Human factors in business: creating people-centric systems
by Jan Dul

Defining respectful leadership
by Niels van Quaquebeke

Accidents will happen: do hazard-reducing systems help?
by René de Koster, Daan Stam and Bert M. Balk
Introduction

Welcome to this, the fifth edition of *RSM Insight*. The purpose of this publication is to bring to executives useful insights into the latest management research being conducted at RSM. By doing so, we seek to share and transfer not just our knowledge, but management science that is of real value in practical terms; value that can help leaders ensure their organisations stay ahead of the pack through continued innovation, strong competitive advantage, and inspired leadership.

With this very much in mind, a special acknowledgement must be given to Prof. George Yip, Dean of RSM, for his passionate commitment to bringing RSM research to the attention of a wider business audience through the launch and development of this well-received publication. RSM has much to offer the world of business through the research of its management scholars and it is through platforms such as this that we are able to reinforce the relevance of the school’s scientific endeavours to practitioners.

Articles in this edition explore: the concept of respectful leadership and its value to managers; the impact of safety leadership in reducing occupational accidents, and how innovation and creativity can be enhanced through people-centric systems. I am certain that you will find much that is of value in these articles and welcome any comments that you might have.

With best wishes,

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Human factors in business: creating people-centric systems

by Jan Dul

Understanding how workplaces can be designed with people in mind should be of great interest to organisations. Certainly the benefits are clear as an ergonomic approach can improve overall performance and enhance the climate of creativity and innovation for knowledge workers.

From a European perspective, ergonomics is about designing physical products around the human form in order to enhance comfort and alleviate or reduce health and safety concerns. However, to those studying ergonomics (or ‘human factors’, an interchangeable term used increasingly to avoid confusion with the American understanding of ergonomics, which for them relates to musculoskeletal disorders) the physical interaction between people and products is but one of three essential elements that provide a much broader definition.

Designing the environment with people in mind represents the second aspect and here we include social and organisational considerations.

Ergonomics has two main goals, and these are reflected in the third aspect: whilst human wellbeing is a prime concern, ergonomics is also very much about improving systems performance.

The science of ergonomics (human factors) can be divided into two streams and a brief explanation of each is always useful: product ergonomics - here designers consider human factors and issues of functionality when developing new products or services for end users; production ergonomics focuses on people and their work environments and offers enhancements for both that in turn can improve business performance.

Managers usually associate production ergonomics with occupational health and safety and related legislation, not with improving the company bottom line – a common mistake. Although occupational health and safety issues are a part of it, production ergonomics is very much centred on the performance of workers.

Tradition dictates that humans are recruited, trained and shaped to fit into work systems. Production ergonomics seeks to turn this antiquated approach around and put people first. Instead of
asking whether recruits will fit the system, companies should prioritise what sort of people they want in the first place and develop work systems around them.

As with product ergonomics, this is a design approach, but in management terms it sits right in the middle of Human Resources and Operations Management, a divide that research seeks to bridge. Ultimately it is about looking after human capital whilst redesigning systems in engineering and organisational terms so as to ensure people fit as comfortably as possible and therefore are able to function as efficiently as possible.

Square pegs - round holes
In workplaces, from the production lines of old to the call centres of today, where square pegs are forced into round holes, it doesn’t take long for problems to manifest themselves: workers become easily bored and demotivated by the dullness of the routine; injuries brought on by the repetitive nature of the work take their toll.

But it need not be so. Research clearly shows that if the people employed in the battery farms of call centres, for example, are given working environments that increase their levels of satisfaction, so the satisfaction of the customers they deal with also rises. This clearly highlights the value of ergonomics to the service industry.

From a service economy we move slowly towards a knowledge economy where the assets of an organisation are to be found as the grey matter of its employees. To get the best from knowledge workers, through problem solving, idea generation and the development of new process, product and service innovations, creative environments should be designed with organisational, social and creative goals in mind. The principle is quite simple: employees function best in environments that suit them best.

Organisations, through the managers that run them, need to understand this. Unfortunately, it is still true that many managers see efforts to enhance workplace conditions as being a cost rather than a benefit to the organisation.

For so many years, companies have been spouting the same cliché in their annual reports that “our people are our most important asset” yet continually fail to treat them as such at all. This should not be the hollow phrase that it has become. If you really believe that collectively your people are your greatest asset, then treat them as such. As well as handing out perks and incentives, financial or otherwise, managers should look to restructure the organisation operationally so that it benefits the people who make it productive and profitable.

Such an approach, the human factors approach, can increase the commitment, motivation and wellbeing of your people when implemented within the organisation operationally. It should be seen as a strategic approach. To achieve this however, requires a belief that the radical shift to make systems fit people is a good investment for the organisation and its goals.

In some respects these ideas are not entirely new. In fact, there are hundreds of ISO standards available for organisations to use in designing systems with humans specifically in mind. Managers, it seems, are not aware of this. This means the problem isn’t that the knowledge is not available or even that there is a lack of it, but that the knowledge is not already embedded within organisations, possibly because there is not yet widespread belief in or understanding of the philosophy, principles and clear benefits of human factors, or ergonomics, as a science.

“The principle is quite simple: employees function best in environments that suit them best.”
In seeking to redress this situation, it is important for us as ergonomists and researchers to show how the incorporation of human factors offers value to the corporate world and that ergonomic systems can be implemented relatively easily if the correct mindset is in place. Of course, at RSM we are eager to help organisations develop that mindset. To do so knowledge, tools and guidelines have been developed to link ergonomics to business goals, which means the information is readily available and accessible.

**Human factors in action**

In considering the practical benefits to organisations, an example of how ergonomics improves operations management within a supply chain environment is appropriate. To help optimise the efficiency of a number of warehousing facilities, we used ergonomic principles to determine where stock needed to be optimally positioned. From the outset two clear goals were set: our assessments should result in 1) an increase of order-picking efficiency, and 2) the reduction of discomfort for order pickers, thus improving their wellbeing in the workplace.

This type of research is normally conducted on the horizontal plane, i.e., identifying in which aisles stock should be housed for maximum efficiency. Our approach however, was to also include the vertical plane. This gives a 3-dimensional picture of where stock should be situated, thus allowing it to be positioned where it is most efficient for order pickers. After all, they are the ones who do the physical work and if their job entails repetitive activity that is physically uncomfortable, then the inevitable outcome can only be unhappy employees and downturns in efficiency. However, our studies verify that performance will increase as worker comfort levels rise, in both cases by around 10 per cent, after the introduction of our recommendations on human factors.

As a second example, a research tool we have developed – the Creativity Development Quick Scan (CDQS) – has helped in creative environments. The CDQS, a checklist for knowledge workers, rates 21 factors that contribute to the work environment and its climate for supporting the creativity and innovativeness of employees. When analysed, the results of the CDQS highlights human factor recommendations that organisations can implement to improve creative performance. But that is not all. The results can be benchmarked against a database of other knowledge companies around the world, and this allows us to identify where organisational improvements – typically in the areas of job design, building design, and leadership styles – are most needed.

Our research shows quite clearly that creative and knowledge workers operating in ergonomically enhanced environments do indeed offer greater potential for problem-solving and innovative thinking. What this tells us is that where creativity is concerned, environment matters. But what environment – the physical, the social-organisational, or that created by the combination of individual personality traits? (see Fig 1)

Understanding the impact of each dimension on creative performance is important for Human Resource and Operations Managers as it gives insights into: a) whether organisations should focus on specific types of individuals for specific work environments, b) if priority should be
situations it is more likely that there is not enough stimulation within the organisation for creativity to contribute to innovation.

Managers beware: in many cases the greatest factor in the impediment of creativity and innovation is leadership. We find this often when completing our CDQS analysis and providing feedback to organisations. This stifling of creativity and innovation always initially shocks managers, who in reality have developed an environment that is quite the opposite of what they think it is. Rather than consider leadership as the root of their organisation’s creativity and innovation problems, they first look to employees and ask why they no longer function as they should.

Addressing the problem and allowing innovation to flourish only requires organisations to develop the right conditions for it to do so. Human factors are at the very heart of creating those conditions and improving creative performance for the benefit of both the workforce and the bottom line.

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given to social-organisational and leadership aspects, for example, how work and teams are structured, or c) the physical dimensions and if they should be adapted to stimulate a more creative environment.

It is very popular today to talk in management circles of open innovation and crowd sourcing: that people outside of the organisation have the fresh ideas that will bring new innovations in processes, products or services. This tends to lead to individuals and in-house teams being overlooked, as their creativity is not seen as being at one with the thinking of the organisation. On the contrary, outside ideas need the creative understanding of those inside to make them work. Anyway, in such situations it is more likely that there is not enough stimulation within the organisation for creativity to contribute to innovation.

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Accidents will happen: do hazard-reducing systems help?
by René de Koster, Daan Stam and Bert M. Balk

In the summer of 2009, soon after the winners of the annual Safest Warehouse of the Year Awards were being lauded at an industry conference, journalist Marcel te Lindert wondered out loud in his regular column for the Dutch magazine Logistiek, why it was that there were more questions raised about safety issues than there were answers.

Getting straight to the heart of the matter, he asked how those involved in warehouse management knew which safety measures worked versus those that did not. Surely, he said, it is about time for a serious scientific study into the effectiveness of safety systems. He was right, no research of substance had been conducted into warehousing accidents and the impact of the systems that are meant to prevent them. And, as the major fire at Chemie-Pack’s warehouse in the small Dutch town of Moerdijk in January shows, accidents can have huge consequences that reach far beyond the confines of the facility in which they happen.

So, with the support of Marcel te Lindert’s publisher and the cooperation of the Dutch organisation of manufacturers and importers of material handling equipment (BMWT), we took up the challenge.

Part of the reason for the high number of occupational accidents in warehouses is that work can be conducted under a lot of pressure. There are delivery times to be met, regardless of the volume of orders. It doesn’t matter if there are 1,000 orders to be fulfilled in one day or 10,000 the next, they still need to be picked, packed and processed in time for the scheduled collections. That’s one side of the story.

The other side of the story is that in many cases the systems used to achieve the time-driven goals involve forklift trucks and heavy moveable machinery weighing up to as much as eight tonnes. Working in the same space are employees on foot and as we know only too well, accidents happen, and sometimes with deadly consequences.

The problem here is that it is difficult to create an environment where man and machinery do not mix.

After a review of what little scientific literature exists in this area, we identified two existing constructs, that of Safety-Specific Transformational Leadership (SSTL) and Worker Safety Consciousness (WSC). SSTL defines the ways and means by which managers are able to transfer safety issues to the workforce and motivate their safety consciousness. In both constructs, how managers lead in promoting safety can or should have a strong impact. This, at least, was our main hypothesis.

The first stage of our research was to measure the number of accidents in the Netherlands, which we did from three and a half years’ worth of data, and place them into five already defined accident categories, the three most serious of which have to be reported to the Labour Inspection department of the Ministry of Social Affairs:

- Near occupational accidents;
- Occupational accidents resulting in injury but not leading to absence;
- Occupational accidents resulting in injury and minimal absence from work of one day;
- Occupational accidents resulting in hospital admission after a visit to the Emergency Department of a hospital;
- Fatal occupational accidents.
Secondly, we looked at the number and type of safety systems used in warehouses. As a sector, warehouses implement numerous safety-enhancing systems that include a diverse range of safety procedures and safety equipment (for example, anti-collision devices, globe mirrors, safety signs and personal protective equipment). So diverse are these that a handbook published by the BMWT advises of a bewildering 300 different safety-enhancing measures that warehouse managers can utilise.

Armed with the information on safety measures and statistical data, a survey was developed with the purpose of (1) defining what we called Hazard-Reducing Systems (HRS) - the systems available to managers in order to enhance warehousing safety (and so for the first time making them measurable), (2) defining safety performance, (3) demonstrating that safety performance is driven by managerial leadership, accident registration and safe storage procedures - factors that are mediated by safety consciousness, and (4) deriving managerial insights by making explicit which measures help to reduce accidents in warehouses.

From the 300 or so different safety-enhancing measures outlined in the BMWT handbook, we condensed them into 70 key HRS and placed them in four groups. The starting point of our survey was to ask participants to what degree the HRS had been implemented.

By analysing the statistical data and the results of the survey, for which we received input from both managers and employees, we were able to look for insights from the following variables: 1) the number and type of accidents, 2) the safety leadership abilities of managers as expressed by employees, 3) the perceived safety consciousness of the workforce, and 4) the hazard-reducing systems currently in place.

### Occupational accidents and deaths in the Netherlands

- Between the years 2000-2007, the number of occupational deaths ranged from 87 to 147 annually.
- In 2007, the number of occupational accidents leading to injury and absence from work totalled 219,000.
- The medical costs of those occupational accidents requiring hospital treatment in 2007, amounted to €94 million.
- Employee absence caused as a direct result of these occupational accidents cost €220 million.
- In 2008, 1,700 serious workplace injuries were caused by accidents involving forklift trucks.
Accidents will happen: do hazard-reducing systems help? (continued)

by René de Koster, Daan Stam and Bert M. Balk

How leadership influences safety

In Fig 1, we outline our hypothesis that SSTL positively influences safety performance, an effect that is mediated by safety consciousness. What helps drive this leadership more than anything is the introduction of HRS, something that managers must take responsibility for. One way of looking at it then is that from the perspective of the workforce the manager is the most crucial link in the safety chain. It is the manager who helps to develop and instil the environment of safety consciousness in the workplace that, combined with SSTL and HRS, impacts on overall safety performance.

We grouped HRS into four factors thus: safe traffic systems, hygiene, safety training, and safe storage systems. Safe traffic systems relate to the separation of people and machinery flows. High hygiene standards go hand in hand with high safety standards and this is recognised in the second factor. The third factor identifies the level and frequency of safety training. Standards and procedures for the correct storage of stock - empty pallets, equipment, machinery and tools, for example - fall into our final category.

Our findings show that of these four factors, safe storage systems have the greatest impact upon the effectiveness of safety leadership. In turn, the safety leadership of managers, partially mediated by the safety consciousness of the workforce, has the greatest impact on the number of accidents in warehousing facilities.

Serious and sustained attention to safety brought about by strong safety leadership makes workers more conscious of risks and so reduces accidents. Safety is therefore not a one-time issue, but is something that requires constant managerial attention. Another important driver is the careful registration of near and minor accidents that health and safety legislation does not require employers to record. Our findings indicate that recording these lesser events further fosters a culture of awareness of potential dangers and so provides managers with opportunities for even more hazard reduction, thus exemplifying proactive safety leadership. This is an action we see taken by warehousing facilities with the best safety records.

In conclusion, we have four variables that impact upon the number of accidents: safety leadership, accident registration, workplace safety consciousness, and safety storage procedures. Linking to these is the manager, the most important factor of all. The effectiveness of managers in safety leadership is strongly influenced by the safety procedures and systems that are in place. With a proactive manager and strong safety leadership even the least modernised and most accident-prone of warehouses can become a safe place to work.

To be an effective safety leader, appropriate safety-related incentives...
need to be offered to the workforce. If the right incentives are not offered then the workers will be less willing to comply with safety procedures and overall safety consciousness in the warehouse is not improved.

So how can managers encourage employees to become more aware of safety issues through incentives? One way is to incorporate safety into appraisals. We don’t mean once a year personnel appraisals, but instead team performance evaluations specifically aligned to safety conducted at regular intervals, even weekly.

To do so will increase employee awareness of safety issues, compliance with which should be rewarded, as should increases in safety standards. Rewards should not be monetary and instead should be shown through an appreciation of employee efforts. Aligned to that should be worker empowerment. In this way, management drives to improve safety standards are more than just top down efforts, and instead continuous improvements are instigated and developed by those at the sharp end of safety matters.

Looking at the shortlist of nominations for the 2010 Safest Warehouse of the Year Award, one of the companies, Boston Scientific, has its warehousing staff divided into teams. These teams have been empowered to develop their own Key Performance Indicators (KPI) and this includes the whole area of safety.

The workforce at the spare parts facilities of Nissan in the Netherlands, another high performing warehouse, is also divided into teams. All are empowered to a very large degree and each is responsible for creating and meeting their own KPIs, one of which relates to improvements and innovations in processes leading to lower costs, higher quality, and increased safety. Every month managers present the innovations suggested by their teams and the best ones are implemented right across the board.

“Safety is not a one-time issue, but requires constant management attention.”

Smart managers are realising the consequences of laxity in safety leadership. Not only does it have a negative impact on the workforce and lead to higher direct and indirect costs, but it can also damage company reputation: reputation as an employer and as a company with which to do business. Those same managers also acknowledge that a proactive attitude to safety leadership and hazard reduction can lead to reduced costs for the organisation, increase employee satisfaction, and improve productivity and quality of work. In addition, such an attitude can help organisations avoid the sort of major catastrophe as experienced by Chemie-Pack. The benefits to businesses are therefore obvious.

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Defining respectful leadership
by Niels van Quaquebeke

Research shows that employees value respectful leadership very highly. But what is it exactly? Can it be measured, and is it possible for managers to determine if they give it to their employees?

The word ‘respect’ is a complex one, offering as it does a variety of meanings depending on the context in which it is used and even the age group applying it. This is because there are many different types of respect. People’s respect for nature, or for the law, for example, is different from the respect they have for other people. The latter we define as interpersonal respect.

When discussing interpersonal respect it is necessary to differentiate at least two fundamentally different kinds of respect. Appraisal respect is given to those people we perceive to have superior skills, knowledge or expertise in a domain that is of relevance to us. People might, for instance, respect managers for their visionary leadership, or physicists for their handling of numbers, or even athletes for their self-discipline. This kind of respect is also known as vertical respect because it structures hierarchies of influence within certain domains.

The second, recognition respect, relates to a more general mindset we have towards others as being of equal worth. We also refer to it as horizontal respect because it describes an acknowledgement of others as being on the same level. Essentially, such respect is shown in how people interact with others, in particular in how they take the needs of others into account in their actions.

What is respectful leadership?

The study of respectful leadership is about identifying which behaviours from leaders signals to subordinates that they are of equal worth - even given the hierarchical nature of most workplaces. Research on work values shows that respectful leadership is highly desired by employees. Understanding that respect is a two-way street, when exploring how it relates to leadership, the key is not to ask the leaders, but to seek the perspectives of those that make up the second half of the equation: the followers. What do they see as respectful leadership and under what circumstances do they feel respected or disrespected by their leaders?

To determine this we conducted a study with almost 500 employees and asked for critical instances where they felt that respect had or had not been shown. This allowed us to develop 149 standardised statements defining leadership behaviours aligned to respect, which we then distilled to 12 that accurately captured the essence of the answer to the question “what is respectful leadership?” This gave us a means of creating a respectful leadership scale (Fig 1).

When applied to matters of respect, the karmic idiom “what goes around comes around” advises that how we treat others is how they will treat us. However, the truth is much broader than that. Our research shows that receiving respectful treatment from a superior can make us feel very group oriented. Such actions encourage us to spread our own respectfulness, not
just in a reciprocal fashion to those who gave us respect, but to the whole group or team to which we belong.

So how does this benefit leadership? Well, it’s actually quite straightforward. There is often the notion in management that if you treat employees too nicely, with too much respect, that the effectiveness of leaders is weakened. Indeed, managers are often taught that it is very difficult to be a popular leader and run a successful company.

Being “nice” and being respectful are not the same however, and through our studies we find that where a leader gives respect to employees, a powerful consequence is that it is much easier for those employees to identify with and follow the leader. Indeed, as those who follow management thinking will be aware, this employee/leader identification is considered one of the pillars of modern leadership style.

Leadership, after all, is about people. It is not primarily about developing organisational objectives and implementing them throughout the enterprise. The true task of leaders is to engage people and convince them to follow you. Leaders can be measured by the degree of followership that they have. Without followership leaders cannot expect to present their objectives, corporate or otherwise, and have subordinates willingly strive towards those goals.

The psychology of respectful leadership
Psychology tells us that humans have fundamental psychological needs. There is a need for autonomy: we want to feel in control of our lives and of situations. We have a need for relatedness: we need to feel that there is a social bond between us and other people. There is also a need for competence: it is important to us to feel that we are of value and that what we do matters. Together, these three needs form self-determination. Respectful leadership as an action fosters self-determination as an experience for the follower. Through this experience it becomes much easier for the individual to identify with the leader and their vision.

A leader who consults with their subordinates, respects their expertise and value to the organisation, finds out how they want to be treated and what they consider is respectful to them, sends out a powerful message, one that actively encourages followership. Horizontal respect given out by leaders comes back to them as vertical respect. So, the more leaders treat employees respectfully, the more employees will respond with vertical respect, and the more they are open to the influence of the leader.

In our latest research, we looked at how leaders can communicate with subordinates in a way that expresses respectful leadership and found that question asking, combined with appreciative listening, is central to respectful leadership. Asking questions...
Defining respectful leadership (continued)

by Niels van Quaquebeke

engages people. However, its negative effect is pretty obvious if someone asks you a question and then starts playing with their Blackberry whilst you give them your answer.

If I ask you how you are doing and attentively listen in an appreciative way, then this simple action has very positive consequences. By asking and giving you the respect to respond freely, you cannot help but feel a sense of control over the situation. Inherent in the question is the relinquishing of control of the conversation to the person being asked.

Conversation is a very powerful means of showing to other people that they are of value: it expresses that the individual is worth talking to and that you respect them. This fulfils the inherent human need for competence mentioned earlier: if I engage in conversation with you then it must be because I believe that what you have to say is of value.

Question asking is thus a very respectful way of communicating. By the same token, it is a very different way of communicating leadership than that taught by dominant management philosophies, which are primarily focused on visionary leadership, one that presents a clear path to the future or a predetermined set of goals.

Unquestionably, it is the job of leaders to make decisions and to reduce uncertainty. The respectful leader will not make decisions in isolation, but instead will make a point of asking the opinions of their followers. By asking and listening to opinions, not only does the leader engage followers and show respect by doing so, but parallel to that the leader helps fulfil the basic, psychological needs outlined earlier.

Initial results from our studies are very enlightening and explicitly show how well this type of interaction works.

The benefits of respectful leadership

By being able to better identify with leaders and leadership goals, the employee experience is enhanced. Essentially, employees become happier and their motivation increases in an environment where they feel respected, the value of neither of which should be underestimated. The prime motivation of business tends to be generating and increasing revenues and as leaders report on the bottom line at shareholder meetings there is a tendency for them to forget how that is ultimately achieved – through the efforts and commitment of people.

Not only can respectful leadership make an organisation a great place to work, but it also offers additional and not insignificant benefits for employer branding, recruitment, staff retention and more. A happy and stable workforce contributes to reduced costs, and our research shows that through respectful leadership organisations can achieve improvements in performance.

Leaders are free to use our 12-item leadership scale within their organisation. They should actively learn how they fare in the eyes of their employees in terms of respectful leadership. From this perspective the diagnostic aspect of the scale is useful for organisations wishing to implement respectful leadership or indeed, improve upon it.

“Through respectful leadership organisations can achieve improvements in performance.”

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