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# Introduction

The modern shop floor can be no longer compared to the one we once knew, let's say twenty years ago. At the time, we were all housed in an open-plan office, sitting at identical desks with identical phones and large PCs, surrounded by filing cabinets with a fax and a decorative hanging plant on top.

In 2009, the technology enables us to work in virtual teams, of which the team members could be distributed all over the world. Thanks to virtualization, cloud computing and smartphones, team member's locations are no longer of any importance.

The technology is available, now all we need are the people. Because, how well do you work with someone you have never seen in the flesh? Does it make any difference? How well do you communicate with him or with her? And how do you get the balance between work and private life right, when these are no longer clearly separated by the door of an office building that you can close behind you after a hard day's work?

It becomes complicated when two virtual

team members also have a hierarchical working relationship. After all, how does a manager assess an employee who works from home if they only occasionally see each other?

The articles in this special issue about New Ways of Working describe the aspects of web 2.0 as relevant to virtual collaboration and outline the preconditions, which are usually not in the technical sphere but sooner related to communication, culture and organization. In a concrete manner, these discuss the ways in which an organization can organize itself in order to make virtual working into a success and also describe the stumbling blocks and often heard misconceptions regarding Enterprise 2.0 for example, in the field of security and abuse of the possibilities as offered to employees.

I would like to invite you to read the articles in this issue and use these to your advantage, enabling your employees to utilize the positive aspects of the so-called New Ways of Working for the benefit of your organization.

*Cindy Curré*

*Editor IT Management Select*

## EDITORIAL COMMENT

The article 'From Schedule Push to Reality Pull' by Frans van der Reep has been published some years ago. Nevertheless, it does today read even fresher than when it was first published. The traditional organization is based on hierarchical management. In his article, Van der Reep proposes an alternative way of organizing and managing organizations, based on putting the customer and the employee first. This will make middle management

and its complex management systems redundant, thus creating a more efficient and client focused organization. The internet is the enabling technology to make it all happen. The article also provides some examples that have proven themselves over the last years. This makes this article read like a 'New Workplace' article *avant la lettre*.

*Frits Bussemaker*

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	Business	Information systems	Techniek
Strategy			
Organization			
Operation			

# From Schedule Push to Reality Pull<sup>1</sup>

## ABSTRACT

**The Internet is changing the way we organise work. It is shifting the requirement for what we call the ‘schedule push’ and the hierarchical organisation that it implies, and therefore it is removing the type of control that is conventionally used to match resources to tasks, and customer demand to supplies and services. Organisational hierarchies have become too expensive to sustain, and in many cases their style of coordination is simply no longer necessary. The cost complexity of the industrial complex starts to outweigh the benefits and the Internet is making it redundant.**

Our expectation is that within five years this will have a major impact on the corporate organisation. Jobs will be lost from the hierarchy and the jobs that remain will be very different. Instead of more ERP-supported supply chain management, employees, and eventually customers, will be the project managers of their own work – a concept that we call ‘reality pull’.

Big organisations only survive in a dynamic market by redesigning at least the organisational front-office into small autonomous units that can quickly react to volatile customer demand. Applegate et al. (2004) calls this the ‘network organisation’. Small cells can quickly respond to the market, but use the big corporate database and expertise. They can combine the advantages of a big company with the advantages of a small company.

What does this mean for retail business processes and future investments in retail technology? Economic theory states that a company exists because internal coordination costs are lower than external transaction costs. It is this balance that is affected by the Internet because the Internet allows coordination to be achieved much more cheaply than by a controlling hierarchy. Just look at the cost savings the Internet forces on the airline industry (a drop

in ticket prices of 40% is fairly typical) and it has done the same thing to second hand car sales and recruitment. The Internet lowers the cost associated with searching and thus makes cooperation much cheaper. It is therefore forcing companies to lower their internal coordination costs – otherwise they have no reason to exist.

One way to lower the internal costs is to improve and strengthen the existing internal structures by optimising control of the hierarchy; redesigning the internal workflows and therefore increasing the power of the ‘schedule push’. The hope is that by bundling all the information in one back-office and one central database, the existing business processes can be optimised to make the organisation operate more cost-effectively. The ICT industry supports this approach with ERP software with names such as ‘integral business suites’.

This approach formalises and standardises the information flow of an organisation, it makes everything explicit and leaves no room for informal structures or tacit knowledge to control the organisation. Jobs are defined by fixed control and monitoring procedures. With this solution, all the information and the complexity of an organisation have to be encoded in the software (and those who have implemented

an ERP system will recognize that structure follows ERP). This solution can be made to work in stable and formal organisations but we are talking about complex and very expensive implementations. And you have to ask if such an organisation will remain in touch with its market.

Is there a cheaper, more flexible way of coordinating internal information and activity without losing touch with your market? Yes, there is. One option is to look for partners that offer better value-for-money for that business function. Then this function can be outsourced and the company can concentrate on the aspects it does very well. The coordination costs between partners and the in-house processes can be low because the coordination is supported by the Internet. An example of this form of networking is Covisint in the US. Automotive manufacturers such as Daimler Chrysler, Ford, General Motors, Nissan and others form a networked community with thousands of smaller suppliers located around the world. Together they use a shared infrastructure for auctions of auto-supplies. The big network economy of scale lowered their costs dramatically.

Another option is 'reality pull', on the sell side of an organisation. 'Reality pull' means leaving key knowledge in the heads of your employees and simply facilitating the process that brings the real customer request in contact with the person who can provide the solution.

Instead of starting with the internal structure of the organisation and the 'schedule push', the process begins with the competent employee and relating him or her to the actual customer request. The Internet links the customer directly to the supplier of the solution, which means that you can lose the coordinating mid-office and back-office that makes the organisation rigid and expensive – and you can use much cheaper software.

A typical example of old school 'schedule push' thinking is the Work Order through which the manager or a central system allocates tasks each day. In theory, the employee is being used effectively but to get to this point the organisation has already put in a lot of time and money to bring all the information to one place, the back office, and then a lot more time and money to create a central schedule that divides the work amongst all the people in the most efficient way according to the system. Then it takes more time and money to put the schedules right when, as usually happens, the actual work had to

be done differently, when the customer is not satisfied by a standard response. We all know the stories about the high costs of the implementation of a central ERP system and the way employees solve the problems when the reality does not fit the system 'ideal'.

But the Internet allows us to replace all this expensive complexity with a much simpler 'reality pull'. Instead of guiding all the information through a central system, we just allow the employee to pick and choose in the same way they buy groceries at the supermarket. The result of this is that it is no longer the manager who determines what needs to be done; it is the customer who is making the choice. The work order is replaced by a marketplace where the employee can select his own work. This means that an employee will coordinate and make his own agreements with the customer without the involvement of a back-office.

For example, Thuiszorg Stad Utrecht – TSU, a Healthcare organisation in the Netherlands, has implemented this approach for its workforce of approximately 500 people, nursing very different patients who stay in their own homes. They have to travel to the homes and on location they can exactly see what is necessary. In the old days the employee would get his weekly schedule on Monday morning at the office. In the new situation, a team receives a box with the work to be done that week. The team is responsible for the nursing of their group of patients within a limited time. The members of the team (the nurses) pick their nursing jobs from that box by a smart phone linked to the central system. The system gives a signal when it detects that a patient will not be nursed in time. When the nurse has finished the job they give the information about time and other remarks to the system by the smart phone and everyone, colleagues and manager, and see the results and the remarks. So the system and the manager can control the jobs afterwards. The employee plans the activities according to the needs of the reality. And he can improve on a central system. It is the professionals who can interpret the reality in the best way and act as necessary when he or she is on the customer's side.

Besides the possibility to react based on reality, there is another benefit. Employees who are in control of their work have a higher level of personal commitment and are more concerned with the quality of what they produce. This means, for example, that

if the work takes longer than expected to complete, they will more likely stay to finish the job. In a time where competition is growing and organisations need to be more and more customer-focused, this direct interaction between the employee and the customer could be a great benefit.

In the TSU project, the employees' satisfaction has increased because they have more control over their own work. And the clincher is that management can send the bill on Friday afternoon at the end of the same week whereas in the old days it took an average of three weeks to reconcile the planned schedule with the reality. And TSU is making over 50% cost savings in the back-office.

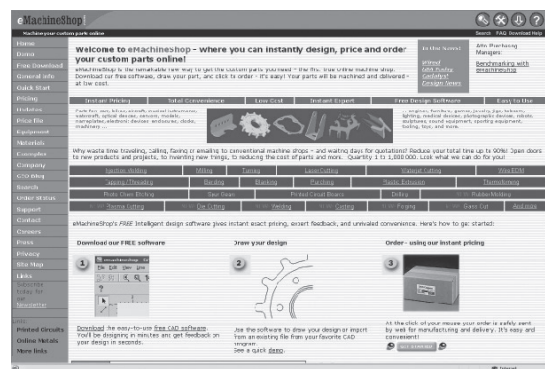
The core of 'reality pull' is that an organisation no longer plans ahead. They eliminate all the expense and complexity of the intervening systems and react to the actual demand.

But if employees are managing their own work, what will become of managers? Will they be redundant too? We do not think so. Managers will, if anything, become more valuable because they will be able to shift the focus of their concerns. In recent years the whole concept of management has become identified with planning and scheduling but once managers are free of this obsession with systems they can get back to the real job of managing their business, their employees and their customers. And last but not least: they can become the leaders with the vision that helps the company further. Does this all sound like too nice a theory?

As you can see in the nursing example, it is possible to turn the schedule and control chain. The planning starts with the real-time reality. Also in retail you see this development of quick response to the real customer needs. An example is Wal-Mart, using RFID technology to give the control of the logistic chain to the customer. In the grocery sector, the store has minimal stock and every 24 or 48 hours there is a supply process according to the real-time stock of the store. When a store manager is also responsible for the results, for example as a franchise holder, the result is a more committed workforce.

A further development of flexibility is found in the fashion industry. In the old type of scheduling process, the production and procurements for the whole season are scheduled in advance. For half a year, the customer sees the same fashion items in the shops. When the customer does not want to buy, or wants to buy other styles, the retailer is left with

large stocks. The fashion world has delivered a new logistical system called quick response. This means that a fashion chain can organise a change of products whenever the customer demands it. A beautiful example is Zara. Zara is a fast-growing Spanish fashion company (Inditex) with stores in more than 30 countries. The products of Zara are not expensive, but highly-fashionable. That means that it is hard to predict the wishes of the volatile customers. Even so, Zara is a player in a fiercely competitive market that includes retailers such as Benetton and H&M. A high stock level is expensive and fraught with risk. And Zara wants frequent purchases from its customers. There must be always something new in the store. So Zara wants to change every three weeks the products in the shop. How can you organise such flexibility in this highly competitive market? The answer is a logistical quick response system. The raw materials for the Zara products are produced in the Middle East and shipped to Spain, according to long-term schedules. In Spain there is a highly automated factory for efficiently dyeing, cutting, labelling and packaging the products. From there the products go to the stores all over the world. The factory is so organised that it can quickly change the design and production schedule. A cross-functional design team, also informed by a point-of-sale system, can match the design and the production schedule to the market response. And local manufacturers can quickly manufacture additional products. The response-time from design to product in store can be as little as three weeks.



The average UK fashion retailer typically commits 60% of their buying budget six months before the season commences; and 90% by the start of the season. In contrast, Zara only commits up to 20% six months in advance of the season, a commitment that

increases to 50% by the start of the season. This permits the other 50% to be decided once the season has been launched (Birtwistle et al, 2003). Another example of 'reality pull' is The Machine Shop in the USA. A customer who wants a special machine-part can design, price, and order the needed supply online by sending a CAD/CAM design to the factory. The factory produces the part and sends it to the customer. In other words: the customer, independent of place, has the control over the production process in the supplier factory. In retail there is a strong move to 'reality pull' for many stores. However, some companies earn their money by offering standard products at very low prices with a lean logistic chain. But companies that operate in a volatile market such as the fashion market need a very flexible answer. Only an agile logistic chain can help them survive by offering products to an unpredictable customer. But above all, the company must have the vision to turn the chain from 'schedule push' to 'reality pull'. The most important factor is the human being, the employee. Does the manager have the vision and the strong power to change the organisation and does the professional have the right attitude to take the responsibility? Then the system will follow the people.

### Final Remark

Reality pull prefers retail. Why is that? Especially the retail industry has the opportunity to embrace human orientation and human centred ICT investment. Retail that focuses on frequent online and offline customer contact and earning power depends often on 'tacit' customer knowledge on an individual basis, not on statistics and pattern recognition, demanding an excellent personal merchant's memory and communication. This brings the retail sector more than others in the unique position to implement reality pull instead of schedule push, with a commensurate increase in profits...

#### Note

1. With thanks to colleagues Hans Kooistra, Peter van den Heuvel and Piet Alblas.

#### About the author

**Frans van der Reep** is a reflective practitioner, known as a researcher, trend watcher, writer, regular speaker and entrepreneur. He is Professor at the Dutch Inholland University, Senior Strategist at Royal KPN and holds a number of non executive board memberships both in the non-profit and profit sector. He has written many papers and a number of books on how the Internet impacts our lives and work thereby connecting the various business realms of Strategy, Marketing & Sales, HRM, Finance, Business Process Management and ICT. ([www.inholland.nl/digitalworld](http://www.inholland.nl/digitalworld)).

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