Organising Innovation

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Organising Innovation

Inaugural Address

Address given at the occasion of accepting the appointment
as Extraordinary Professor of Management of Technology and Innovation
on Thursday, September 18, 2008

by

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Samenvatting

Innovatie biedt grote kansen voor ondernemingen, de vraag is alleen hoe die kansen te benutten. In deze lezing laat ik zien wat het proces van innoveren inhoudt, ik geef voorbeelden van succesvolle en mislukte innovaties, en ik bespreek de huidige problemen en trends op dit gebied. Uitdagingen voor bedrijven zijn omgaan met onzekerheid, samenwerken met externe partijen, en het beperken van kosten en tijd. Mijn onderzoek richt zich op het management van het innovatieproces en het organiseren van systeeminnovatie. Het toont hoe de kwaliteit van ideeën kan worden verhoogd, hoe effectief gebruik te maken van ideeën van externe partijen, en op welke wijze bedrijven kunnen kiezen of ze complementaire producten zelf ontwikkelen of aan andere overlaten. Ik ga ook in op de specifieke problemen van Nederland met innovatie, en wat daaraan te doen.

Abstract

Innovation offers many opportunities for corporations. That is beyond dispute. The only question is how to make the most of them. In this lecture, I show what the process of innovation entails; I give examples of successful and failed innovations and I discuss the current issues and trends in this field. The challenges facing companies are how to handle uncertainty; how to collaborate with external parties and how to reduce the cost and time involved. My research focuses on the management of the innovation process and the organisation of system innovation. Research findings show how companies can improve the quality of ideas; how they can make more effective use of ideas from external parties; and whether it is best to develop complementary products themselves or contract this work out to others. I also discuss the specific innovation-related issues of the Netherlands and how these can be handled best.

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Introduction: what is innovation?

Dear Rector Magnificus of the Erasmus University,
Dear Executive Board of the Erasmus University,
Dear Dean of Rotterdam School of Management,
Dear Members of the Board of the Foundation Trustfonds Erasmus University,
Dear family, friends, colleagues, students and other attendants,

Do you know this product? This innovation originated in 1998. At that time, the management of Unilever's innovation centre 'Kitchen' – situated on the opposite bank of the River Meuse – decided to put all its energy into developing just one product, a shallow frying liquid (figure 1). Until then, a large number of projects had been developed simultaneously with little result. Unilever had already put a liquid margarine on the market under the name of Blue Band liquid, but without success. Nevertheless, Tex Gunning, the executive in charge of the Innovation Centre, approved the plan for the new liquid cooking product. Gunning had a dual role: he was responsible for the Dutch market and was also responsible for the product category Yellow Fats for the whole of Europe. Gunning and the team did something that was new. They broke with the tradition that each country in Europe had to have its own cooking margarine and instead selected just one product to be developed for the whole of Europe.

Figure 1 – Innovation: Blue Band liquid margarine

The project team, which included marketing people from Portugal and Germany, researched the cooking habits in various countries. One central question was this: Which properties of the product would appeal to people across Europe? The unexpected answer came when team members observed a housewife in Portugal who did her cooking using olive oil. The woman commented that, when using cooking oil, she was always afraid because the oil spattered. Researchers from the Unilever laboratory came up with a technical innovation that prevents the butter from spattering. The slogan "Doesn't spatter, doesn't burn" was born.

The team developed a new container and had a production machine developed. Just as important, they eventually managed to convince most marketing people from the different countries of the advantages of the new Europe-wide approach. Until then, these marketing people had their own country-specific product. The product developers used the traditional brand name for each country.

The delivery of the new production machine would take as much as a year. So, with support from management, a temporary machine was flown in from Asia at great cost. The product was launched first in the Netherlands and then, over several months, in other European countries. To do this, Unilever raised public awareness of the product in a very original way (figure 1). Sales far exceeded expectations and, within a few weeks, TV commercials had to be discontinued because of stock problems. Variants of this product were put on the market at a later stage.

This example, on which I – together with colleagues and project leader Graham Cross – have written a teaching case for students[1], shows what innovation is all about: generating ideas, developing new products, services or technologies, and their commercialisation. Innovation is about inventing something, applying it to a product, service or technology, and getting that product into the market. The Blue Band example is of course about new products.

- The Blue Band example shows that innovation is a broad process, and is accompanied by changes in strategy, production, organisation, marketing and collaboration. In this particular case, overcoming the thought that each country must have its own frying margarine was perhaps more creative and important than the change over from solid to liquid margarine.

- This example shows that boldness and the appropriate organisational conditions are essential for innovation. In the case of Blue Band, it was about management support, a strong team and the involvement of marketing people from different countries.
- This example makes clear that new knowledge is essential for innovation, in this particular case, the Unilever laboratory's knowledge of spatter-free cooking oils.
- And, last but not least, it shows that innovation is exciting and full of unexpected events such as the machine that could not be delivered on time and the Portuguese woman's comment about the cooking fat spattering. And nobody could predict whether this product would really be a success.

Nowadays, innovation is not only about new products or services, but also increasingly about new business models. Business model innovation is about the way a product or service is produced or the way products and services are paid for. For example, advertisements finance the service provided by Google, so that we – the customers – do not have to pay anything at all for using it, even though it is an extremely important service to most of us. The fashion chain Zara creates another type of business innovation by having its clothing lines only for some weeks in the shops. And the firm is able to introduce a modified line in some weeks.

The importance of innovation

Importance to consumers

First of all, the importance of innovation is significant to the users of products.

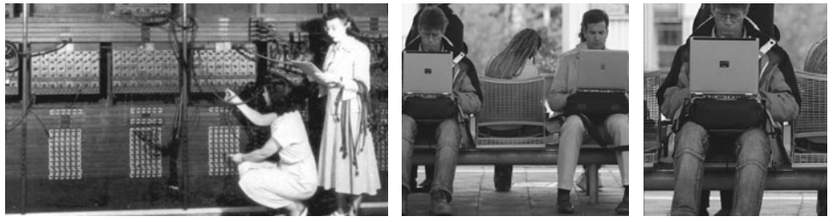


Figure 2 – Computer Innovation

The first computers, like the ENIAC shown in figure 2, were in themselves a huge innovation. But these computers were so big that they took up whole floors and people in those days thought that they were of little practical use. Innovation has ensured that the current desktop or laptop computers offer many more possibilities and are much more user-friendly.

Figure 3 – The first commercial mobile phone

Another great example is the mobile phone. Motorola launched the first commercial mobile telephone in 1983. According to reports, the responsible manager, Martin Cooper (figure 3), conducted the first telephone conversation with his greatest rival, Joel Engel, head of research at Bell Labs. The product was sold for almost 4.000 dollars. Despite the price, the phones sold like hot cakes.

Importance to businesses

Innovation creates lots of opportunities for businesses. A great example is the successful iPod, with which most of you are familiar. This product generated billions in sales for Apple.

There are Dutch examples of innovation successes, too. In 2001, a small Amsterdam company launched one of the first road navigation systems – the TomTom. The company called TomTom is now listed on the stock exchange, employs 1,400 people and generates annual sales of over 1.5 billion euros.

Figure 4 – Service innovation: ING Direct

Services can achieve similar success. In 1997, the ING bank introduced ING Direct in several foreign markets, using an orange piece of fruit as a brand logo. On the picture, you find the Italian version (figure 4). It was an Internet savings account. At that time, it was a new product.[2] In 2007, Internet savings accounts accounted for more than half a billion of ING's profits.

Importance to politics

Innovation also has a broader economic importance. The mobile telephone, PCs and the Internet have created new industries and new ventures within established companies. It is clear that innovation also determines the future positions of countries and regions in the global economic pecking order. A Western country like the Netherlands can only be successful as a knowledge society where innovation is used to create new high-value products and services. The western world will have to be innovative to keep on playing a global role, and so it is no wonder that innovation is high on the political agenda. In 2000, the European Union formulated the Lisbon strategy. Its main objective is to be the most competitive and dynamic knowledge economy in the world by 2010.[3] As part of that endeavour, each EU country should spend at least 3% of its GDP on research and development – with two thirds coming from the corporate world and the rest from government. Unfortunately, countries are not spending anything like that sort of money.

Management of innovation: necessity and views

Problems with innovation

There are also problems with innovation. A first problem is a great risk of failure. The development of the supersonic passenger plane Concorde cost about one and a half billion euros.[4] Concorde was supposed to be the next-generation passenger plane. Just as jet aircraft had replaced the earlier turboprop planes, this supersonic passenger airliner was meant to replace jet planes. The superfast aircraft could fly from London to New York in just three hours. But, commercially, it was a big flop. And the Paris air crash in 2000 was the plane's death knell. Concorde was permanently grounded in 2003. From the outset, flying in the Concorde had been prohibitively expensive. To make matters worse, the noisy plane was restricted as to where it could land. On top of this came the safety problems and other issues, which I will discuss a bit later.

Figure 5 – Failures. Concorde and Tablet PC

Bill Gates was a great supporter of the Tablet PC – a slim computer on which you can write using a special pen. However, the product was a flop.

Figure 6 – Innovation Platform

A second problem with innovation concerns the Netherlands in particular: we don't innovate enough.[5] That's why the Dutch government has set up the Innovation Platform. It's headed by the Prime Minister, and CEO Kleisterlee of Philips is one of its members (figure 6). The Innovation Platform recently recommended the construction of a tulip-shaped island just off the Dutch coast. First of all, the problem with our lacklustre innovation performance is not a lack of investment in R&D, although Dutch spending is slightly below the EU average. The real problem is that Dutch companies are not very good at bringing its new products to market and making a profit out of them. In that respect, the Netherlands is far lagging behind the European average. In other words, the Netherlands is investing in knowledge development, but is not strong in producing commercially successful products. There's lots of searching for innovation in the Netherlands, but the commercial result is disappointing.

Both the failures mentioned and the problems seen in the Netherlands highlight the fact that management of innovation is crucial in achieving success.

Popular beliefs

The question is: how can innovation best be managed? The popular belief is that promoting innovation is chiefly about promoting creativity. The thinking is that companies and governments need to do more to encourage employees to come up with new ideas. Others believe that employees must be given time to implement new working methods or work on their own innovations during what is known as a "tinkering day."[6]

But it is uncertain that these kinds of solutions will actually improve the situation. These solutions place great emphasis on creativity, whereas innovation is just as much about converting ideas into successful new products and services. That message applies in particular to the Netherlands. Moreover, many companies are already bristling with new ideas and creativity.[7] A "tinkering day" can certainly increase creativity. But as far as turning knowledge and ideas into successful market introductions, this tinkering day may actually be counterproductive. The example that best illustrates this comes from the company 3M, which invented the yellow Post-it notes. It has a rule that employees may spend 15% of their time on their own ideas and projects. A few years ago, a 3M director complained in BusinessWeek that, too often, employees "are going down blind alleys."[8] In short, and this applies also to new working methods, this approach leads to more searching, but not necessarily to better performance.

The conclusion is that the whole innovation process needs attention and, in the Netherlands, the focus should especially be on the development and implementation processes after idea generation.

Figure 7 – Uncertainty: the chip card for public transport in the Netherlands

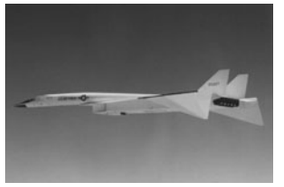
Challenges

Uncertainty

Why is it so difficult to manage the process of innovation? The fundamental problem is the high level of uncertainty. With innovation, it is always unclear what is going to happen. There are two main causes for uncertainty: technical uncertainty and market uncertainty. Technical uncertainty is the uncertainty about whether a product can actually be developed and about its cost. A recent example of technical uncertainty is the chip card for public transport in the Netherlands. In this case, problems with security arose during its development and introduction. In the worst-case scenario, such problems can lead a company to completely abandon the innovation.

Figure 8 – Adaptation of the aluminium scooter

Market uncertainty is caused by the unpredictable behaviour of users. It is impossible to predict beforehand what exactly it is that customers want and whether they are going to use a new product or service. Sometimes, people will embrace a product, but use it in a manner not foreseen by the company. We call that 'social construction'. An example is the fold-up, aluminium scooter developed by Wim Oubouter.[9] These scooters were initially intended for adults (figure 8). Adults would use them to move around at airports, or to get to and from public transport, or to cover the distance between the car park and the office. But as it happens, children took a fancy to them and began using the scooters as toys, although their small wheels proved to be a problem on uneven ground. Manufacturers increased the size of the wheels, and the aluminium scooter began to look like the children's scooter of old. In brief, consumers used the product in a manner completely at odds with what has been intended, and manufacturers adapted the product accordingly.



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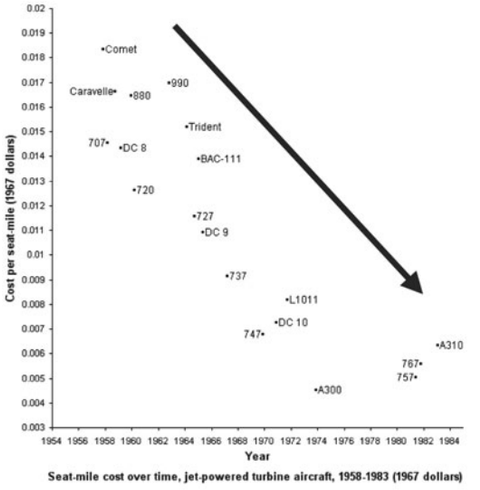


Seat-mile cost over time, jet-powered turbine aircraft, 1958-1983 (1967 dollars)

Figure 9 – Competition and management in the passenger plane industry

Competitors also cause a lot of uncertainty. I have already named the high fuel cost and high noise levels as reasons for the failure of Concorde. But competition was just as significant a factor. Just look at the costs per passenger per mile of regular jet airliners during the period in which Concorde was being developed (figure 9). You can see that these costs fell dramatically over that period. Concorde was perhaps not too expensive compared to other types of passenger planes when the project began. But the total costs of other airplanes decreased during the development of Concorde. The question is then not so much why this project was begun, but rather why it was not halted during its development.

Once again, the answer to this question concerns management. At that time, three economic blocs were developing supersonic passenger planes, namely the Soviet Union, Europe and the United States. The Soviet Union – being Communist – followed its own logic. There, financial criteria were not decisive. The Soviet project was mostly about attaining prestige and power. However, in the United States, the project was brought to a halt for economic reasons. That didn't happen in Europe – mainly because Britain and France had agreed that neither could unilaterally abandon the project and the political fallout would been too great. In short, the organisational set-up of the project with strong political interference meant that executives were not in a position to react flexibly to the actions of the competition.

Managing contradictions

Companies must not only be able to deal with the uncertainties surrounding the innovation process, but also to handle apparently contradicting goals. They have to innovate incrementally – in other words, make small improvements to their existing products – while at the same time innovating radically – in other words, developing completely new products and services. This is referred to as exploitation and exploration. These objectives have very different requirements. Radical innovation requires a completely different type of project leader and project team as compared to incremental innovation. Executive supervision of the two types of innovation teams may also need to differ. The ideal situation is for companies to be ambidextrous, so two-handed. Companies need to be able to exploit and explore equally well.

Figure 10 – Internet news site Nu.nl; competitor to regular newspapers

In the past decade, Harvard scholar Clayton Christensen has pointed out the problems that companies have with a particular type of radical innovation, which he calls disruptive innovation. Disruptive innovation concerns relatively simple innovations relating to existing products, which can nevertheless take over the market completely. An example is an Internet news site such as nu.nl, which lacks the depth of coverage offered by newspapers, but which is fast and free of charge. As such, it can therefore become a serious competitor to regular newspapers. Established companies are inclined to underestimate the impact of such disruptive innovations. Even those that do initiate them have trouble turning these innovations into a success.

In addition, companies have to manage the different activities in the innovation process in different ways. The start of the process – idea generation – requires another management style than the development and implementation process. Creativity is important in the beginning. But in subsequent processes creativity is not enough. Managers must also ensure that ideas are implemented and turned into innovations in the market. Freedom is necessary for creativity, although we shall see later that the creative process also requires organisation. For implementation, it is necessary to keep up the pace in the process, maintain quality control and adapt the project, if the market or technology requires that. So it is important to carefully manage the project. The costs of innovation itself must also be kept within limits. Developing a simple MP3 player can easily cost between a few hundred thousand and half a million euros. And developing a new car or drug can cost between a few hundred million and a billion euros.[10] That obviously has an impact on the price of the new product. And, in many markets, it is important that this whole process takes place rapidly. If you come too late to the table, others will have eaten all the food – so conquered the whole market – with only a few crumbs left for you.

In short, companies have to properly manage uncertainty and juggle seemingly opposite targets when managing innovation.

Trends in innovation management

How do companies go about this? There are now various novel ways of managing the process of innovation. So innovations in the management of innovation.

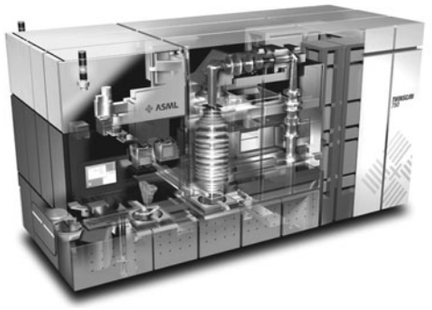
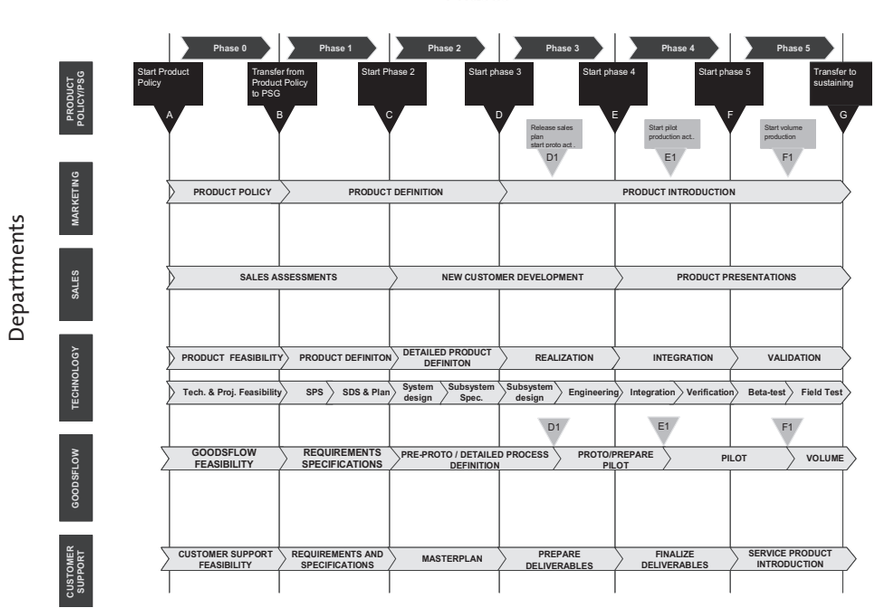


Figure 11 – Parallel product development at ASML



For some time now, companies have focused on the organisation of their internal innovation processes. Their main focus was on minimizing the uncertainty in the innovation process in order to prevent costly problems down the line.

One such method is to perform different activities that are necessary for innovation in parallel. This is called concurrent engineering. For example, while the concept is being developed, a factory is already being designed. The advantage is that, by doing so, the design can be adapted to the requirements that have come to the fore in designing the factory. This form of multitasking also speeds up the overall process.

It is evident that this parallel execution of activities within a large organisation creates a lot of extra communication, uncertainty and delays. That's why a number of colleagues and I conducted a case study of ASML in the town of Veldhoven. ASML is world leader in the production of machines for chip production.[11] ASML uses a detailed process plan prescribing what each department in the company must do in each phase of the development process of its products (figure 11). A matrix organisation supports this process. Programme leaders who concentrate on specific product lines provide guidance to specialists from the technical departments. In this way, they work in parallel and do so as efficiently as possible.

Figure 12 – Philips HomeLab

A second way to reduce uncertainty in the process is gathering information about the customers early on. Simply asking potential customers what they wish to have does not produce useful information – because most people don't what they are looking for, unless they get to see a concrete product or service. That's why Philips has built a section of a house in their research institute. They invite people to stay here for a day or several days to test out products. Here you can use such novelties as an autonomous vacuum cleaner and a bathroom mirror that displays information (figure 12). For example, the mirror can show children a cartoon, so that that they brush their teeth for a long enough period. A control room monitors and records the inhabitants' behaviour for later analysis. Philips has also set up a shop to examine shopping behaviour and a medical site to examine medical products.

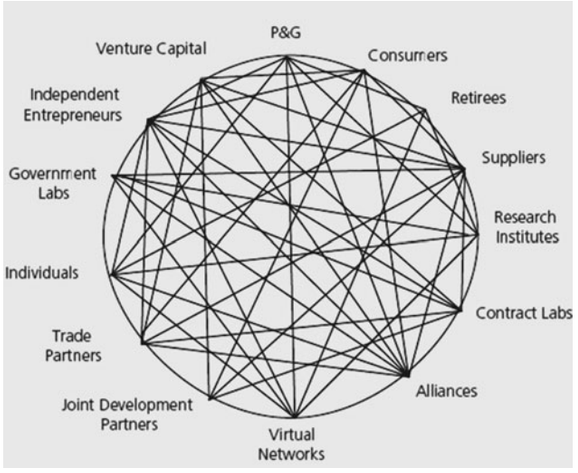


Figure 13 – Crowdsourcing

The Swiffer duster resulted from it. There are also examples of crowdsourcing ideas in the Netherlands, such as KLM's BlueLab initiative.

Crowdsourcing is also utilised for producing other information. For example, volunteers can upload photos of news items on the Nufoto.nl website (figure 13). Nu.nl publishes them on the site, and if a press agency buys the photo, the photographer gets a percentage of the proceeds.

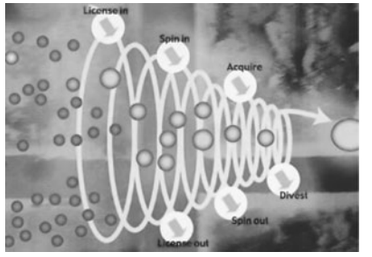


Figure 14 – Open innovation

The initiatives to get ideas and information from sources outside of the company led to the current trend of "open innovation." Open innovation means that companies no longer perform all innovation activities themselves. Instead, they contract out a large part of innovation work to the outside world. This allows a company to develop and produce radically new products or services that the company has no in-house knowledge of. A company can use ideas from the outside world, buy in expertise and skills and buy up small businesses that have developed an innovation. These external sources of knowledge can be increasingly found throughout the world, especially in Asia. A company itself doesn't need to commercialise all of its innovations, either. A company can licence out to others knowledge and innovations that don't suit the company. Alternatively, a company can set up spin-off companies – new businesses with their own employees who commercialise the innovation.

Research

The trends in innovation management take us back to my research. Examples of themes that have received ample attention in the field are cross-functional teams, the effect of intense communication, of involving customers, and the effect of the proficiency with which activities are performed.[12] A lot of research is inspired by the information processing approach in organization theory. The current trend in research is to replace simple models of success factors by more complex models in which the interaction between factors is investigated.[13] In my research I focus on several current issues in innovation management that have not yet received a lot of attention. Moreover, I aim to give studies a stronger theoretical grounding by using theories from other disciplines and by strengthening the empirical base by large surveys or databases.

I do not do research alone. Over the last few years, I have supervised eight PhD students and one postdoc. Half of these research positions are wholly or partly financed by the Ministry of Economic Affairs and the NWO (Netherlands Organisation for Scientific Research). The basic funds came from the research school ERIM of our faculty. Internationally amongst others I work with Andrea Prencipe, Donald Gerwin, Michael Jensen and Chris Tucci. In the Netherlands I collaborate with Geert Duysters, the Telematics Institute, TNO, the CBS and several companies.

My research focuses on two main themes: the internal innovation process and collaborating for innovation.

Figure 15 – Idea selection?

The internal innovation process

First and foremost, I research the idea-generation phase in the innovation process. We place emphasis on the management of the process. The current thinking is that you must generate as many ideas as possible. The more ideas you have, the higher the quality of the ideas that you turn over once you have made your selection. But it is questionable whether this is really so.

First of all, the selection process itself quickly becomes a huge effort (figure 15). For example, Bob Kijkuit and I researched a company that, one afternoon, held a brainstorming session involving about 25 employees. They generated 10,000 ideas. Five other employees spent several days to select the best of them. Even if ideas are distributed over a number of people or committees, this approach remains problematic. After all, when you have just assessed 46 ideas, how likely is it that you are going to give the 47th idea the attention that it deserves, let alone the 147th idea? You will probably pick out ideas that look appealing at first glance. But these are usually not the really great ideas that will grow into something big later on. You will run the very real risk that you will be mostly fishing mediocre ideas out of the sea of ideas, and that the best of them will escape your notice.

So would it not be better to improve the quality of ideas before selection takes place? Bob Kijkuit used network- and information-processing theory to tackle this question. Network studies show that people who have lots of superficial contacts with other people who don't know each other tend to be creative. These superficial contacts are known as weak ties. The reason is that weak ties give people a wide range of input.

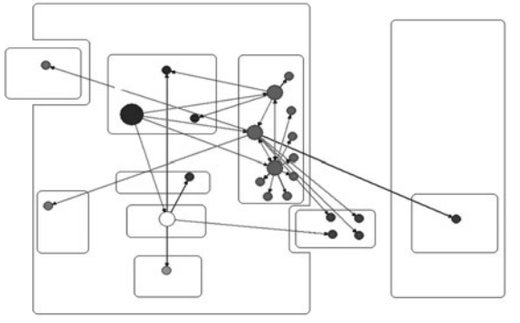


Figure 16 – The social network of an idea at Unilever

Bob Kijkuit examined the communication on ideas in two large research laboratories of Unilever after they had been submitted, but before they had been presented to the selection committee. It turns out that employees' ideas are often first discussed with others inside the companies and sometimes even people outside the company (figure 16). These discussions have an impact on the idea, with the origination adapting the idea on the basis of the comments heard.

We found that the more people discuss an idea, the greater the chance that it would ultimately be accepted by the selection committee. But we also discovered that, in this process, it was the presence of strong ties – in other words, communication between good acquaintances or friends – and especially in other departments of the company, that increased the likelihood of the idea being adopted. Our explanation is that it is easier to exchange complex knowledge with good acquaintances or friends, and that friends find it easier to make critical comments. We have published the findings of this research, and a short article for managers will shortly appear in the *"Harvard Business Review."*[14] Dirk Deichmann, as a new PhD candidate, will later test the findings of the research during a larger research project conducted with other companies.

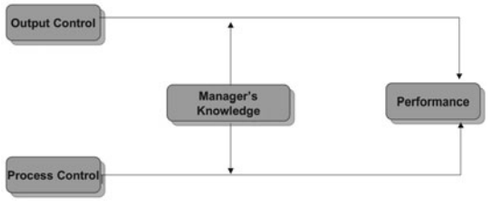


Figure 17 – Senior management's role controlling innovation projects

With regard to the development phase of innovations, Serge Rijsdijk and I are carrying out research into the extent that senior management needs to control innovation projects for them to be successful and the various approaches used. There aren't too many good studies on this subject, although this concerns one of the key questions in innovation management. General management literature distinguishes two control methods: output control, whereby management only determines what the project must deliver at the end of the process, and process control, whereby management monitors what is happening in the team and exercises influence on its decisions. We are now testing out the theory that it is primarily the knowledge of the managers themselves that determines which control methods they can best employ.

Figure 18 – Projects and project-based firms

In the future, it would be useful to conduct more research into the innovation process in specific types of companies. Floortje Blindenbach-Driessen and I have previously looked at innovation within what are known as project-based companies (figure 18).[15] Examples are IT service providers, contractors and engineering companies that deliver services in the form of projects. In such companies, the implementation process of innovations – in other words, actually putting the product on the market – turns out to be the main problem. This is chiefly because, in this type of company, many different departments are involved. In the future, I would like to broaden this research by looking into the influence of company factors on innovation in other service companies, such as medical, financial or media firms. To conduct this research, I contribute to developing a national research programme between university institutes and businesses, which is being led by the Telematica Institute in Enschede.

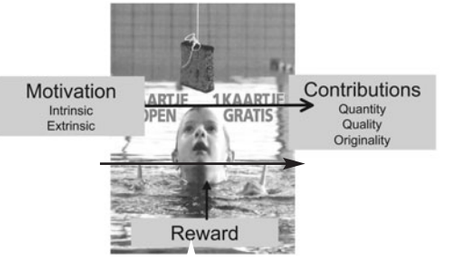


Figure 19 – Crowdsourcing rewarded?

Collaborating for innovation

The other main theme of my research is collaborating for innovation. As I mentioned earlier, this subject is currently receiving a lot of attention in the business sector under the heading 'Open Innovation'. Irma Borst and I are conducting research into crowdsourcing, which I mentioned earlier. The question is: how should companies deal with external submitters of information. Initially, it was thought that people did this sort of thing voluntarily, without getting anything in return. Nowadays, more thought is given to a combination of volunteering and rewarding. This reward could be recognition – for example citing the name on the website of the company – or financial remuneration.

We are studying the effects of rewards on crowdsourcing activities. One of the questions is: what is the effect of giving financial remuneration or a reward on the number of contributions and the quality and originality? This has been debated in psychology studies. The conclusions are mostly the results of tests on students in laboratories. According to some scientists, intrinsic motivation, in other words, pleasure in the activity itself, is good for creativity, while others claim that extrinsic motivation, in other words, recognition and reward, is also a contributory factor. During our research, we have tested these theories in practice by researching people who upload photos onto the Nufoto.nl site. The first results confirm that extrinsic motivation, in particular the aim towards reward and recognition, are indeed important. We will broaden this research to include external idea generation in the future. The focus will then be on Internet sites such as KLM's BlueLab, which I mentioned before.

Collaboration is also central to our research into system innovation. Many products become dependent on other, complementary products. The iPod was developed to make the music site iTunes more attractive.[16] And coffee pads and the successful Senseo can't exist without each other. We are looking into the question of whether companies are better off developing complementary products and putting them on the market themselves or leaving it to others. Apple developed both iTunes and the iPod themselves, while Philips and Douwe Egberts worked together. In this project, we are building on neo-evolutionary economic theories. We have developed a model that identifies which companies would be better off developing these complementary products themselves or participating financially in early stages of a new market. This means they can select the timing and characteristics in order to build up a strong market position as quickly as possible. At a later stage, they could leave more of the work to other companies.

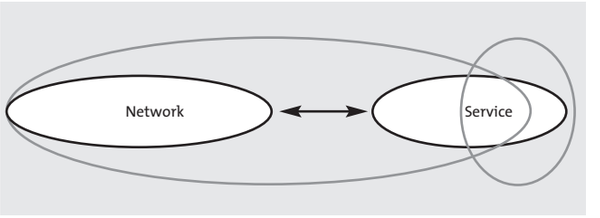


Figure 20 – Collaboration on mobile services

Ferdinand Jaspers and I have tested these ideas in the mobile phone market.[17] In this market, telecom operators regularly introduce new networks, such as the launch of the GPRS network a few years ago and, more recently, the UMTS network. Their success is dependent on the availability of mobile services for that network. These can be developed by specialised service companies or wholly or partly by the telecom operator. We have shown that it is better for the success of mobile services if a telecom operator participates in, and finances, the development of services in the early stages of a new mobile network (figure 20). Once the network establishes its position, it is better off leaving the development of the services to specialised service companies. While telecom companies often use a standard approach for the development of services, this research indicates that it would be better to make the approach dependent on the phase of the market in which these firms are operating.

Geerten van de Kaa, colleagues Henk de Vries and Eric van Heck, and I are studying the factors that determine which standards become dominant in this sort of market. Once again, we are using network theory for this purpose.

Figure 21 – Collaboration team

And finally, Mahmut Ozdemir, colleague Costas Lioukas and I are carrying out research into the success factors for collaboration teams of several companies (figure 21). While there has already been a lot of research into alliances between companies, the influence of the structure of teams in these kinds of collaboration projects has received little attention. Is it better for a team to be symmetrical with regard to the roles of the members? And in which situation is it, for example, better to have one manager or two, one from each company?

To further extend my research, I will work closely with colleague Harry Barkema in the Innovation CoCreation Lab, which primarily aims to bring about collaboration with large international companies. Henk Volberda, from the Department Strategy and Environment, and I are working on setting up a NWO programme that focuses on innovation and innovation management at different levels of organisations and in wider society.

Teaching

During our research, we create new knowledge of the innovation process which we are communicating in publications and in our courses. We renewed our master programme a few years ago, and it has been very successful. While our students would often end up in other types of jobs, we are now seeing a growing number of students coming back to the sort of jobs for which they received training, such as product manager or innovation manager. As you have heard earlier, my colleagues and I regularly write our own case studies, with the aim to confront our students with practical situations.

We teach a set of courses in other programmes. In the future, we will focus mainly on extending the activities in our MBA and executive programmes, so that more managers can obtain knowledge in our field, too. From what I've said, it should be clear that increasing management knowledge in the Netherlands also benefits innovation. The provision of specialised innovation management courses would definitely make a substantial contribution to that.

Figure 22 – Teaching

Conclusion

The conclusion of the story I've told is clear. Managing the innovation process is necessary and important – in the Netherlands more than anywhere else. If managers have a better understanding and more knowledge of the process, this will make it more likely that innovations will be successful. We are making a contribution to this knowledge through our research and courses.

Word of thanks

Finally, I would like to thank a number of people.

First of all, those who have put their trust in me by nominating me to this chair. In this respect, special thanks should go to our former dean Han van Dissel and interim dean Berend Wierenga.

I would also like to thank my colleagues in the research group – particularly Paul Beije and Koen Dittrich. Even if it isn't always easy to manage a popular but understaffed teaching program and research area, you've always maintained a positive outlook. I would like to thank my PhD students and post doctorates for their teamwork. It is a joy to be exposed to your inspirational ideas, your wisdom and even your occasional bouts of stubbornness. I also want to thank colleagues from the research group and the rest of the faculty. It's a pleasure working with you.

Special thanks should also go to our department chairman of the last few years, Steef van de Velde. Steef, I may not be the type of person who is really into annual strategic days and group outings. But I sincerely appreciate your leadership style, as do many others. I wish you every success in your new job as dean of the faculty. Together with you and other colleagues in the research group – especially Harry Barkema, René de Koster, Finn Wynstra and Jan Dul – we should be able to strengthen cooperation between our different disciplines and areas of research.

I would like to express a special word of thank to the people from the business community that I work with in research and student projects, for the open way of collaborating.

I would also like to mention a few people who contributed to my academic education some time ago, in particular Anton Nijholt, Harry Lintsen, Philip Vergragt and Nachoem Wijnberg.

I would like to thank my parents, who unfortunately are unable to attend. They instilled in me a strong no-nonsense work ethic from the Westland greenhouse area. And that has stood me in good stead in Rotterdam.

Finally, more than anyone else, I would like to thank Marij. I can always count on your support. The joy that you, Inge and Luc are giving me is the greatest source of inspiration of all.

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