# ROTTERDAM SCHOOL OF MANAGEMENT, ERASMUS UNIVERSITY

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Ever wondered how Apple gets its latest shiny new phone into your hand, how Nike has you working out in their latest products or how Ryanair safely gets you and your luggage from one destination to another? In these cases and many more, a whole network of firms is working behind the scenes to deliver a quality service or product.



# Introduction



# It's the management, stupid

These days we are all very excited by the tremendous opportunities that emergent technologies have to offer: the internet of things, cloud computing, robot-technology, 3D printing, big data and others. Applying these technologies might result in new products and service offering with marginal production costs that come close to zero. Wharton futurologist Jeremy Rifkin, who recently visited Rotterdam, is even talking about the Third Industrial Revolution.

At the same time, Dutch firms seem to be waking up. After years of reducing their spending on R&D and ICT, they are now slowly increasing their investments in new technologies. According to the latest Erasmus Innovation Monitor, on average Dutch firms now spend 4.2 per cent of their annual turnover on R&D. However, their investments in management innovations decreased tremendously this year. Dutch firms are hesitant to invest in new leadership, new ways of organising, co-creation with partners and in developing new skills and the capabilities of their human capital.

What the articles in this *RSM Discovery* make clear is that successful firms combine *high tech* with *human touch*. Absorbing new technologies requires increased managerial attention to sustained innovation, the composition of your teams as well as the depth and breadth of your network. Read Luca Berchicci's plea for systemic process and product innovation; Julija Mell, Daan van Knippenberg and Wendy van Ginkel's message about how to increase the capacity of teams to absorb various new technologies, and Sarita Koendjbiharie's PhD study on the relevance of collaborative networks for making these new technologies work. These articles show one thing very clearly: it's not the technology in itself, but management's capability to recognise, transfer and apply these new technologies to new and distinctive business models.

In closing, the editorial team of *RSM Discovery* would like to acknowledge the outstanding contribution made by Wilfred Mijnhart, the outgoing executive director of ERIM, in supporting and promoting this publication, which serves usefully as a means of disseminating to a wider management audience the valuable business knowledge developed by ERIM and RSM. In his place, we welcome Monique van Donzel and very much look forward to benefiting from her expertise and insights as we strive together to make this publication of even greater value to busy executives in forward-looking companies.

# Henk W. Volberda

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# Problem-solving in healthcare services procurement

Rebecca Morris talks with Erik van Raaij and Finn Wynstra

With the recent founding of the Purchasing and Supply Management Centre at RSM, solutions are becoming available for the growing number of companies who are investing in the complex territory of services procurement.



Netherlands-based insurance giant Achmea recently piloted a procurement method called "best-value procurement" to select and contract nine Dutch hospitals for breast cancer treatment and cataract surgery - the first time this method has been used to select healthcare providers anywhere in the world.

While the outcomes of the pilot will only become available in the next two years, Achmea's decision speaks volumes: of its willingness to remodel its procurement process as a tool for getting the best care for the best price for its clients, and its readiness to embrace the expertise of business and management academics to do so.

The pilot is being executed by Peter Dohmen, a policy advisor at Achmea Zorg and a part-time PhD student at RSM's Purchasing and Supply Management (PSM) Centre - where a major healthcare procurement research initiative is under way that combines best-practice knowledge

from purchasing management with that of healthcare management, two fields which have thus far developed separately.

'This pilot is a first step in implementing a performance-based model of procurement for healthcare insurers,' says Associate Professor Erik van Raaij, scientific co-director of the PSM Centre and project leader of its healthcare research. 'Professional purchasing of care is a key element if we are to secure a sustainable financial future for healthcare both in the Netherlands and worldwide.'

# **Unique challenge**

These challenges are not isolated to the healthcare sector alone, says director of the PSM Centre, Professor Finn Wynstra. 'Every organisation procuring services is facing similar challenges,' he says.

The PSM centre is sponsored by the Dutch Association for Purchasing Management (NEVI), which includes the chair of its director, Finn Wynstra. It is the largest of its kind in the Netherlands and amongst the leading in its field worldwide. Research focuses on category sourcing strategies, healthcare procurement, buying business services, and governance mechanisms for inter-firm relationship management, on which it collaborates with other top schools around the world.

Teaching is a core activity and spans both pre- and post-experience programmes. Numerous external partners collaborate in both teaching and research including IPSERA (the academic association for purchasing >



# Problem-solving in healthcare services procurement (continued)

Rebecca Morris talks with Erik van Raaij and Finn Wynstra

"Professional purchasing of care is a key element if we are to secure a sustainable financial future for healthcare both in the Netherlands and worldwide."

Erik van Raaij, scientific co-director of the PSM Centre.

and supply management), and the Journal of Purchasing & Supply Management. The centre boasts an esteemed team of academics including Merieke Stevens, who has done extensive research in the automotive sector in Japan, Melek Akin Ates, Erick Haag, Robert Suurmond, and Fabian Nullmeier.

'More and more organisations are buying services,' explains Wynstra. 'This is becoming a much larger part of total expenditure, which means it is having a much bigger impact - financially and otherwise.'

One important challenge for organisations buying services is how to accurately evaluate and reward a provider based on performance when the company is not the end user, he says. For example, if a software company outsources its helpdesk services to a third-party call-centre, the service interaction is between the customer and the call-centre, not between the customer and the software company, even though the customer has a contractual relationship with the software company.

This is the unique challenge of "triadic relationships", say Wynstra, where a buyer is contracting a supplier to deliver services to the buyer's customers.

Little or no research has been done on performance-based contracting in these triadic relations - and therefore on the well-publicised benefits of performance-based contracting that could well apply in a triadic relationship. It's something researchers at the centre are determined to change.

'Suppliers are reluctant to share the risk because there are factors that affect their performance that are outside of their influence,' says Wynstra.

One solution researchers have studied at KPN and other companies is the introduction of performance indicators that incentivise the buyer to support the performance of the supplier: so the more support the company gives the supplier in performing their service, the less bonus the supplier gets, and thus the larger share of the reward the buyer gets in the end.

Performance-based contracting is a key theme in the healthcare procurement research stream. 'Healthcare costs in most countries are unsustainable,' says Van Raaij. 'While governments are changing policies, healthcare insurance companies must also play their part in bringing costs down.'

# **Healthcare solutions**

To achieve this, researchers are applying management concepts from purchasing and supply chain management theory to help innovate existing processes in the healthcare sector.

'We want to combine the best of both worlds,' says Van Raaij. 'We bring concepts from management - performance-based contracts, the triad concept, service procurement - and adapt them to help make the healthcare sector more financially sustainable.'

The triadic relationship in healthcare is between the insurance company, the healthcare provider (such as a hospital), and the patient. The insurance company pays the hospital to treat the patient with whom it has a contract - but the treatment happens outside the insurer's view. 'It is difficult for anyone in the triad to know exactly what is going on, but all of the relationships impact each other,' he says.

Most insurers currently evaluate providers using process indicators rather than outcome indicators - such as speed of treatment, or whether certain activities are done. But an outcome measurement approach would give insurers a more accurate view of their patients' vitality outcome down the track.

Strategist Michael Porter has advocated for years what he calls value-based healthcare. Several years ago he collaborated with The Boston Consulting Group and the Karolinska Institutet in Stockholm, Sweden, to form the ICHOM - a massive initiative to create standard outcome indicator sets for different treatments, allowing for the global comparison of different healthcare providers. The first four indicator sets were presented last year, and eight more were announced at this year's annual conference at Harvard Business School. While the groundwork is being laid for a transformation of the healthcare landscape, RSM researchers are helping to ensure Dutch insurance companies stay at the front-line of these changes.

The RSM pilot at Achmea, the biggest healthcare insurer in the Netherlands, is a first step in this effort to achieve what RSM calls performance-based healthcare procurement. Researchers work with a performancebased procurement process model, where a distinction is made between two pre-contractual and two postcontractual processes. Best-value procurement is a method that is used in the pre-contractual selection process. A next pilot will examine the contract management phase and how they can attune this process to a focus on outcomes rather than inputs or activities.

A key difference between best-value procurement and the traditional procurement methods used by health insurers is that in best-value procurement insurers select the best and reward them, as opposed to setting minimal requirements and excluding those who don't meet them.

For 2015, Achmea has now contracted nine hospitals using this procedure to identify the best providers. Instead of a one-year contract, providers are rewarded with a three-year contract. They are also top of the list if a client asks an insurer where to go and, unlike in the past, won't have a volume cap.

But perhaps one of the most interesting findings thus far, says Van Raaij, is that the best providers did not have the highest prices. 'We often assume excellent care costs more, but this is not the case,' he says. 'If you're really good, you also do it more efficiently. So we know that if we focus on quality, and with these providers' prices at the lower end of the price spectrum the total cost should go down - so long as volume is shifted from the lower performers to the best.'

The pilot also provides the world's first example of how best value procurement can be used to attain



optimal results in cases where more than one provider is required.

'Best value procurement is used quite a bit in the Netherlands but only when you need the one single best contractor,' says Van Raaij. 'As far as we know we're the first in the world to use best value procurement not just for healthcare but in an environment where the company needed more than one provider. We know the value of contracting the single best provider. Now we will have an example of how you can contract the best providers in situations where you need more than one.'

For more information on the activities of the Purchasing and Supply Management Centre at RSM, go to WEB www.erim.eur.

"Healthcare costs in most countries are unsustainable. While governments are changing policies, healthcare insurance companies must also play their part in bringing costs down."

Erik van Raaij, scientific co-director of the PSM Centre.



# Do CEOs trade premiums for personal gain in M&As?

By Buhui Qiu

Chief executive officers are not to be fully trusted. At least, says a new study, chief executive officers at companies on the receiving end of a planned merger and acquisition transaction are not to be fully trusted.

> This is one of the intriguing suggestions to emerge from the in-depth research undertaken that resulted in Do target CEOs trade premiums for personal benefits?, the paper I co-wrote with Svetoslav Trapkov of United Bulgarian Bank and Fadi Yakoub of Rabobank, which was published in Elsevier's Journal of Banking & Finance in early 2014.

> The short headline answer to what some people might think is a provocative question is, quite simply, yes. A resounding yes. If our analysis of 2,198 completed US M&A transactions between 1994 and 2010 is correct, CEOs leading a target company will often be tempted to encourage acceptance of a bid that falls short of delivering full value to shareholders in return for the assurance of continued employment with the post-merger entity or an increased personal severance package.

> In an era when the notions of commercial transparency and corporate governance requiring levels of

disclosure unparalleled in joint stock company history have been elevated to almost sacred status, it is frankly little short of astonishing that such an anomaly should persist. If shareholders are not already picketing regulators to address the issue, they should begin doing so immediately. Conscientious regulators would surely not wait for such an external stimulus.

# **Conflict of interest**

The conflict of interest in such a situation is self-evident. Senior managers have an undisputed fiduciary duty (inter alia) to deliver maximum value to shareholders in their company. In cases where a bid is made for that company, their prime concern should be to ensure that either the premium paid by the would-be buyer is maximised, or that the company delivers increased value by warding off the predator and improving its business performance.

However, even the most stonyfaced CEO remains a human being; and human beings who have been unexpectedly threatened with the potential loss of their jobs, their status and their power, in the event that an acquisition proceeds, will almost instinctively put their own selfish personal interests first and foremost. Anecdotal evidence exists in abundance that proves this contention; unfortunately the possibility of provoking legal action dictates against naming names in such a distinguished public forum.

In the takeover process, an incumbent CEO might well not be paying attention to maximising shareholder value, but instead manning her or his own personal lifeboat. Our research arguably the most extensive research undertaken to date in this field - uncovers a significantly negative relation between target CEO retention and takeover premiums received by target shareholders.

Our calculations, using publicly available data, show that the retention of target CEOs is, on average, related to a 6-percentage-point reduction in the four-week takeover premium paid to target shareholders. Given the US\$1.15 billion average market capitalisation of the target firms in our sample, this premium reduction translates into a sizable value loss of around US\$70 million to the shareholders of an average size target.

Moreover, when the target CEO was not retained, we document a significantly negative relation between the relative importance of severance pay received by target CEOs and the takeover premium received by target shareholders. Our investigation of the joint effect of target CEO retention and CEO severance pay on takeover premiums further confirms both effects to be significantly negative.

Our calculations show that a 10-percentage-point increase in the relative importance of severance pay received by non-retained target CEOs is related to a 1.2-percentage-point reduction in the four-week takeover premium



received by target shareholders, which translates to a sizable value loss to the tune of US\$13 million to shareholders of an average-size target in the nonretention subsample.

# Personal gain

While some might argue that the figures are modest in both relative and absolute terms, the trend for CEOs to serve their own interests rather than those of their shareholders is clear: in certain circumstances, such as during corporate takeovers, they will tend to sacrifice shareholder value for personal gain. This is unacceptable behaviour for those entrusted with the temporary stewardship of a publicly listed company and steps must surely be taken to prevent it.

I detect at least two clear threats created by a situation in which current legislation and market practice do not necessarily require the publication of information relating to the retention of a CEO. One, if this information is hidden, it cannot form a part of the shareholder decision-making process and it could clearly increase the temptation for any CEO to indulge in a trade-off that benefits the CEO at the expense of shareholders

Two, an acquiring firm could seek to acquire the target at a lower price by suggesting that the target CEO's nest be unduly feathered. Both will have the potential to damage shareholder value of the target firm.

There is no question in our mind that shareholders should demand full disclosure of all information related to the continued employment of incumbent senior management post-merger, or to their proposed severance packages.

There is equally no doubt that the information must be divulged. Dragging such information into the daylight is one way of ensuring that shareholders are not cheated out of what full value is rightfully theirs. Until this happens, we run the risk that personal greed will persist and continue to override management's fiduciary duty to shareholders.

Opponents of these findings will likely argue that coincidence does not necessarily mean cause and effect, and that the relationships we have identified is therefore spurious. But a few key points suggest otherwise. One, the size of our sample is unprecedented in the literature.

Two, controlling for a battery of CEO, target, deal, and acquirer characteristics commonly identified by the literature as affecting takeover premium and announcement returns, as well as for industry and year fixed effects, we continue to find significantly negative effects of target CEO retention and severance pay on takeover premium and target announcement stock returns.

Third, our findings continue to hold when we use managerial ability as an instrument for predicting target CEO retention, and employ a Heckman twostage correction approach. Fourth, we find the negative relation between target CEO retention and takeover premium to be strengthened when the target CEO obtained a more important position in the merged entity, and the negative relation between target CEO

severance pay and takeover premium to be strengthened when severance pay is negotiated during the takeover process rather than predefined in a CEO's golden parachute plan.

We are confident in our findings and conclude that while the current situation might be legal, it is certainly not ethical.

This article is based on the paper Do target CEOs trade premiums for personal benefits?, written by Buhui Qiu, Svetoslav Trapkov and Fadi Yakoub and published in the Journal of Banking and Finance, 42 (2014) 23-41. http://dx.doi. org/10.1016/j.jbankfin.2014.01.013

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# RSM Expertise

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# Using consumer informedness as an information strategy

By Ting Li, Robert Kauffman, Eric van Heck, Peter Vervest and Benedict Dellaert

Consumer informedness describes the degree to which consumers are aware of the specific attributes of products or services offered in the marketplace. Understanding how this level of informedness can amplify consumer behaviour provides firms with the opportunity to develop information-based strategies that can encourage their target segment make purchases.

> People buy a product only after they decide that it meets their needs - either because of its particular features or because the seller offers a competitive price, and generally some combination of both.

> The internet hasn't changed that, but it has changed the amount of information people learn about a product before they buy it. This is their level of "consumer informedness". Marketers have known for more than a decade that consumers tend to sift through more information before they buy than they once did. More informed consumers should be happier customers, but until now, not much research has been done about the impact that the additional information they acquire has on their choices.

> To find out, we decided to test whether there was any difference in how price-conscious customers respond to different levels of price and product information compared to product feature-conscious customers using a series of choice experiments. We surveyed customers of two different kinds of services: train trips and hotel rooms. We presented our participants with different choice scenarios in which alternative options were

displayed with different levels of price and product information. We then asked them to select one alternative in each scenario based on the relative importance of different characteristics.

For the train trip study, we asked 2,000 people to rate how much they cared about six different attributes, including the price, time validity, internet access, seat reservation, customised offers based on travel history, and the availability of real-time update and delay information. For the hotel room study, we asked 614 people to weigh the relative importance of eight hotel attributes, including the price, location, facility, customer reviews, hotel theme, style, payment mechanism, and cancellation policy. We told the participants to imagine they would be making a holiday trip to Bruges in Belgium and needed to book a hotel.

# Reinforcing behaviour

As we expected, we found that different types of consumer informedness amplify different consumer behaviours in specific consumer segments. Giving consumers more access to the kind of information toward which they already had a predisposition seemed to reinforce that behaviour. If they were price-conscious before, pricing information made them more price-conscious; if they were featureconscious, feature-related information made them more feature-conscious. Interestingly, more price information did not matter much to the featureconscious customers, nor did more product information matter to the price-conscious customers.

In light of these conclusions, what should firms try to do differently? First, they should have an information-based strategy. Rather than tell everybody everything, companies should offer each segment more of the kind of information that will encourage their particular target to buy. For example, if a company knows - based on a customer's past behaviour - that a particular customer is more cost-conscious than feature-conscious, the company should tailor promotions that focus largely on price. Sometimes this differentiation actually means offering less information - which may seem like a bit of a paradox.

For the price-conscious customers though, information that fosters price comparisons may be compelling and yet not result in higher sales. These customers want "price transparency" - to have access to as much information on prices as the market has to offer - but encouraging them to focus on price can discourage them from buying at all. In that case, offering more feature information may be a better strategy. By helping the customer to focus on the value that is delivered rather than the price, marketers can encourage the consumer to buy a niche product.



"...companies should offer each segment more of the kind of information that will encourage their particular target to buy."

# Past behaviour

Our findings also suggest that firms should look at customers' past behaviour to predict their sensitivity to different information strategies. This will permit them to decide on what and how much information to reveal and to whom. This requires firms to develop deeper intelligence from their big data for innovative and targeted information strategies. To an extent, some companies already do this: for example, travel intermediary Orbitz uses software to detect whether people browsing its site are using an Apple or Windows computer. Orbitz has discovered that Apple users tend to choose pricier hotels, so it recommends these better ones to them first (The Economist, 06 June 2012).

Finally, marketers should remember that consumers are only rational within limits. They have a wide range of attitudes toward fairness and risk. We need to conduct more research to understand how those traits affect the messages consumers hear and the purchase decisions they make. Our evidence opens up the possibility of using consumer experience in making inferences about consumer informedness sensitivity, providing a richer source of information for target marketing

Marketers should also keep in mind that, although we have focused on two segments, the big data revolution means they can identify many different potential market segments. They can also alter the products that they make available to meet a particular segment's needs, and tailor appropriate information for that segment.

The increased availability of online, social, and mobile micro-level data is already changing the nature of consumer decision-making. It seems inevitable that it will change the nature of consumer persuasion as well.

This article is based on the paper Consumer Informedness and Firm Information Strategy, written by Ting Li, Robert Kauffman, Eric van Heck, Peter Vervest and Benedict Dellaert and published in the journal Information Systems Research, 25, 2, June 2014, 345-363. http://dx.doi.org/10.1287/ isre.2014.0521

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# Morphing advertising to improve online campaign success

By Gui Liberali

Even though online advertising revenues have grown dramatically, click-through rates for banner advertising continue to decrease, raising hard questions regarding its effectiveness when targeting consumers. However, with the development of a new technique that matches banners to the cognitive style of viewers, the world of online advertising is about to change.

Over the last 50 years, market researchers have developed many ways to communicate better with consumers. In the most recent 20, that process has accelerated, thanks to the internet. But even now, most of how businesses communicate with potential consumers relies on rules-of-thumb such as behavioural targeting, or on asking users to spend time configuring profiles and answering questionnaires.

A new revolution may be on its way, however: morphing banner ads, a new technology that enables advertisers to reach consumers based on their understanding not just of what they like but of how they think.

# **Cognitive styles**

The idea draws on well-established models of how people think and learn. Psychologists have known for a while now that people have distinct cognitive styles, that is, how we perceive, think, and solve problems. Some people are very visual; others are more verbal. Some are more emotional, others more analytical. Like personality,

cognitive style appears to change only gradually during one's life.

Until recently, these insights were of little value to advertisers. Although online advertisers have grown adept at serving content optimised for different browsers and acting on contextual clues based on past histories, they have not found a way to personalise their messages by cognitive style.

If online advertising worked well, this might not be worth the trouble. But it doesn't. Despite all the effort that goes into designing and serving billions of banner ads, literally 99.99 per cent of banners served go unclicked.

To boost that yield, researchers have tried a variety of measures. Some have looked for ways to improve the ad server's ability to read the context of a particular page the user has called up and serve an ad that fits the content. Another has used a genetic algorithm to create a Darwinian process to help select the fittest banners.

These and other measures have served to boost click-through rates a little, but my colleagues and I have been working on a new technique called morphing that promises to be much more effective, particularly when used in conjunction with contextual-serving technology.

# **Substantial gains**

Named after a special effect often used in science fiction films that involves transforming one kind of image into another in a seamless transition, morphing is a way of matching content to users. It involves first observing how the user is navigating around the site, and then taking that knowledge to serve a banner that best fits the user's cognitive style.

Based on a successful simulation experiment we conducted back in 2008-2009 for the BT Group, we believed that morphing could significantly boost click-through rates. This study suggested that 10,000–20,000 website visitors are necessary to realise substantial gains from the technique, which is a small number compared with the millions of daily visitors large websites typically receive.

Recently we found in CNET, the high-traffic consumer technology site visited by eight million consumers a day, a great partner for a live, real-time experiment on morphing.

The first step of morphing is small and happens before we go live: we ran a survey with 1,293 users to understand CNET readers' preferences and their cognitive styles. As with BT, we found that we could identify a user's cognitive segment fairly well after he or she had made five to 10 clicks on a website.



how the user is navigating around the site, and then taking that knowledge to serve a banner that best fits the user's cognitive style"

# **Experiments**

By following our earlier methods, we segmented all 1,293 CNET audience members into four distinct cognitive categories: deliberative-holistic, deliberative- analytic, impulsive-holistic, and impulsive-analytic. Looking back at our results, we estimate the four groups broke down to 9, 42, 23, and 27 per cent respectively. As expected, some cognitive styles are found more frequently in the population than others.

The banners we used for our experiment were for AT&T smartphones. CNET's agency developed a pool of eight AT&T banner advertisements for HTC smartphones. Five of the ads were square banners that could appear anywhere on the website; three were wide rectangular banners that appear at the top of the page.

Consumers visiting CNET.com were assigned randomly to test and control cells. In each experimental cell, some banners were context-matched and others served at random (the normal practice at CNET). We served our test ads to consumers only after they had made at least five clicks on the site.

Test consumers saw a banner selected by the morphing algorithm, while control customers saw a randomly chosen banner. In all, more than 100,000 consumers viewed over 450,000 banners on CNET.com.

# **Measures of success**

One question we wanted to answer in this experiment was how morphing and context matching would mix. The answer was: extremely well. Where context matching alone typically yields a 3-5 per cent higher click-through rate than a random match, we found that in this experiment morphing almost doubled the click-through rates for context-matched ads (83 and 97 per cent lifts, respectively, for banners and for numbers of consumers, from 0.168 to 0.307 per cent and considered on a per-consumer basis, from 0.127 to 0.250 per cent).

However, higher click-through rates are only one measure of success. In >



# Morphing advertising to improve online campaign success (continued)

By Gui Liberali

"One question we wanted to answer in this experiment was how morphing and context matching would mix."

> fact, some advertisers also now think of banner ads as just another kind of display advertising - the billboards of the information super highway. Could morphing improve brand image too, and intention to purchase?

> To find out, we conducted a second experiment, this one with General Motors. We asked 588 consumers to visit a simulated automotive review site. After five clicks, they were served banners that designers judged would appeal to consumer segments with different cognitive styles. Some banners emphasised information; others compared targeted vehicles to competitors, and still others stressed test drives, finding a dealer, and purchase details. The banners also varied in the size and number of the images, the amount of information provided, the size of the headlines, the amount of content in the headlines, whether content emphasised product features or recommendations, and other design characteristics.

> Here too, the results were exceptional. Click-throughs compared to the control were up by number of impressions (0.97 per cent response versus 0.26 per cent for the control). Brand

consideration and purchase likelihood was also much higher: 42.8 per cent of consumers who had seen the banners said they would consider Chevrolet, compared to 32.9 per cent of those who had only seen the control banners, while purchase likelihood increased from 3.05 to 3.28 per cent.

Much can still be done to make morphing banners perform even better. For one thing, few people have had a chance to experiment with it. Off-theshelf software with the ability to morph is still not widely available. Just as transportable code helped popularise all kinds of other marketing analytics tools, such as conjoint analysis, hierarchical Bayes and multinomial logit analyses, we think the wider availability of off-the-shelf morphing code will lead to much more experimentation.

"Learn versus earn" is one of online marketing's oldest and still most pressing issues - how long do you spend getting to know your customers before you try to sell them something? In the past, managers used rules-of-thumb to handle this trade-off but today robust methods are available that can be used to obtain much better performance in terms of revenue or click-through.

Ultimately, this new technology may speed the sales cycle up, enabling the marketer and the sales team to develop a rapport earlier than they have now, allowing them to focus more on crafting pitches their prospective customers are likely to appreciate and find valuable.

This article draws its inspiration from the paper Morphing Banner Advertising, written by Glen L. Urban, Guilherme (Gui) Liberali, Erin MacDonald, Robert Bordley and John R. Hauser and published in the journal Marketing Science, Vol. 33, No. 1, Jan-Feb 2014, pp. 27-46. http://dx.doi.org/10.1287/mksc.2013.0803

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# RSM Expertise

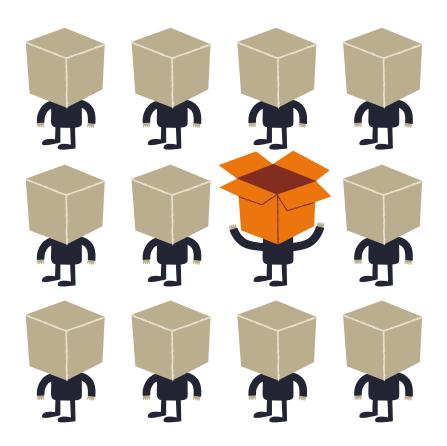
Marketing is an area of business with lots of impact in daily life, and its dynamic evolution depends upon daring new ideas and high quality research. The Department of Marketing Management at RSM is renowned for its leading marketing research, the volume and quality of which places its faculty members among the most productive scholars in Europe.

WEB www.rsm.nl/research/ marketing-management/



# Do industry downturns affect whether firms should innovate?

By Luca Berchicci



It is almost taken as religious dogma that innovation in business is an inherently good thing. Adapt or die, we are endlessly told. Change or perish. Only the fittest will survive. But what form should innovation take?

> Should a company focus on innovation in its product line, and so seek to create new demand in new markets selling at higher prices; the next logical steps are then to further enhance the new products, so driving up the value to the end-customer. Or should it innovate on the production side, to improve its processes, increase its

efficiencies and increase its margins by reducing costs?

The question assumes a certain piquancy in times of economic downturn, such as we have been experiencing since the US wholesale credit markets began to implode in the summer of 2007. In boom times, no one obsesses about controlling modest marginal costs. In hard times it is almost literally a different story, as every cent counts, more than ever.

Identifying the right answer, should there be such a thing, is almost impossible, given the arguments that abound in favour of both. But in the paper, The influence of industry downturns on the propensity of product versus process innovation, written with Christopher L. Tucci of the Ecole Polytechnique Fédérale de Lausanne and Cristiano Zazzara of the RiskMetrics Group in London, we attempted just that, and arrived at a conclusion that might feel counter-productive to those who feel instinctively that the cutting of costs is the most obvious prime candidate for increased management attention in an economic downturn. It represents the path of least resistance. It offers the relatively easy gains of plucking low-hanging fruit. And results can be immediate.

# **Product investment**

What came as some surprise during the preparation of the paper was that a study of the behaviour of Italian companies responding to the challenge presented by economic downturn suggests that quite the opposite happens. Companies facing the pressures posed by an economic downturn will in fact often carve their way out of trouble by innovating their product line. The route of building a new product to drive up sales rather than lowering the cost of existing products is often preferred.

We found in our data that Italian companies tend to invest in new products in a downturn rather than in new >



# Do industry downturns affect whether firms should innovate?

(continued) By Luca Berchicci

processes. Building sales by adding value and delivering new products with new features is a more sustainable way forward than managing decline. For companies that find themselves recording lower levels of sales in a downturn, making products more attractive to customers is not enough. They need to give customers something new that will deliver more value to them and therefore higher revenues.

# Lessons from history

So what can we demonstrate from the lessons provided by corporate history that support our findings? Mark Atkins, chief executive and president of Boston, Massachusetts-based Investment Machine Corporation, sets out his philosophy on the InnovationManagement.se website. CEOs, he believes, must be committed

to setting and driving the innovation agenda as well as monitoring success on an ongoing basis, especially during a slow economy. Rather than slashing R&D budgets in a recessionary economy, CEOs should encourage management and teams to deliver marketleading products.

Given that most revenue-generating products are going to become obsolete, companies need to continue investing in new product development as well as reengineer existing products for new markets, he continues. The process of innovation should be sustainable not accidental, especially during a recession.

Scott D Anthony, president of Innosight, and co-author of the Innovator's Guide to Growth, wrote in Harvard Business Review earlier this year that the arithmetic involved is

simple: 'A dollar of investment in incrementally improving the core is almost always going to earn a greater nearterm return than a dollar invested in a growth business that might take years to incubate. It's one reason why it is so critical that companies begin to invest in growth before they need growth so they create space and time for those investments to mature. Unfortunately, few companies do that.

'I'm the last to argue against making today's business as resilient as possible,' he continues. 'After all, the free cash flow generated by today's business is what funds investment in tomorrow's business. However, slashing investment in new growth is perhaps the most dangerous thing that a company can do. Every business and business model has a finite life. Products come and go. Customer preferences

# Product launches

# History is replete with examples of products launched in a downturn, including:

Fortune magazine launched in 1930, four months after the worst stock market crash in history.

Miracle Whip (by Kraft Foods), launched in 1933. Mayonnaise sales were one of the many casualties of the stock market crash of 1929 and the Great Depression that followed. Executives at Kraft saw signs of doom and gloom and urged CEO and founder JL Kraft to get out of the mayonnaise business. Instead of shutting the business down or trying to sell it, Kraft hired a talented young engineer to design an emulsifying, or whipping, machine that could make better mayonnaise. The result was Miracle Whip, launched at the 1933 Chicago World Fair.

Sensor Razors (Gillette), launched in 1990. As the economic slowdown of that time evolved into the recession of 1990-1991, Gillette spent US\$125 million globally on Sensor advertising, dwarfing the competition's ad budgets. By the end of 1991, Sensor's share of the blade market had doubled to about 15 per cent in both the US and Europe.

iPod (Apple), launched in 2001. Apple launched the industry-disrupting iPod just a month and a half after the terrorist attacks of September 11, 2001, as the signs of a global recession began to appear. Over the next few years, Apple continued creating and marketing new products. Quarterly profits fell in mid-2002 and the company announced layoffs. There were no cuts, however, in engineering and product development. In those areas, Apple continued to hire.

change. The companies that last over long periods of time do so by creating new products, services, and business models to replace yesterday's powerhouses.'

A recent example presented itself in the middle of November 2014. As serious talk began about the possibility of a renewed global economic crisis, BNY Mellon, a global leader in investment management and investment services, announced that it has established an innovation centre in California's Silicon Valley. This is part of the company's plans to use emerging and disruptive technologies such as cloud computing, big data and the "internet of things" to gain new business insights, develop inventive, operational and technological capabilities, and identify potential new ventures that anticipate and cater to emerging client needs.

The company already operates similar centres in Jersey City, New Jersey; and Pune and Chennai in India, where employees share ideas that encourage dialogue, creativity and collaboration with staff anywhere in the world. In financial services just as in manufacturing, investing in innovation is clearly the way to a continuing successful commercial future.

I will conclude by returning to the paper underpinning these reflections. As we said in our conclusion, taken together, the findings we arrived at provide some explanation for conflicting results of previous research where there was no distinction made between product and product innovation.

By comparing two different perspectives, our results also provide

"Building sales by adding value and delivering new products with new features is a more sustainable way forward than managing decline."

an overarching theoretical explanation of firms' propensity to innovate in industry downturns, in a limited universe. Future research might explore different types of industries and how they react differently to industry fluctuations.

This article draws its inspiration from the paper The influence of industry downturns on the propensity of product versus process innovation, written by Luca Berchicci, Christopher L. Tucci and Cristiano Zazzara, and published in the journal Industrial and Corporate Change, Volume 23, Number 2, pp. 429-465. http://doi.org/10.1093/icc/dtt011

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The Department of Strategic Management & Entrepreneurship at RSM offers unparalleled expertise in a wide range of areas of importance to managers and scholars. These areas are grouped under the themes of strategic management, strategic entrepreneurship, and global strategy.

More information about the department and its work can be found at:

WEB www.rsm.nl/sme



# The catalyst effect: how meta-knowledge can improve team performance

By Julija N. Mell, Daan van Knippenberg and Wendy P. van Ginkel

Effective teamwork is critical given the complexities of doing business today. However, it is all too often the case that teams fail to get the best out of the specialist knowledge they possess. Addressing this problem, new research shows that understanding who knows what within a team may improve its effectiveness.

> Imagine that we have an idea for a new product. Is this truly a great idea or something better shelved? To make a good decision, we need a lot of information.

> What is the market for this product? How can we manage its production? Are there any legal restrictions? Typically, when faced with such complex decisions, we know that more heads are better than one. A team is convened, made up of members who each specialise in one of many fields. We benefit from a larger pool of knowledge. And yet, we all know of teams that don't seem to make use of their pool of knowledge and thus fail to live up to their promise.

> In a team, members who specialise in their own areas of expertise can combine their skills to create strong outcomes. For example, as a legal specialist, Tom does not need to know about the intricacies of production as long as he can rely on his fellow team member Anna to bring that knowledge to the table. The problem with this structure is that without effective communication, poor decision-making is likely.

> For instance, if there is an upcoming change in national legislation on safety standards in production facilities then Tom's legal knowledge can only be meaningful in strategic

decision-making if it is combined with Anna's knowledge of the facility's currently available features.

The crucial asset for such a team to be effective is meta-knowledge. Metaknowledge is knowledge about other members' knowledge - knowing "who knows what". When members have meta-knowledge about each other, they can quickly access each other's information and recognise and combine relevant pieces of information. Thus, as a team, they can make better-informed

This way of sharing the cognitive labour is called a Transactive Memory System (TMS) and it is a very effective way to improve team decision-making. Until now, we knew only that it is better for a team (as a whole) to have more meta-knowledge - on average - than to have a little meta-knowledge.

However, we intuitively understand that the level of meta-knowledge can differ among team members. In today's workflows, it is common that teams assemble, dissolve, and re-assemble in temporary constellations. Thus, in any new constellation, some members may be more familiar with other members' skills and expertise than others.

Now let's imagine that we can spend some - limited - time and effort on bringing members up to speed about each other's expertise at the outset of a team's formation. Should we spread our resources thinly, striving to ensure that each member has a least a little bit of meta-knowledge, or should we focus and make sure that at least one of our members gets a thorough and complete overview over our team's knowledge base? Our study suggests that, in some cases, the latter strategy might be the better one.

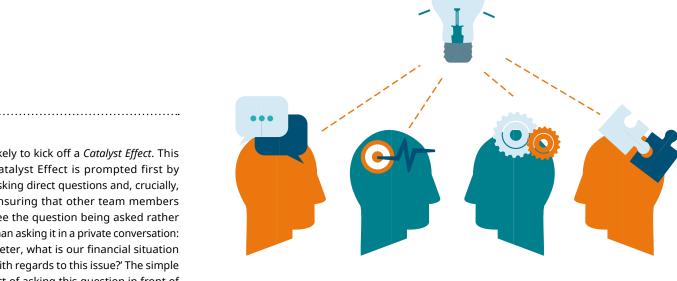
The reason is this: the more metaknowledge a single person has, the more likely this person is to put it into action using it to access other members' knowledge. And with that a team member who has a high level of meta-knowledge is

# RSM Expertise

Every part of business depends upon one thing: people, and their relationship to each other and the organisation in which they work. Understanding this, the education and research of RSM's Department of Organisation and Personnel Management focuses on this relationship using a strong interdisciplinary approach.

Research within the department has always been ahead of the curve, and pioneering faculty members work at the forefront of such "human" issues as diversity and leadership studies.

Find out more about the department and its work at WEB www.rsm.nl/opm



"When members have meta-knowledge about each other, they can quickly access each other's information and recognise and combine relevant pieces of information."

likely to kick off a Catalyst Effect. This Catalyst Effect is prompted first by asking direct questions and, crucially, ensuring that other team members see the question being asked rather than asking it in a private conversation: 'Peter, what is our financial situation with regards to this issue?' The simple act of asking this question in front of other team members has three effects.

Naturally, the question is answered, and knowledge is contributed to the topic at hand. The second effect is that the rest of the team adds to their own meta-knowledge by understanding that Peter is the person to speak to about anything related to finance. And finally, it demonstrates to the rest of the team that asking questions - and knowing who to ask - is not only inevitable but also valuable. Thus, a culture of information sharing develops and over time the overall TMS of the team may grow stronger.

More broadly, focusing on raising the meta-knowledge of just one or a few members also has its risks - for example, if this team member leaves, a serious disruption in the team's coordination can occur. However, as desirable as it may be to ensure a high level of meta-knowledge of all members, as soon as we think beyond a small team - and think about large teams, departments, organisations - we realise that knowledge coordination becomes incredibly complex.

Employees with relevant knowledge may be located not only on different floors of a single building but in multiple buildings, cities or even countries and continents. Knowing how to label these scattered sources of knowledge, and how to access them efficiently, becomes a complex role that must be approached systematically to ensure organisational success.

And in such a context, having key individuals who specialise in meta-knowledge can be extremely valuable. Such managers of meta-knowledge can catalyse knowledge coordination not only by stimulating discussion but also by serving as a source of meta-knowledge to others, directing them to colleagues who have answers they are looking for. In this way, a team has a road map to success and a navigator to read it. ■

This article draws its inspiration from the paper The catalyst effect: the impact of transactive memory system structure on team performance, written by Julija N. Mell, Daan van Knippenberg and Wendy P. van Ginkel and published in

the Academy of Management Journal, 2014, Vol. 57, No. 4, 1154-1173. http://dx.doi.org/10.5465/amj.2012.0589

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# Understanding collaborative business networks

By Sarita Koendibiharie

Ever wondered how Apple gets its latest shiny new phone into your hand, how Nike has you working out in their latest products or how Ryanair safely gets you and your luggage from one destination to another? In these cases and many more, a whole network of firms is working behind the scenes to deliver a quality service or product.

> the quality of the final result. On the doing business makes sense? other hand, firms seeking to maintain or even improve customer satisfac- A common goal commercial sense.

Consumers are not reasonably ex- autonomously but inter-dependently pected to guess exactly who or what at the same time, may just provide the is involved in the delivery of a service answer. How, though, does the senior or product. Their prime interest is in decision-maker conclude if this way of

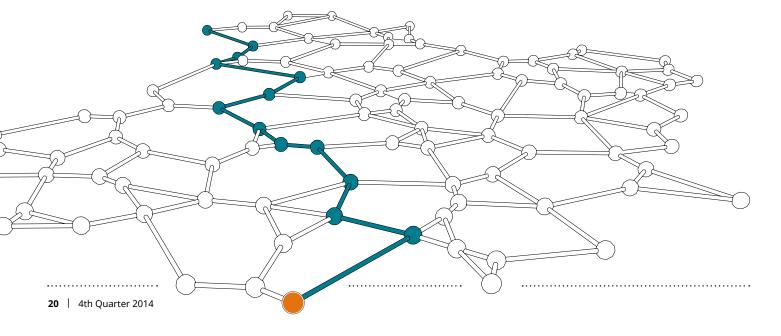
tion, streamline their services with no Business networks come in all shapes drop in quality, release the best pos- and sizes and do not necessarily share sible products and as cost-effectively the same governance structure. The as possible, should be on an almost- one of most interest to both academconstant quest for the business mod- ics and practitioners (but also the els and approaches that make the best most potentially complex one) is of a non-hierarchical variety - a "hub firm" The emergence of collaborative coordinates activities but there is no business networks, where sepa- sense of a vertical hierarchy, meaning rate corporate entities collaborate all member firms are working together

in pursuit of a common goal or goals, including cost efficiency, customer satisfaction and a quality product or service, but remain separate, legal entities who "simply" rely upon the skills and know-how of partner institutions to deliver the goods.

To the aforementioned names of Apple, Nike and Ryanair you could also add the likes of Dell and Toyota, as well as Li & Fung and Bharti Airtel. The lattermost is the fourth largest telecom operator in the world, but it has achieved this position partly by outsourcing its core cellular operations to Ericsson, Nokia and Siemens and its IT services to IBM. Working in tandem within this network of experts, they currently boast 250 million subscribers.

# **Re-appraising performance**

From a conceptual and practical perspective, what is most fascinating about these networks is that the focus shifts from the individual firms within the network towards the processes adopted to



work together and the eventual collective outcome, not forgetting how satisfied consumers are with this outcome. For their performance as a whole, partner firms rely on each other and also can benchmark in relation to other, "rival" business networks.

Consequently, by no longer "going solo" (ie, dealing with their own decision making, actions and performance), they are now inclined to re-appraise their way of working from multiple angles - themselves (the firms), their target (customers) and their way of working as a whole (the system). By the same token, a firm already involved in such a network or considering integrating one should also take this broader view when anticipating or measuring the success of this network approach to doing business - the firm, the customer and the system are important and distinct lenses through which success or failure can be evaluated comprehensively.

# **Performance drivers**

My dissertation research, which focused upon the business network that lies behind vehicle breakdown recovery services, also incorporated conceptualisation analysis and laboratory experiments. What emerges are four main factors that can drive (or indeed impede) the success of a business network - the structure of the network, the internal processes adopted, the context in which it works and, crucially, how information is shared and applied within the network.

A field study in road assistance examined these factors by assessing just how effectively one links up the call centre contacted in the first place, the service that arranges for assistance to be sent, and then the actual professional providing the on-the-spot help required by the customer.

Research into what drives the business strategy of the networked businesses pinpoint two main mentalities - the push towards attaining particular financial goals or the prioritisation of customer satisfaction. These mentalities ultimately impact all four main factors, making one thing clear - the perceived success or failure of a business network depends upon which of the three perspectives (the firm, the customer or the system) are used to measure results.

# Is talk cheap?

Of the four main factors mentioned above, arguably the most interesting but also complicated from a research and practical point of view is the notion of information sharing, or what is otherwise known as the "network information architecture". The issue is far deeper than mere internal communications within the network - the information in question covers anything

of direct relevance to decision-making processes and actions undertaken by any of the organisations comprising the network. Consider the importance of information on the mentalities that drive the strategies of partner organisations mentioned above.

A supply chain designer and manager such as Li & Fung would have great difficulty in dealing with its network of 15,000 suppliers across 40 countries in order to ensure a professional clothing delivery and supply service without vital information-sharing within the network. Talk, therefore, is not cheap in terms of time and energy investment but it could prove a great deal more expensive to firms that do not give due importance to the transparency of information in their business network. The potential return on investment, however, could prove a winner in the long run.

# **Understanding network logic**

This consideration of how businesses might work in tandem, the factors for success and the ways of measuring that success also shed light on a certain kind of logic behind business practice and the choices that firms are

"For their performance as a whole, partner firms rely on each other and also can benchmark in relation to other, "rival" husiness networks"



# Understanding collaborative business networks (continued)

By Sarita Koendjbiharie

...the perceived success or failure of a business network depends upon which of the three perspectives (the firm, the customer or the system) is used to measure results."

> faced with and eventually make. Some opt for an overtly industry or marketdriven approach, where value appropriation and financial performance are king. Others may veer more towards the customer and the profession, placing the provision of a customised service that "respects the trade" before profit margins.

> Neither are 100 per cent guaranteed of success. However, the business network offers an alternative approach, where resources, knowledge and information are pooled together and where, by taking a more multidimensional approach to measuring business performance (the firm, the customer, the system), the respective strengths and weaknesses of each approach can be assessed in the pursuit

of a collaborative success. Firms that are "in it for themselves" may as well go look elsewhere, for business networks are not necessarily easy to control and manage; and outsourcing, by definition, implies a relative loss of control but no lower a level of accountability, if operations go belly-up.

# Food for thought

Previous research into business networks has been very much focused upon processes and outcomes of individual firms, dyads and chains that, although not to be neglected when assessing the viability of this collective approach, are not the be-all and endall. Structure, context and informationsharing and application on a network level are also key and should all be assessed from the tripartite firm-customer-system perspective. However, the debate by no means ends here.

Within existing business networks, governance models vary, information architectures are rarely the same and networks are in differing states of infancy or maturity. Other, more hierarchical types exist as well, and these are worthy of comparative research with the "autonomous yet inter-dependent" model currently under the microscope.

In all scenarios, though, businesses should consider very seriously both the pros and cons of this collaborative way of doing business and, above all, arm themselves with the tools to measure all dimensions of success.

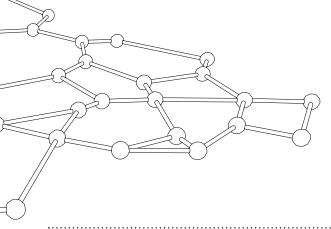


Watch a video of Sarita talking about this research at WEB http://bit. ly/1xa1eM4

This article draws inspiration from the PhD thesis The Information-Based View on Business Network Performance - Revealing the Performance of Interorganizational Networks, written by Sarita Koendjbiharie. http://repub. eur.nl/pub/51751

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