are not accurately measured for inclusion in NPV estimates. Indeed, where employers have attempted to measure the impact of such programmes on workers' productivity, they have generally focused only on reductions in absenteeism. Even then, most analyses underestimate the benefit of reduced absenteeism by using an employee's wage as a proxy for the value of his/her time.[9] This conventional method raises several uncertainties. For example, it assumes – usually implicitly and often incorrectly – that employees are perfect substitutes for one another, that an absent worker or a worker with impaired productivity will not impact the productivity of his team mates, and that companies do not lose sales when a worker's productivity is diminished by poor health.[10]

Nicholson et al have proposed an approach that allows employers to examine more thoroughly all the ways an investment in their employees' health could improve the bottom line in just the same way as companies analyse potential investments in other capital projects.[11] They focus on how to measure the indirect, or productivity-related, benefits.

Most studies that evaluate the financial benefit of reducing absenteeism assume, as we mentioned above, that the value of each work day lost is equal to the employee's daily wage. In the neoclassical economic model, wage rates should be equal to the value of the incremental output produced by each worker. According to the typical method, if an employee misses one day of work less, the company gains the value of his/her output, which is assumed to be equal to his/her daily wage.

Yet, as indicated earlier, the traditional methods for assessing the financial impact of health-related absences are likely to underestimate the true gain to employers and employees from implementing policies that improve worker health and ability to work. The cost of the absent worker is, clearly, just one element to consider. For example, it doesn't take into account that a company can lose revenue from an absence, such as the delaying of a commercial airline flight because the pilot is sick. In this and other examples, the rest of the team is also affected, and the true cost of lost revenue can often vastly exceed a single worker's wage for the day.

Nicholson et al also examined whether the cost of an absence varies across jobs according to (a) the likelihood that a manager can find a perfect substitute for the absent employee, (b) the extent to which the employee functions within a team, and (c) the extent to which the employee's output (or his team's output) is time-sensitive. After identifying 35 jobs in 12 industries that involved different types of production functions, the researchers interviewed over 800 managers to determine the extent to which the three characteristics above were embodied in a given job, as well as the financial consequences of absences. Their findings supported the hypothesis that the cost associated with missed work varies across jobs, according to the three key characteristics.

The authors estimated wage 'multipliers' for each of the 35 different jobs, where the multiplier is defined as the cost to the firm of an absence as a proportion (often greater than one) of the absent worker's daily wage. The mean multiplier for the 35 jobs included in the study is 1.61, and the median multiplier is 1.28. This implies that for the median job the cost of an absence is actually 28% higher than just the worker's wage. To obtain an accurate estimate of the cost, the employee's wage is multiplied by the appropriate multiplier for that job, or for a job with the same combination of job characteristics. This will yield higher, more accurate estimates of the financial return on health-related benefits most workers are paid when they are absent (up to certain point), and the expected absence rate will be considered when determining the wage per day paid.

Until recently, most employers assumed absences were the only source of health-related work loss. Yet employees who come to work while feeling ill probably won't perform at their usual level of productivity, in a phenomenon sometimes referred to as 'impaired presenteeism.' Burton, the Corporate Medical Director at Bank One, was one of the first to estimate the magnitude of this on-the-job productivity loss and found that as the number of health risks increases, an employee's productivity decreases; and that disease states that have produced disability events are also associated with work loss.[12]

Employers can gain from implementing policies to improve worker health and ability to work

Many studies suggest, in fact, that the costs of impaired on-the-job productivity are larger than the costs associated with absences. Stewart et al attempted to gauge the extent of 'lost productive time (LPT)' through a national, randomised telephone survey in 2001-2002[13] and made some disturbing findings. Using the wage rate as a measure of the cost of work loss, they estimated that health-related LPT costs employers $226 billion per year, or $1,685 per employee – 71% of which was explained by reduced performance at work.

Many of the same factors that produce multipliers for absenteeism are also probably true for impaired presenteeism, but these multipliers have not yet been estimated on a large scale. Measuring and monitoring all three drivers of health-related employer costs – direct health care costs, absence and impaired presenteeism – provides employers with a more complete picture of the financial impact of workforce health on a company's performance, and helps employers prioritise programmes and evaluate the financial impact of those programmes. Interestingly, then, this management discipline places workforce health investment decision-making processes on par with that of other company assets!

Impaired presenteeism, where a worker functions below productivity, is also a cost

Corporate application – the Dow Chemical Company

Encouragingly, there are examples of corporations adopting this approach. Nicholson et al report that The Dow Chemical Company, a large employer headquartered in Michigan, surveyed over 12,000 US-based employees in the summer of 2002 to try and develop a comprehensive understanding of the costs associated with chronic health conditions. Some 65% of employees reported having one or more chronic conditions, with allergies and arthritis/joint pain or stiffness the two most common.

They used a multiplier of 1.41 based on Dow's distribution of workers in nine different job categories and the job-specific multipliers developed in their own study. The survey provided Dow with an accurate estimate of the true prevalence rate of chronic conditions among its workers and the company could calculate the total cost impact by health condition to the company by using the prevalence and the per-person cumulative costs.

In addition, when analysing costs on a per worker basis, several conditions with large medical costs, such as diabetes, arthritis and circulatory disorders, were not in fact the most expensive conditions if productivity effects were included. In fact, depression/anxiety was the most expensive condition (on a per worker basis) due in large part to substantial presenteeism costs.

Perhaps most interestingly, the estimated presenteeism costs exceeded medical costs for each of the nine conditions studied! This data and research helped Dow develop focused intervention strategies on specific conditions and the overall magnitude of the costs involved helped motivate a philosophical change from managing direct medical costs to an investment-based approach incorporating direct and indirect costs. As a result, Dow is focusing more on prevention, quality of care and more sophisticated purchasing, such as pay for performance programmes.

Conclusion

Financial management of such human factors in business remains largely absent from the mainstream literature and yet, as the above has demonstrated, there appear very good reasons for devoting more attention to it. The OFR represented one indicator of its potential importance and one hopes the initiative is not completely lost. Clearly, the broader context of global demographic trends may also represent a strong impetus for examining the financial management issues associated with the human resource more carefully.

Moreover, research in the US has provided strong support for the potential benefits to the bottom line. What is very clear, though, is that unless real health and wellness consequences can be demonstrated as being quantifiable and able to be incorporated into business decisions, employers may under invest in health interventions that are capable of improving worker productivity. **MU**

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Driving growth through innovation

Research has shown that when large companies fail to grow with GDP, they risk going out of business. But if this is the case, how may companies achieve growth without compromising performance? Innovation must be a key driver, argues **Susan Foreman**, professor of marketing at Henley Management College.

Good management in key areas is critical for success in any company, especially large ones, and marketing, performance, operations management and financial excellence should support a clear strategic direction. Smit, Thompson and Viguerie[1] and many others have encouraged companies to look beyond operation excellence and focus on growth strategies. Their research shows that when large companies do not grow as fast as gross domestic product (GDP), they are in greater risk of going out of business or of being acquired. They advocate a two-pronged approach of managing the bottom line while also planning to build top line growth, since "…companies that don't increase their revenues run out of ways to drive earnings and shareholder returns."

Companies should grow above GDP growth rates and maintain that level

The challenge, though, is to exceed GDP growth rates and then maintain that level of performance. The main options for driving growth are innovation, acquisition, diversification into new markets and internationalisation. They say that regardless of the strategy, market development is always easier in favourable growth conditions. In essence, companies need to combine clear strategic direction with knowledge of where to compete and then select markets where industry momentum already exists.

The three Cs

Growth is on the agenda of many large companies as well as key consulting groups like McKinsey, Deloitte and IBM consulting. The IBM partners Kapur, Ferris, Juliano and Berman[2] have studied the limits to growth in companies and the factors contributing to successful growth strategies. They argue 'course', 'capability' and 'conviction' are the main factors providing a firm foundation for creating growth.

Setting the course

Company leaders must set the course and have an awareness of the environmental issues affecting their business. Vision and leadership, while paramount, must be in tune with customers' changing needs and demands. Indeed, as customers change, the company should be prepared to develop its product portfolio and consider alliances or acquisitions to tap into new growth opportunities. Successful leaders of high growth companies often demonstrate great external and internal awareness and use their networks to build their business, keep in touch with the competition, identify funding opportunities and grow the business.

Setting the course, though, is a complex task and entails multiple interconnected strategies. The four key options identified by Kapur, Ferris, Juliano and Berman include innovation, customer intimacy, channel management and market development. Disappointingly, though, their research found companies in some industries pursued similar strategies and therefore looked unexciting and far too similar to customers. In consequence, more imagination and creativity could have allowed greater opportunities for differentiation and higher growth rates.

Capability

Results cannot be achieved without the organisational capability to sustain the growth. If, as Kapur et al suggest, multiple strategies should be pursued, then each strategy should be underpinned by a specific set of capabilities. For example, following a strategy of innovation requires skills in development and market planning, platform and pipeline management and skills in managing the portfolio and partners. If this is complemented by a strategy of globalisation, which is an extremely risky strategic combination, the company needs to develop a global business model with capabilities in market selection, customer knowledge and global channel management.

Many organisations manage one strategy, but few have the capability to pursue multiple growth strategies. Nokia, the Finnish telecoms business, is one notable success story, as it has managed to combine both innovation and an aggressive global strategy. Procter & Gamble has also built and maintained its core business while adding innovative developments to key brands, diversifying through acquisitions and developing its global reach.

Conviction and change

Companies must also have a belief in growth as a driving force and can only achieve such grow through being nimble and adapting. This requires change. To be successful, Kapur et alsay companies need to become comfortable with change and focus on strong leadership and a 'fact-based' debate on strategy and performance. Good communication of the strategy to employees, investors and other stakeholders is also needed to support the strategy. Third, companies must establish a clear system of measures to assess the market and create incentives to reward success. Finally, the authors say, the culture should be unforgiving of ambiguity. Kapur et al argue these three main elements all need to be managed simultaneously to sustain growth. Successful growth strategies need all three components working together so that while the course may change, there remains the stability to ensure continued growth.

Creating new markets

Innovation is, as we have already mentioned, a key element in driving growth. Yet how many large companies actually change their business model and the accepted way of working? How many really produce radical and breakthrough innovations? Berry, Shankar, Parish Cadwallader and Dotzel,[3] in looking at the service sector, argue many innovations are incremental and few companies actually develop breakthrough products or services that can really change and drive new markets.

Their research focused on identifying the types of innovation that can lead to 'market creating' service innovations and divide these innovations into four groups, along two dimensions of benefit and inseparability. They ask two key questions: does a service innovation provide a new core benefit to customers or a new channel to reach customers?

Second, does the service need to be produced and consumed simultaneously (ie at the point of purchase) or not? These are central tenets of services marketing and, by combining the dimensions they have created, a basis from which managers can make strategic decisions about the source of the next market-creating service innovations. The four types of service innovation are: flexible solutions, controllable convenience, comfortable gains and, finally, respectful access.

Companies can only achieve growth by adapting

Flexible solutions
These offer new benefits and can be consumed separately from where they are produced. Companies that have created flexible innovations include Federal Express, eBay and CNN because according to Berry, Shankar, Parish Cadwalleder and Dotzel they liberate the customer and are "free of the constraints of time and space".

Controllable convenience
Here the service doesn't create a new core benefit but the delivery channel is new, allowing the customer to consume the service at their convenience. Good examples of this kind of service innovation are Google and Skype. Skype is basically a telephone company, but the internet provides its delivery system.

Comfortable gains
In this area, the core benefit is new but the service has to be consumed at the 'time and place of production'. For example, bookshop chain Barnes and Noble made the simple decision to enhance the book-buying experience by adding a café style approach with comfortable areas to sit and examine the books in a large superstore. This vastly enhanced the core benefits to the customer.

Respectful access
Finally, the authors use Southwest Airlines and Hertz as examples of a group of innovations they call by the curious name 'respectful access'. These companies provide a new delivery system but the service and the delivery mechanism are inseparable. Budget airlines in the US are a good example as they provide affordable flights, direct to the destination whilst avoiding the hub system, which was the preferred modus operandi of the national carriers.

Innovation is a key element in driving growth

Berry, Shankar, Parish, Cadwallader and Dotzel identified a number of factors that helped companies to develop service innovations. These companies offer:

- a business model which allows economies of production or distribution, through the use of technology – rather than employees – to deliver the service. Alternatively, services can be designed to ensure customers themselves take part in the production of the service;
- customer experience management where managing the process and the service operation can ensure a standard but also a quality experience;
- investment in employees' development and remuneration which is an investment in the service delivery mechanism;
- operational innovation and efficiencies in the delivery mechanism, which can be an important differentiator, especially if they bring benefits to the customer as well as savings to the company;
- brand differentiation, which is is important. Brand loyalty can develop by offering reliable service delivery, connecting with customers and building relationship trust;
- a 'champion' with vision and energy to take an idea and move it into the marketplace;
- superior customer benefits, from innovations where the customer sees a definite solution. They see that it offers something new or a new and easier way to purchase the service; and
- affordability for the customer and cost benefits for the company which provide a win-win situation.

Design is a core feature of successful innovation

Clearly, driving innovation and growing markets needs energy and a culture which supports change and focuses on the customer. The organisations mentioned by Berry, Shankar, Parish, Cadwallader and Dotzel have a results-driven focus on technology, are prepared to take risks, accept failure and have an external orientation. Often, the company culture determines which strategies are developed and whether managers can create competitive advantage and drive new markets. Continuous strategic innovation should, in a certain sense, be a part of the company's everyday routine.

Continuous strategic innovation should be routine

The design innovation interface

Mehta[4] has also focused on innovation and design and highlighted some of the key drivers behind innovation and the role it plays in growth. He has tried to understand the growth strategies of large US companies (ie with revenue greater than $1 billion) and identify key obstacles to this growth. He also highlights the economic benefits of innovation in increasingly competitive local and global markets. Critically, developed economies must innovate and grow to face competition from emerging markets such as India and China, which are both swiftly moving from being low-cost producers to developers of more advanced and innovative products and services.

Design is a core feature of successful innovation discussed in this research and the author quotes research from Egon Zender and IMD where managers show how design can be used to connect with the customer. According to Mehta, creativity, imagination and courage are key skills for company leaders who need to encourage innovation by recognising new ideas and matching them to market need. Companies known for this approach include Apple, which is famous for its product design and customer focus, and 3M for its culture of creativity and innovation.

Some companies do not have this in-house capability and, to stay ahead of the competition, are outsourcing innovation to Asian companies. Once these companies were providing low-cost goods, while now they are providing creative research and development solutions for the world's leading companies. Mehta illustrates this point by highlighting the Taiwanese company Compal which designs for Motorola, Toshiba, and Sony-Ericsson.

Product innovations can, though, easily be copied and give only a short advantage over competitors. Mehta argues for more sustainable developments, such as process innovation, service innovation and developing a culture of innovation, which are all much harder to replicate.

Process innovations alter the way in which a company conducts its business. They achieve this through outsourcing or service delivery, by managing the value chain more effectively and through operational efficiencies and marketing distinctiveness.

Service innovations are intangible and difficult to copy and replicate. Service innovations can be used to target new customers or to improve the experience of existing clients.

Cultural acceptance of innovation as a way of doing business is a key differentiator and probably the most challenging of all the strategies. It is, however, also the most sustainable.

According to Mehta, to be sustainable, innovation, design and creativity have to have an impact on the strategy, systems, people and partners.

Together with product innovation, process and service design, companies with a positive approach to innovation can develop a flow of innovations to help the organisation create value for customers, build profits and grow.

Ecosystem innovation

When looking at companies that are struggling to grow, Smit, Thompson and Viguerie highlighted the need to identify key markets with growth potential, or what they call the 'tailwind' factor. Companies operating in a slow-growing business with few opportunities should reposition, change the portfolio and move towards a high growth market position, the authors argue.

Adner[5] also examines innovation and urges managers to monitor competitors as much as their own internal processes and proactively manage their innovation 'ecosystem' or network. The author states that significant innovations cannot always be developed in-house and companies may need to rely on a network of suppliers, distributors and enabling technologies to successfully launch their product or service. High Definition Television, for example, never reached its potential because the associated broadcast, studio and signal developments did not develop fast enough. This delayed the time to market and left time and space for new developments and competition to emerge, the author says.

For Adner, innovation management is synonymous with risk management when the launch of a new product or service is dependent on other companies to develop components or a new delivery system – the author warns companies to map the risks properly. Companies need to identify the partners and intermediaries contributing to the innovation process and those which come between the company and the customer.

Second, they should identify all the complementary services and components needed to complete their particular innovation. Once the network has been mapped, the scale of the interdependence needs to be assessed alongside the impact of any delays. To be thorough, managers should do this for their immediate network and push their partners to go through the same process and assess their own partners and interdependencies. This process, while complex, facilitates the assessment of any bottlenecks, delays and risks, the author says.

The risks associated with innovation and integrating the partners in an innovation project are numerous but, according to Adner, are not 'mysterious'. Every industry is, however, different and each innovation brings its own demands. An assessment of the risks allows the planning for bottlenecks, technical problems, delays and setbacks. When the risks are managed and the partners work together significant first mover advantages can be gained value created for the customer.

Risks are numerous but not 'mysterious'

Basic questions about competition conclude this article as well as begin it. Adner agrees with Smit, Thompson and Viguerie by stressing the need to decide where to compete, when to compete and how to do so. Companies must first identify when to compete to take first mover advantages and assess market potential and customer readiness in markets with opportunities for growth. **MU**

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Employee engagement – a new construct?

Employee engagement is a useful recent concept in human resources management – it is a composite construct that describes employees' commitment, job satisfaction and involvement. But the concept is still regarded as somewhat vague. **Richard McBain**, director of distance learning programmes at Henley Management College, looks at the issues.

The employee engagement concept has emerged as perhaps the most useful idea for HR practitioners in the 21st century. Indeed, such engagement is the 'ultimate prize' for employers, according to the Towers Perrin[1] consultancy which has done much research into the area. Its emergence stems, at least in part, from the way the concept seems to integrate so many different aspects of HR, such as employee satisfaction, commitment, motivation, job design, and involvement.[2] Increasing evidence, both at the academic and practitioner level, also suggests employee engagement can make a difference to the performance of individuals, teams and organisations.

Engagement reflects change in the 'psychological contract' between employee and employer

The employee engagement concept reflects change in the organisational context and the mutual expectations of employees and employers in the 'psychological contract' mirror changing patterns of motivation: many individuals are seeking greater personal fulfilment in their working lives and are not solely motivated by financial rewards. In addition, changes in the business landscape will require more flexibility, collaboration, project-based activities and talent-led teams. The new organisational model is likely to be more democratic and will need to engage and inspire talent or risk losing it.[3]

Complexity theory argues that change should be spontaneous

Yet uncertainties remain about the employee engagement construct. First, there's actually no consensus on its definition. Usage of the term can display confusion with other existing terms, such as, for example, organisational commitment. Existing research and empirical evidence of the subject also remains relatively limited.[4,2] This article will seek to review whether this concept of engagement is, in fact, just a re-packaging of existing ideas or indeed an interesting and original new construct.

Origins of the interest in 'engagement'

Buckingham and Coffman's book, 'First, Break all the Rules'[5] sparked the current interest in 'employee engagement'. The authors analysed more than a million Gallup surveys and more than 80,000 interviews with managers to identify how these parties make themselves and their work units effective.

What differentiates effective from less effective units, they found, is not what happens at the executive strategic level but the way the manager of the unit behaves: a manager who clarifies expectations, cares about people and encourages their development, focuses on their talents and allows them the opportunity and resources to do what they do best, will be more likely to have a work unit with higher levels of performance, customer satisfaction and profitability and lower levels of turnover. Their analysis also led to the development of a widely used measure of employee engagement, the 'Gallup Q12', or 'Gallup Workplace Audit' (GWA).

However, the origin of the term engagement lies in research into the extent to which people employ, or leave out, their personal selves when performing work roles. For Kahn,[6] psychological 'presence' in a role has physical, cognitive and emotional aspects.

When people are engaged, for example, they tend to express themselves (ie their 'preferred selves' or their identity) physically, cognitively and emotionally during role performances. By contrast, they withdraw and defend themselves when they are disengaged. The concept of engagement recognises that people need self-expression and self-employment in their working lives. Kahn's research identified three conditions for engagement:

- psychological meaningfulness: feeling worthwhile, useful and valuable, typically when work is challenging, varied, creative and allows autonomy;
- safety: being able to show and employ oneself without fear of negative consequences to self-image, status or career; and
- availability: possessing the physical, emotional and psychological resources required to employ oneself in the role.

Engagement, thus, is concerned with the day-to-day processes of experience and behaviour within particular work situations. As such, Kahn differentiates engagement from the concepts of involvement and commitment, both of which tend to assume enduring stances over time and are more general and 'distant' notions than engagement. Perhaps more closely associated with engagement is Csikzentmihalyi's[7] notion of 'flow', experienced when people 'lose' themselves in a task and feel 'out of time' – although this does not capture the emotional as well as cognitive dimensions of engagement.

Whilst there has been relatively little research so far on Kahn's framework, it has been influential in recent academic research (for example May et al,[8] Luthans,[9] Luthans and Peterson,[10] Jones and Harter,[11] Schaufeli and Bakker[12]). It has also found support in the 'positive psychology' movement, which emphasises employees' strengths and capabilities rather than their weaknesses, and the potential benefits of employee well-being.[13, 9,14]

So what is employee engagement?

The subsequent development of the employee engagement concept from its origin as personal engagement has, however, evolved in different ways, some of which involve a change in focus away from the day-to-day experience of self-in-role expression. The central notion of an individual's psychological state is perhaps most clearly retained in Schaufeli and Bakker's definition (op cit, p. 295) of engagement as a 'positive, fulfilling, work-related state of mind that is characterised by vigour, dedication and absorption'. Other definitions of employee engagement, however, appear to provide more stress on identification with or commitment – either to the organisation or to a job.

For example, ISR's[15] 3D model of engagement retains three dimensions of engagement: the cognitive (how employees think about their company such as belief in an organisations goals); the affective (how employees feel about their company, or their emotional bond with organisation); and the behavioural (how employees act in relation to their company such as their intention to stay, and 'going the extra mile' for the organisation).

However, engagement now is not about the expression of the self as such, but more about the degree to which employees identify with, are motivated by, and are willing to expend extra effort for the employer (p.1). An organisational, rather than role focus, is also exemplified by the IES definition of engagement as 'a positive attitude held by the employee towards the organisation and its values'.

Engagement is about how much employees are motivated by the employer

Another influential practitioner-based definition is that of Towers Perrin in the study 'Working today: understanding what drives employee engagement' which sees engagement as the 'employees' willingness and ability to contribute to company success' (p.1), through putting extra time, brainpower and energy into their work. Finally, some define engagement in terms of commitment, but distinguish between organisational commitment and commitment to the job, and consider engagement principally in terms of the latter (for example Stairs, op cit).

Engagement and commitment

A key element in defining engagement, especially in terms of existing constructs such as involvement, satisfaction, identification or commitment, is to show how the concept actually adds something new. Most critically, perhaps, is how it holds up to commitment. The issue of commitment is clearly closely related to engagement and is the subject of extensive research. While there is no single accepted definition of commitment, its typical usage emphasises positive attitudes towards an organisation. For Mowday et al[16] in an early and influential view of the concept, organisational commitment represents an individual's identification with, and involvement in, an organisation. This is underpinned by:

- a strong belief in and acceptance of the organisation's goals and values;
- a willingness to exert considerable effort on behalf of the organisation, and
- a strong desire to retain membership in the organisation.

Engagement is normally measured with a questionnaire or survey

Another influential approach is Allen and Meyer's[17] three-component model:

- affective commitment refers to employees' emotional attachment to, identification with, and involvement in the organisation;
- normative commitment is based on feelings of loyalty and obligation; amd
- continuance component refers to the commitment based on the costs that employees associate with leaving the organisation.

Such definitions, it seems, reflect high levels of similarity between the notions of commitment and some definitions of engagement. It is not the case that commitment is cognitive, whilst engagement is both emotional and cognitive – as Allen and Meyer's definition shows, especially in the case of affective commitment. Nor does seeing engagement as a two-way relationship between the individual and the organisation and viewing commitment as one-way (ie, the IES) help us to understand the different natures of the two concepts. So why not just call engagement 'job commitment'?

Does engagement represent a more local and less general construct than commitment, as suggested by Kahn? Is engagement an antecedent of commitment and other concepts, including organisational citizenship behaviours, job involvement, and job satisfaction (as stipulated by Jones and Harter), or is it 'one-step up' from them, as the IES may argue? Such questions impact on how we measure and test our understandings of engagement, how engagement makes a difference, and how we develop and enhance engagement. In other words, it's not just a question of semantics.

Engagement provides a source of motivation for the employee

The most common approach to measure engagement is with a questionnaire and survey. Perhaps the most extensively used instrument is the 'Gallup Q12', a 12-item scale that seeks to measure actionable work-group level expectations, or basic needs in the workplace, including clarity of expectations, basic materials and equipment, feelings of contributing to the organisation, sense of belonging and creating an environment in which employees have the opportunity to discuss their progress and grow (see Harter, et al) The nine-item scale developed by Towers Perrin to measure both emotional and rational engagement is another popular tool, although the principal focus now seems to be on the company, rather than the job or work unit.

In the IES scale, nine out of the 12 items relate to the organisation, including items that relate to commitment, organisational citizenship behaviours and the organisational context. PricewaterhouseCoopers'[18] approach is different. It uses indicators such as resignation rates, performance-related pay, training hours per FTE and grievance rates, for example, to assess four organisational dimensions of engagement: the time offered by people; the level and type of their outputs compared with their reward bargains; their behaviour related to the organisations products and services; and their displayed identity with the employer. Importantly, then, when we interpret studies of the impact of engagement we must consider the different approaches.

Definitions also impact upon the question of how engagement works. For those who argue that engagement is a broad concept that includes commitment, for example, engagement works by integrating the impact of all the constituent components. In contrast, Schaufeli states that for those who adopt a more 'localised' perspective, focusing on the job role and the workgroup environment, providing physical, psychological and social resources that reduce job demands contributes to the achievement of goals and helps achieve engagement. Harter et al concur that satisfying basic needs in the workplace can also give rise to positive emotions that broaden employees' attention, cognition and action, which leads to benefits for the organisation. Hence, engagement provides a source of motivation for the individual employee, for which organisational commitment is an outcome.

Key outcomes of engagement

A key element of practitioner research concerns levels of engagement within and between organisations, between types of employee, and across countries. The answer depends in part upon the measure adopted. Towers Perrin, for example, found a fairly consistent picture in research projects around the globe that suggest a maximum of one-fifth of employees are engaged and that, sadly, the figure is often lower. A similar proportion are disengaged, and roughly two-thirds are moderately engaged.[1,19,21] Interestingly, this pattern seems to hold across industry categories, although engagement levels are higher in the non-profit sector. Unsurprisingly, there is also significant variance within organisations as senior executives record the highest levels of engagement and hourly workers the lowest. The IES study also showed that increasing seniority and professional occupations were associated with higher levels of engagement. In addition, it suggested that engagement levels may decline with age until employees reach their sixties – when the highest levels are reached – and also decline with length of service. No significant difference was noticed between men and women.

Significant variations are also found between countries. The European workforce registered just 15% of engaged respondents.[19] Mexico and Brazil had the highest levels of engagement while the lowest were in India and Japan.[20] National differences were found in ISR's 2004 international study of engagement, although the different levels of engagement reported reflect the different basis of measurement: Brazil and US showed the highest levels of engagement (both at 75%) with Netherlands next at 72%, and France the lowest engagement levels (59%) followed by Hong Kong (65%) and UK and Singapore (both at 66%).

One consistent implication, though, is the significant scope for improvement in engagement levels and that these levels may not be improving globally. This raises a second theme in research, which relates to the consequences of engagement. Harter et al and Jones and Harter state that for the individual, the benefits of engagement are energy, mental resilience, self-significance, personal fulfilment and a sense of well-being which can lead to both greater job and life satisfaction as well as higher performance ratings. More academic and practitioner research, though, has focused on the benefits and outcomes of engagement for the organisation. Highlights from this research are that:

- according to Harter et al, a meta-analysis of 42 studies in 36 companies and 7,939 business units undertaken by the Gallup organisation showed that higher levels of engagement are associated with higher levels of job satisfaction, customer satisfaction, profitability, and productivity and lower levels of employee turnover;
- in addition, Harter et al state that business units which had above the median for employee engagement have a 70% higher probability of success than those in the bottom half, work units in the 95th percentile have more than double the success rate of those in the 5th percentile, and business units at the 95th percentile have a 42% greater chance of success than business units at the median and 145% more chance of success than units at the 5th percentile;
- moving employees from a state of moderate to high engagement makes them almost twice as likely to want to stay with the company and invest so-called discretionary effort, say Towers Perrin;
- similarly, Towers Perrin note that a 5% increase in engagement forecasts a 0.7% increase in operating margin;
- employee engagement and customer engagement augment each other. Business units that score above the median in both employee and customer engagement are on average 3.4 times more effective financially (in terms of sales and revenue, performance to target, and year-on-year gain in sales and revenue) than units that rank in the bottom half on both measures and twice as effective financially as units that are high performers on one but not both measures;[22]
- the majority of the organisations that appear in the upper quartile of high engagement and commitment tend to be global operators, many of whom are Japanese or US-owned (PriceWaterhouseCoopers, op cit);
- diversity may impact upon the engagement-turnover intention relationship (Jones and Harter, op cit); and
- according to the IES study of 2004, the engaged employee looks for and is given opportunities to improve organisational performance, is positive about the job and the organisation, works actively to make things better, treats others with respect, and helps colleagues to perform more effectively, can be relied upon and goes beyond the requirements of the job, sees the bigger picture even at personal cost, identifies with the organisation, and keeps up to date with his/her field.

Given the impressive range of potential beneficial outcomes for the individual and the organisation, as well as the potential for improvements in levels of engagement, the key question would seem to be not whether engagement matters, but how to build it!

It requires a continuous effort to build a stimulating workplace

Building engagement

Practitioner research, despite differences in focus and measurement, has produced a remarkably consistent picture of the factors contributing to employee engagement. Pay and benefits may be important for attracting and retaining people, but engaging employees requires a continuous effort to develop and maintain an enriching work experience in which the employee feels valued and involved – a factor that explained 34% of the variance in engagement in a recent study by the IES. It stipulates that while the particular context of the organisation and national culture is important, some of the key drivers of engagement drawn from recent research include the following: (Towers Perrin 2004, IES, op cit)

- organisational and senior managements' concern for employees' health and well-being;
- employees' ability to be able to voice their ideas and the existence of managers who value employees' contributions;
- involvement in decision-making and decision-making authority;
- challenging work with the resources necessary to get the job done;
- opportunities to develop jobs and to advance careers;
- regular performance appraisals and personal development planning;
- collaborative work environment where people work well in teams; and
- a clear vision from senior management about future success.

Many of the above amplify and express the three conditions identified by Kahn (op cit) for personal engagement: psychological meaningfulness, safety of self-expression and availability of resources. Clearly, the time and cash investment to develop employee engagement may be considerable and one size does not fit all (ISR, op cit). Thus, organisations must develop specific programmes for themselves and be clear about engagement, goals and desired outcomes, before implementation.[23] The following (from Towers Perrin 2005 and IES, op cit) may be important aspects:

Line managers play a key role in fostering an employee's sense of involvement

- to enable the senior management team to understand the nature of employee engagement, its impact on employee performance and communicate to employees their vision for future success;
- to understand employee perceptions, measure and regularly monitor employees' engagement levels, and include engagement drivers in employee surveys;
- to review HR policies and processes to ensure that they are clear, accessible, integrated and communicated;
- to invest in leadership and management development and provide clear expectations for managerial behaviour to develop managers who understand engagement, care about their employees and can facilitate engagement;
- to give employees more job challenge, as much power as possible, more choice, flexible and fair rewards, and develop their business acumen and awareness;
- to provide a strong development focus so that individuals perceive opportunities for career advancement and an organisation that cares for their long-term value;
- to provide more opportunities for involvement and two-way communication; and
- develop a harmonious working environment in which employees treat each other with respect and effective internal cooperation between departments and functions.

The role of the line manager

Clearly, then, line managers and executives play a key role in developing employee engagement. Line managers, in particular, have a critical role in fostering employees' sense of involvement and value since they are instrumental in delivering performance appraisals, smoothing the path to training, communicating and demonstrating equality of opportunity. The IES study states that insensitive line management can also have a negative impact on engagement and the employee's psychological contract with the company. In addition, the critical role of line management in local group performance is due to the fact that people's working lives revolve around local environments rather than the actions of the senior executive team – employees join great companies but leave poor managers.[22]

Leadership – at senior and supervisory levels – is the top of the agenda for HR practitioners as a driver of engagement.[24] Leadership development is seen as central to developing engagement programmes in large organisations and any such programme will likely include a major investment in line management development. However, recent research also shows that manager effectiveness may be influenced not only by the manager's self-efficacy, but also by employees' engagement, which may provide a form of psychological arousal for managers that contributes to their self-efficacy (Luthans and Peterson, op cit). The key to organisational benefit is, therefore, to generate a positive spiral of increasing employee engagement, manager self-efficacy and manager effectiveness.

Conclusion

Sufficient evidence from practitioner and academic research exists to show that the concept of engagement has significant potential to help managers enhance work-unit and organisational performance and the daily experience of employees at the workplace. Issues, however, remain. These include the precise definition of engagement and differentiating it from clearly related concepts such as organisational commitment. More work is required to refine the concept. Importantly, though, it focuses on the local context of work and the significance of the manager within that environment. The outcomes of behaviour within these local environments will impact upon the organisation as a whole, just as the actions of senior management will influence the local environment. Yet it is that nature and experience of that context that drives engagement. **MU**

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Rationality, foolishness and adaptive intelligence

There have been recent changes in thinking about innovation, focusing on new work on decision-making within organisations. It is usually assumed that humans behave rationally, but there are many objections to this. **Ian Turner**, professor of management studies and director of graduate business studies at Henley Management College, looks at the both sides of the debate.

This article examines some recent contributions in organisational innovation and takes in contributions from James March and Gary Hamel, two leading figures in management thinking in the last 50 years. Few management thinkers have made as great a contribution to our understanding of how organisations work as James March. His work, often in collaboration with other leading thinkers like R N Cyert and Herbert Simon, has illuminated our understanding of key concepts such as power, risk and organisational adaptation and coined memorable concepts, such as bounded rationality and the garbage can model of the organisation.[1]

Rational approaches to human behaviour are not always the best

His most recent contribution examines adaptation and innovation in organisations.[2] Most approaches to organisational decision-making, including strategic choices and decisions on how to innovate and adapt, he says, are based upon the concept of rationality, or the notion that human beings act in rational ways, according to clearly articulated preferences and choosing logically from amongst the available alternatives according to a set of criteria. (This notion of rationality is grounded in Western philosophical thinking, which is derived from the Ancient Greeks and Enlightenment philosophers like Voltaire and John Stuart Mill).

As March points out, this fundamental assumption about human behaviour is not shared by everyone, either from a broader philosophical standpoint or from the point of understanding or interpreting actions within organisations. Critics of rational approaches, have condemned them as leading to narrow, rigid and conventional solutions, or producing huge errors when applied to complex, real life problems on the other. Specifically, March summarises the objections to rational approaches as follows:

- the future is essentially unknowable and uncertain;
- problems are usually more complex and the causal links between phenomena are often difficult to specify or calibrate accurately;
- the variables that are often most easy to measure are often the ones that are least important and vice versa;
- the preferences of actors in organisations are often unclear and inconsistent over time;
- where there are multiple actors involved in organisations or decisions, complex interpersonal tradeoffs are required; and
- the choices one organisation makes depend critically on the choices made by other organisations and vice-versa.

Feedback-based adaptation

An alternative approach to adaptation and decision-making in organisations is to see adaptation as the product of change through feedback over time. Such changes occur through, eg:

- experiential learning, ie learning from past organisational successes and failures;
- learning from others; and
- variation/selection, ie through a process of natural selection through which successful organisations survive, grow and prosper at the expense of less successful ones.

According to March's view of the current state of our knowledge on organisations, such feedback-based processes are well suited to adaptation and innovation in organisations. Unfortunately, they are not guaranteed to produce desirable outcomes because adaptation in itself can be inefficient, slow and fraught with error and oversight. In particular, research reveals that adaptive systems frequently fail to generate the solutions required for long-term survival. This is because any system for adaptation must produce a process for generating variety and experimentation on the one hand, whilst at the same time being capable of replicating successes elsewhere in the organisation. These two imperatives – exploration and exploitation – have to be held in balance if the organisation is to survive and thrive.

Adaptive mechanisms that produce innovation are, March argues, myopic and short term. Unfortunately, radical solutions and revolutionary innovations are generally riskier and take longer than outcomes arising from existing technologies and solutions. Thus, feedback-based adaptation tends to favour the exploitation of the known over the exploration of the unknown. March also argues there is frequently a tension between the logic of exploitation and that of exploration in any organisation since effective exploration and innovation in an organisation often depend on conflict, variety and tolerance of the unorthodox, while successful exploitation requires convergence and integration.

March is not averse to rational approaches to decision-making in organisations and believes that rational choice has proven repeatedly to be an effective method when dealing with problems that are operational, contained and short term. Conversely, he believes that as complexity increases and the temporal and spatial dimensions increase, the likelihood of rational approaches generating effective solutions diminishes: "The use of rational technologies in complex situations may very well be maintained by generalisation from successes in simpler worlds, by the enthusiasm of the industry that has grown up around it, and by the hubris and limited memories of decision makers...but it seems unlikely to be sustained by experience in complex situations".[3]

For example, in complex, real-life decision-making, the problems are usually too big, fuzzy and too complex to be adequately addressed by rational methods alone. Occasional successes with this method should not, according to March, obscure the more frequent predictable failures. Indeed, even when rational decisions are based on past experiences, they are generally beset with flawed historical thinking. Most theoretical approaches that apply rationality to complex decision-making in organisations, like, for example, game theory, can, March believes, be usefully applied to short-run operational decisions but are less helpful when it comes to less clear-cut and more complex problems.

Intelligent approaches to adaptation

So if rational approaches are unlikely to work and adaptive approaches are too conservative, how should organisations encourage innovation? Generally, it is not possible to filter out ideas that will subsequently turn out to be disasters without, at the same time, suppressing ideas which may subsequently turn out to be breakthrough innovations. One alternative is to contain risk through making small local experiments with novel ideas, only diffusing them later if they are successful. March, in general, favours this approach, although he does point out that in scaling up from successful small-scale experiment to more pervasive application, the problems of operating at scale may be obscured.

> Risk can be contained through making small experiments with novel ideas

The second approach March favours is to partition the audience into sub-groups, each pursuing different practices and ideas. As the sample size is likely to be smaller, the possibility of a locally favourable solution being found and adopted from ideas that might, at an organisation-wide level be perceived as too wild, is greatly enhanced. The problem, however, with this approach is that the very segregation which encourages such innovation also inhibits the diffusion of successful ideas throughout the organisation.

As March observes, people in organisations frequently complain about the low level of innovation and exploration. But, as he points out, the potential returns on wild ideas in organisations have large variances and relatively low means. Sustained innovation in the face of such cool logic requires, in his words, "either the heroism of fools, or the blindness of faith".[4] Big leaps of this kind, he argues, are likely to be a triumph of hope over experience and in most cases the results will be disappointing and even calamitous. Occasionally – and in ways that are almost impossible to predict – they can turn out to be phenomenally successful.

Management innovation

James March's contribution to the organisational literature is well established. So too is that of Gary Hamel, whose work (both on his own and in collaboration with C K Prahalad) dominated the field of competitive strategy for a decade or more. In recent times, Hamel has been interested in organisational innovation and, in particular since the late nineties, in revolutionary change in mature organisations.[5]

Good innovations should be novel, systemic and sequential

Hamel's most recent contribution focuses on the need for innovation in management approaches. Organisations, he says, routinely ignore the competitive advantage that can be conferred by innovation in management processes, as opposed to, for example, coming up with breakthrough products. One virtue of his article is its grounding in a study of management practices that have been most influential in the twentieth century, and informed by the business history of many large corporations. Thus, he points to the advantage conferred on General Electric in the early part of the 20th century through the invention by Edison of the industrial research laboratory. Similarly, he says, Procter & Gamble's pre-eminence in consumer goods can be attributed to the more formalised approach to brand management that it developed in the early 1930s, whilst he sees Visa as the prototypical networked organisation, founded in the early 1970s, before the internet and globalisation.

Such innovations, Hamel says, share three conditions: first, they are based on a novel principle that challenges or upsets the existing orthodoxy in management thinking. Second, they are not 'one-offs' but are systemic, leading to a range of different processes and methods, which affect how an organisation operates and competes. Third, far from being isolated, these innovations are part of a sequence or programme of innovation, where each step in the sequence compounds and consolidates earlier steps.

When considering innovation, think of the trade-offs the organisation makes

Hamel urges organisations to seek out ways of becoming innovative in management processes. The first priority, he believes, is to focus on a problem which is big enough to matter and challenging enough to require fresh thinking. Managers, he argues, should reflect on the tradeoffs which the organisation is forced to make, but which it never seems to get right, such as trading off size and scale against agility and responsiveness. Second, they should reflect on what large organisations are typically poor at, eg responding to innovation in the marketplace from small start-ups. Third, they should seek to look forward and contemplate the likely future changes to the business environment that may impact the company.

Having discovered a problem worthy of innovating, we should search for new organisational principles that can illuminate the problem, throwing up arresting new solutions. These new approaches, Hamel believes, are unlikely to be derived from conventional management wisdom, but may well arise through analogy by looking at other organisations, or phenomena, and isolating the characteristics which make them successful.

So organisations seeking to become more adaptable and innovative should look at structures like financial markets or democratic forms of government, which have historically been better at innovation than hierarchical 'command and control'-type organisational structures.

In both cases, he argues, the lessons are to embrace the principles of devolved authority and to tolerate and nurture variety and competition. Likewise, if the strategic problem is to offset the process of commoditisation by building a distinctive offering, then a company needs to look at organisations that have been successful in harnessing the enthusiasm, passion and engagement of employees and participants. Here Hamel sees good comparisons with the 'not for profit' organisations and user communities like Linux, which engage the enthusiasm of people for a particular idea, rather than appealing to a purely 'transactional' process.

Having identified the appropriate principles, the next step is to overcome existing assumptions and prejudices about management practices, to question our beliefs and imagine alternative ways of doing this. To help in this process, Hamel again advocates harnessing the power of analogy. Take, for example, the process of product innovation. In many organisations products are originally promoted with over-inflated claims about their likely returns. How could a process be designed to guard against such hubris?

Bookmakers, he says, offer odds on sporting events and by extension a market could be created within an organisation for judgements that harness the wisdom of large groups of employees, on the principle that crowds make better judgements than individuals.

Finally, in thinking about how to implement such innovations, Hamel puts the case for low-risk trials and simulations that allow management innovations to be piloted without total disruption to the organisation.

Frontiers of innovation

So what exactly are these new fields of management innovation? A prime example might be the concept of pull systems in business. This concept is not new but as Brown and Hagel[6] point out, the case for adopting pull-based systems is becoming increasingly compelling, even in more traditional industries. Such companies, by contrast operate on what is commonly described as 'push-based' system. Push-based systems assume a time lag between the decision to produce a product and the act of purchasing and consuming it in the future. Obviously the longer this time lag, the more the organisation has to forecast or speculate what likely future demand might be and invest in the capacity and resources to be able to produce it in the most efficient manner. Typically, this has resulted in products with long life-cycles and extensive production runs to capture efficiencies from experience curve advantages and economies of scale, as well as a relatively limited range of products, specified in advance.

When, as is inevitable, the attempt to forecast future demand is not met by marketplace needs, push-based systems have to resort to desperate measures, such as high-pressure salesmanship in the car industry, to persuade consumers that they really do want the models that are lying around on the dealer's forecourt. As Brown and Hagel make clear, push systems also have a number of other well-recognised defects, including much higher levels of work-in-progress and inventory. But more importantly, they foster a management style which involves top-down decision making, centralised control and limited innovation. By contrast, pull systems work by allowing consumers to mobilise resources.

Pull systems have existed for some time in industries like the automotive sector, where Toyota's lean production system pioneered the approach, and perhaps most famously in the computer industry, where Dell's low-cost strategy is based upon a pull system whereby products are specified by the consumer and only once the order has been taken does the supply chain co-ordinated by Dell mobilise the resources necessary to meet the consumer's demands and produce the desired product. Pull systems seem to work well, therefore, where demand in industry is uncertain and forecasting likely to be hazardous. In addition to avoiding the costs of inventory and other waste, such systems enable multiple participants, both on the supply and the demand side, to become involved in the creation of the product and innovate in a rapid and incremental fashion.

To Brown and Hagel, the mass media sector offers an excellent example of how pull systems can work. In this sector the impact of digital technology on text, voice and video reproduction, means that customers can increasingly pull what they want from the internet at little, or no cost. This, in turn, has stimulated customers to innovate, for example, through remixing or combining elements from different sources to produce novel new products.

Push systems involve products which are specified in advance

This is now common, for example, in the music industry where DJs in nightclubs use auto-editing tools to remix digital music. Like Hamel, Brown and Hagel are also impressed by the open source software sector, where communities of individuals work together on a voluntary basis to create new code for platforms like Linux. Such communities have evolved effective ways to develop community members initially as apprentice software developers and then through learning on the job to become fully fledged programmers and ultimately mentors for other aspiring programmers. Open participation, fostering rapid innovation, is a characteristic that the authors identify in many successful pull communities.

Of course, these examples are typically taken from the service industry, or the IT sector, where the product is intangible or digitised. However, pull systems are not just restricted to such industries and, indeed, in some cases pull models co-exist side-by-side with push models. For example, Amazon, as an aggregator, works effectively with publishers who produce books using the traditional push approach.

One way in which such organisations can embrace the pull model without relinquishing control completely is to move from producing programmes and end products with standardised specifications towards creating platforms, made up of modules which can be coupled together with minimal customisation, in order to produce products or services which suit the needs of customers. Many automotive manufacturers now routinely adopt this modular and platform approach, for example.

Pull systems work by allowing consumers to mobilise resources and specify the product themselves

Given the evident advantages of pull-based systems, one might wonder why more companies have not adopted the philosophy! To Brown and Hagel, the problem often lies with the corporate mindset. The pull philosophy challenges many of the key assumptions which senior managers in such organisations have implicitly or explicitly lived by. For example, that it is possible to predict with accuracy what future demand is likely to be or that unless control is centralised there will be inefficiency and increased risk of disaster. It may be, too, that resistance to pull-based approaches comes from a reluctance to embrace external solutions: the 'not invented here' syndrome, which is prevalent in many organisations.

'Connect and develop'

Another related example of management innovation is Procter & Gamble's new model: 'connect and develop'.[7] The starting point for this new approach to innovation was the realisation that as large companies like Procter & Gamble became mature, organic growth becomes more and more difficult to achieve through relying on the company's own resources.

Like many such companies, Procter & Gamble had traditionally relied upon their own internal research and development (R&D) staff to act as the engine for innovation, albeit they had moved in recent years towards a less centralised, more networked type model, as described by Christopher Bartlett and Sumantra Ghoshal in their so-called 'transnational' model.[8]

By the year 2000 it had become apparent that this model was no longer fit for use since the productivity of internal R&D had been declining and it was impossible for the firm to continue to invest ever rising proportions of the company's resources into the product development process. The challenge which Procter & Gamble set itself was to develop half of their new products from outside of their own internal resources, to move from 'not invented here' to 'proudly found elsewhere'.

Making use of relationships with smaller companies can be advantageous

Five years later, 35% of Procter & Gamble's new products have elements that originated from outside of the company. R&D productivity has increased at a time when investment in R&D as a percentage of turnover has significantly decreased. The new philosophy, which came to be termed 'connect and develop', was to rely for innovation, not just on the company's internal resources – they will continue to be a significant source of innovation – but also to use external relationships, particularly with smaller organisations, that are generally more innovative.

The first step in the 'connect and develop' process is to define where Procter & Gamble want to play and what sort of ideas they are looking for. These they defined broadly as ideas that had already been successfully commercialised, at least to some extent, for which there was already clear evidence of interest on the part of consumers. Finally, the ideas would also have to benefit from the application of Procter & Gamble's own capabilities, marketing and other resources.

These ideas are then refined further, through three processes of evaluation:

- identifying the most important consumer needs in each product area and formulating them into science problems that needed to be solved, eg finding a detergent product that would clean in cold water;
- looking for so-called 'adjacencies' ie product opportunities that would take advantage of strong market positions in existing markets; and
- technology game boards which are used to map technologies and the relationships between the technologies used in different product categories, in order to clarify which core technologies the company needs to acquire, sustain, or develop.

These techniques are designed to focus the search. Once the needs are defined they are fed out to Procter & Gamble's networks. Some of these are internal, such as the 70 so-called 'technology entrepreneurs' based around the world, whose job is to tap into technologies that are particularly strong in certain regions, such as low cost manufacturing in China. Other networks are external to the organisation, but still proprietary, like suppliers who, in many cases, have extensive R&D staffs on whom Procter & Gamble can draw for the co-creation of new products. Beyond these closed networks, there are a number of open networks and communities, some of which Procter & Gamble were co-founders of, which act like knowledge markets.

For example, the company InnoCentive (founded by the pharmaceutical giant Eli Lilley) puts technology problems out to its community of 75,000 contract scientists around the world. Huston and Sakkap (op cit) describe how this networking process, when coupled with a rigorous process of internal evaluation and matching to business opportunities and consumer needs, can develop successful new products. Even then, it is important to recognise that for every 100 ideas generated, only one will end up being successfully commercialised.

Clearly, adopting a Connect and Develop-type approach to innovation is not as easy as it might seem. Reward systems have to be constructed that favour using ideas from without the organisation; internal R&D staff have to be reassured that increasing reliance on external ideas will not threaten their position within the organisation and the whole initiative, like so many initiatives in business, is unlikely to be sustainable unless it is supported by the Chief Executive and the top management team.

At its heart, Procter & Gamble's model of innovation, however desirable and radical it might seem, would appear to be still as much push as pull. For whilst it envisages co-creation with suppliers and other experts, there seems to be little of the community-type spirit which engages the passions and enthusiasms of users described in Hamel's work. Perhaps this is a limitation of the marketplace within which Procter & Gamble, as opposed to, say, Linux is operating.

Capturing the value of innnovation tools

Technological innovation itself has enabled companies to use new tools for innovation which, at least in theory, should reduce the cost of development and increase the likelihood of success. Development of complex computer chips and integrated circuits has enabled computer programmes to be designed which help dispersed teams of designers and engineers to collaborate across time and space. Three-dimensional computer-aided design, computer-aided engineering and so-called rapid prototyping tools have the power, with computer simulations, to revolutionise the process of product development and enable successful companies in industries like the automotive, pharmaceutical, aerospace and semi-conductor sectors, to bring products to the market more rapidly.

At least that is the theory. But according to Stefan Thomke, whose research covered 72 major car projects between 1980 and 1999,[9] despite the widespread dissemination of these new design and innovation tools in the West, throughout the 1990s the gap between Japanese auto manufacturers and their US European counterparts which had closed somewhat in the previous decade, widened again. Indeed, his research revealed that those projects that did bring new products to the market quickly tended to use fewer development resources and less technology than less successful projects.

There are a number of possible explanations for this, but Thomke's belief is that the most fundamental cause is that deploying technology-based tools in themselves will not lead to massive increases in performance unless they are accompanied by a change in the way that the people use them. "Put another way, a company's existing processes, organisational structure and management and culture can easily become a bottleneck when seeking to unlock the potential of new tools. In fact, research in several industries suggests that some firms can excel with 'new' tools that are just good enough instead of being state of the art."[10]

Using technology-based tools will not lead to increased performance unless the way people use them changes too

As so often with innovations in organisations, what often determines their success or failure are behavioural issues. Thus, in the car industry, Thomke's research revealed that Japanese companies had much less advanced tools, but their processes for collaboration were more effective. The simulation models of Japanese producers were less sophisticated, but the results of these simulations were produced at a much earlier stage, allowing people to experiment with more design options at a lower cost. The fact that Western companies used more sophisticated tools meant that they often had to employ specialists to build up expertise in how to use the tools. This, in turn, created problems of co-ordination with the engineers whose job it was to use the tools for design work. In Japanese companies, by contrast, the tools themselves were simpler, therefore enabling engineers to be more 'hands on' and reducing the so-called 'hand-off' problem of co-ordinating across specialisms.

Thomke concludes that, so far at least, the assumption that such computer based tools would reduce the need for physical models and the costs and time involved in launching new products is unproven.

Behavioural issues determine success and failure

He believes that the major cause of this is that "the rate of technological change often exceeds that of behavioural change."[11] So even when, in Western companies, they use complex computers simulations, instead of these substituting for expensive physical prototypes, the engineers end up building more prototypes in order to test the validity of the simulations. Overall, Thomke reflects that it is not the tool per se, but how it is used that will determine its impact and whether it encourages managers to think holistically when introducing new innovation tools.

Breakthrough innovations

Given the costs and uncertainty surrounding exploration strategies, how should companies maximise their chances of achieving breakthrough innovations? Phene et al. have investigated this question through their research into the US multinational biotechnology industry.[12] These authors conceptualise sources of new knowledge and breakthrough innovations along two dimensions.

Companies should explore innovations singly, rather than trying to do everything at once

Along the geographic dimension, they distinguish between knowledge that is gained from within national boundaries, as opposed to knowledge of international origins. Similarly, along the technological dimension, they distinguish between knowledge generated from within the industry that is 'technologically proximate', as against knowledge sources which are outside of the industry and therefore 'technologically distanced'. By combining these two dimensions, they offer four potential options for exploring innovation.

The research points to some interesting conclusions. Thus, knowledge from outside of the industry, which is also internationally dispersed, is least valuable. Technologically proximate knowledge, from within the industry, can on the other hand usefully be garnered from international sources.

Savvy companies, according to this research anyway, should explore new innovations along a single dimension, rather than trying to do everything at once. It also suggests that there are limitations on the amount of knowledge from outside the organisation and industry which a firm is capable of absorbing. This argues that managers should be selective in the use of unrelated technologies.

Of course, this research, however interesting and suggestive, could be criticised, on the same basis as March's criticisms of rational decision making for its reliance on published patent data, when, as the authors acknowledge, a significant input to innovation is accounted for by non-proprietary or tacit knowledge.

Nevertheless, in reinforcing the notion that organisations have a limited absorptive capacity and highlighting that in such circumstances focussing on few approaches, rather than trying to do all things, is likely to be most successful, this research plays a valuable role. **MU**

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