

Business process humaneering

How to capitalise on new technology without destroying organisational productivity. By James S Pepitone.

What is humaneering? It's an emerging applied science (ie technology) management can use with confidence to design more productive and satisfying human work that is faster and easier to manage.

If you were working in the 1990s you probably thought of 'reengineering' when first seeing the title. You even may have experienced flashback images of heartless mass terminations

on Friday afternoons, survivors taking on the work of several terminated colleagues, organisational infighting for positions and people, and customer service at an all-time low. Scholar Thomas H Davenport of Babson College in the US wrote a piece for the first issue of *Fast Company* magazine in 1995, aptly referring to reengineering as 'the fad that forgot people.'

Then, as now, organisations were adapting to new technologies, providing important advantages. In fairness, there were several business success stories that emerged from the decade of reengineering, however it's reported that over half of these initiatives failed to achieve the expected results.

The way workers were treated continues now, haunting

many of today’s organisations. Reengineering was energised by stiff competitive pressures and the widespread adoption of ‘shareholder’ economic theory. Even the workplace ‘survivors’ were stripped of their psychological employment contract, pension programmes, healthcare coverage, and then instructed to feel lucky that they still had a job.

It was a time we want to forget, yet if organisations do forget, then they might easily repeat the experience. If you missed reengineering, lucky you. If you or your parents were involved, you know better than let it happen again.

Cognitive technologies will transform human work

Is it possible for organisations to adopt the coming new cognitive technologies without losing valued organisation members or triggering a loss of organisational productivity? Our field work applying humaneering’s DesignedWORK™ protocol suggests it is possible. Furthermore, it’s exceptionally helpful to begin early to engage organisation members as partners in the preparation for new cognitive technologies. When humaneering is utilised for this preparation, the organisation experiences increased performance and productivity, even before the new cognitive technologies arrive.

For the foreseeable future, cognitive technologies will be utilised to augment human work in four ways, while also creating entirely new jobs for people to create, implement, and support new technology.

1. Offload tedious, low-value standardised work (eg, procedures, forms, requests)
2. Provide a wide range of support tools (eg, organising apps, decision support)
3. Retrieve and organise information (eg, search data, populate forms)
4. Make rule-based decisions (eg, process applications, response automation)

A critical first step in this process is a comprehensive rethinking of job design and management methods. Most human work is burdened by unnecessary, dysfunctional, value constraining and expensive industrial era management practices, that are no longer sufficiently effective. The impact to the organisation is greatest at the lower levels, affecting both workers and managers, yet the problems that arise are rarely seen at the executive levels.

Many of these methods were offered up as best practices in the late 1800s by people born before indoor plumbing. And what will make matters worse is if organisations unwittingly automate or apply other sophisticated technology to methods that for many organisations, are already a barrier to profitability and growth.

The human part of human work

The nonprofit Humaneering Technology Initiative (www.HumaneeringTech.com) is a global effort to synthesise relevant knowledge from all science disciplines into 21st century principles, methods, and tools to design and manage human work, jobs, and organisations. Humaneering’s DesignedWORK™ protocol will soon enter a fourth round of beta testing. Humaneering is free, though there may be some cost associated with learning how to use it effectively or hiring someone

Figure 1

CLASSIFICATION	TYPE 1 WORK	TYPE 2 WORK
Terminology	Standardised task <i>Standard work</i> <i>Required work</i> <i>Tasks</i> <i>Physical work</i> <i>Using one’s hands</i> <i>Doing</i>	Adaptive response <i>Knowledge work</i> <i>Discretionary work</i> <i>Responsibilities</i> <i>Mental work</i> <i>Using one’s head</i> <i>Deciding</i>
Goal and Solution	Clear <i>Predetermined and prescribed to workers</i>	Not clear <i>Contingent on situation and determined by worker</i>
Objective	Assignment compliance <i>Complete assignment as directed</i>	Opportunity capitalisation <i>Maximise economic value derived from assigned opportunity</i>
Sources of Economic Value	Efficiency Standardisation Simplicity Large scale Variation control	Effectiveness Differentiation Sophistication Yield management Variation potential
Complexity	Low <i>Closed work system with identifiable root cause and direct effects</i>	High <i>Open work system with diffused contributing causes and emergent effects</i>
Work System Design Priority Order	1. Work 2. Work environment 3. Worker <i>Work environment should support work</i>	1. Work 2. Worker 3. Work environment <i>Work environment should support worker</i>
Essential Work Attributes	Specific objective Practical workload Told what to do Told how to do it Minimal distraction	Specific opportunity Meaningful job-role Autonomy Response-ability Resources support
Human Reasoning and Communication	<i>Level 1 – Concrete/Physical</i> <i>Level 2 – Rational/Statistical</i>	<i>Level 3 – symbolic/Verbal</i> <i>Level 4 – abstract/conceptual</i>
Desirable Worker Attributes	Endurance Obedience Diligence Intelligence	Expertise Commitment Initiative-taking Creativity

Is it possible for organisations to adopt the coming new cognitive technologies without losing valued organisation members or triggering a loss of organisational productivity?

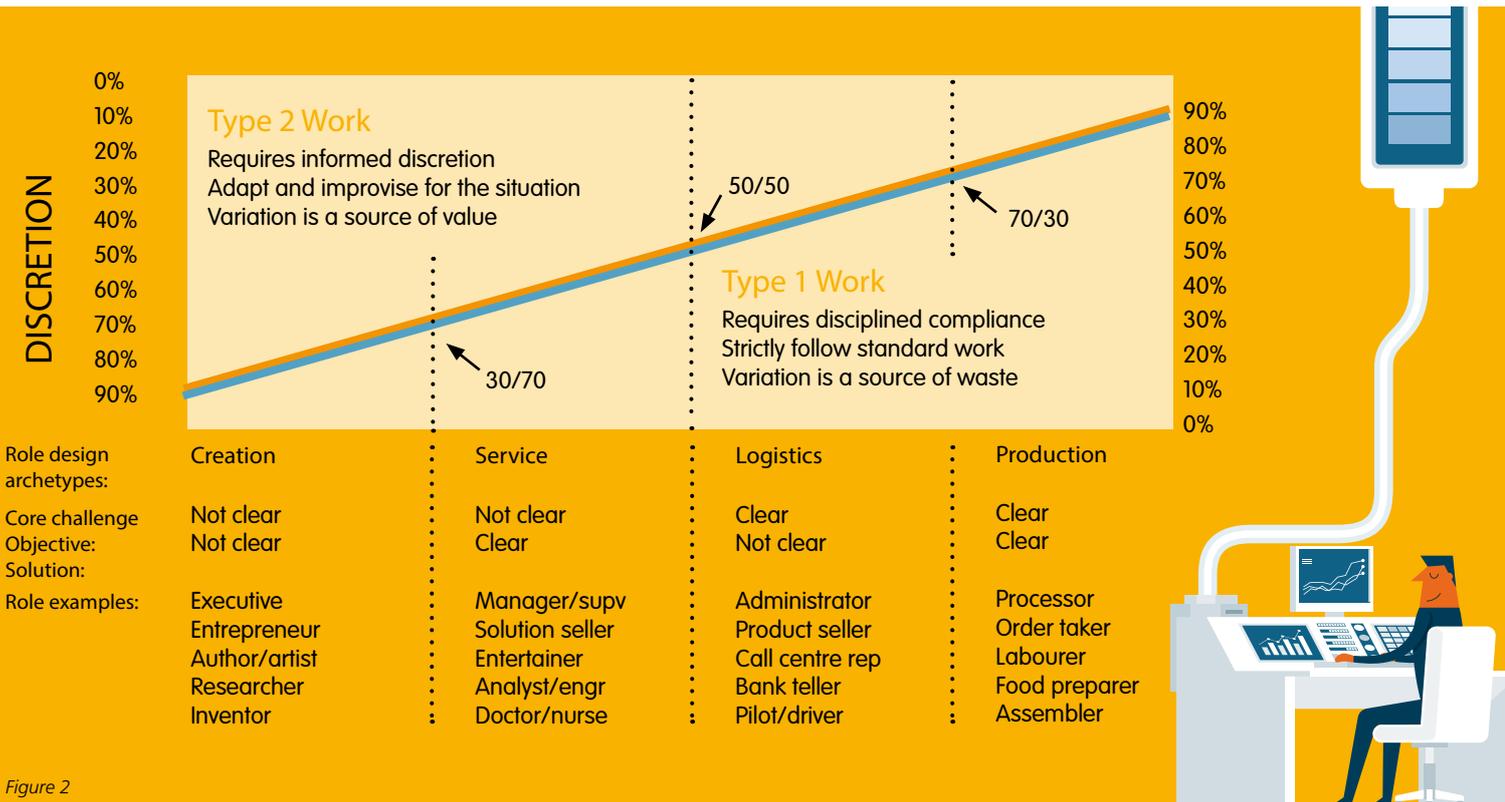


Figure 2

to apply it for you. A public programme to develop skilled practitioners will begin this summer.

For now, imagine that there are two broad categories of work. Let's call work that is standardised Type 1. This work is highly structured and people performing this work can be trained (with no prior experience), and are typically told what, where, and when to do this work. Due to its standardisation, Type 1 work creates only the value designed into the work. Any variation destroys value. For this reason, Type 1 work does not offer workers the opportunity to create additional value and thus increase performance and productivity, other than to correct any deficiencies. The human capital (ie, a person's potential to create economic value) for Type 1 work is generally calculated to be equivalent to the wage paid, and no more.

The other type of work, let's call it Type 2, is not standardised. It often requires a professional level of expertise and tacit knowledge learned through experience, is performed somewhat autonomously and is largely self-managed. It involves creating and maintaining relationships both within and outside the organisation, and its metrics are often more qualitative than quantitative plus luck or good fortune is generally involved. Type 2 work offers workers relatively unlimited potential to create as much value, performance and productivity as the person can, based on their effort, talent, tacit knowledge, personality, character, relationships, support, luck, and many other variable factors. The human capital for Type 2 work is generally calculated based on a formula including the assigned opportunity's potential value, what proportion of that value is realised, and some index for the market value of this particular work.

All jobs involve both Type 1 and Type 2 work, though the proportion varies greatly. Each requires a different approach to work design and management. Today's dominant management approach was conceived for work that was more than 90% Type 1, and yet today most jobs involve more Type 2 work than Type 1 work.

The opportunity to maximise the return on any investment in cognitive technology is with Type 2 work. Most large-scale applications of technology thus far have been to automate or augment functions requiring physical labour. Applications of cognitive technology have more potential to enhance human performance than to replace it.

Some people predict disaster the moment this new round of technology starts replacing, leveraging or supporting the work of knowledge and service workers, who have experienced only minor disruption when compared with production and logistics workers. These concerns more often exceed a reasoned estimation of what to expect.

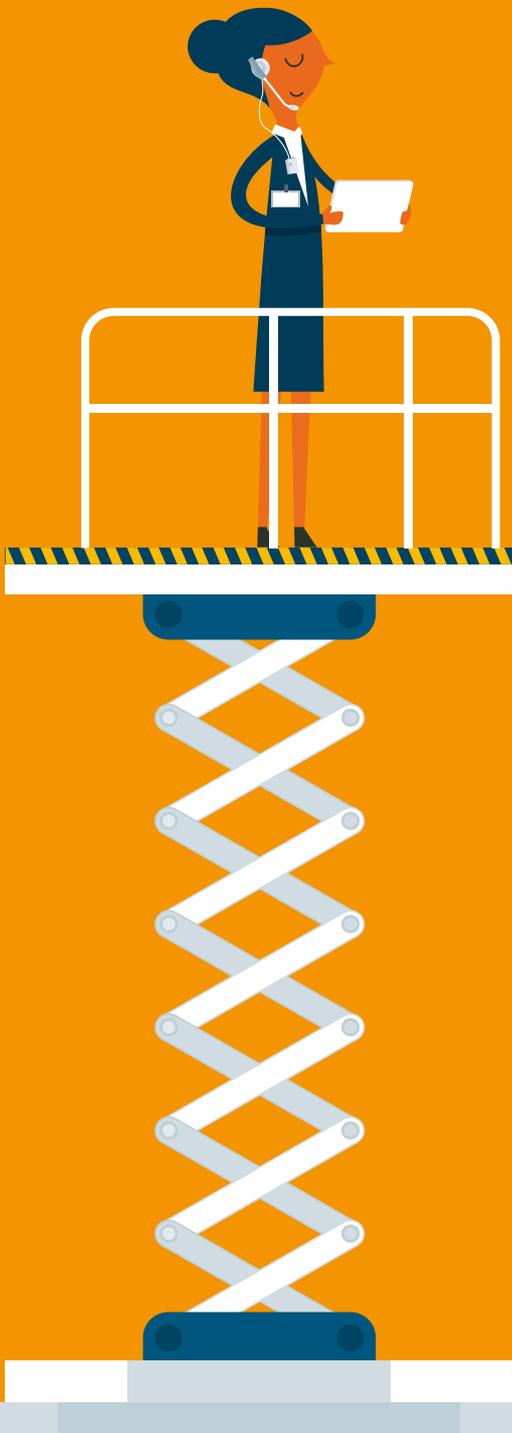
Since the Industrial Revolution, people have been working around and directly with machines in a symbiotic way, with each augmenting the other. People have performed functions that a machine cannot perform for itself (eg, design, maintenance, programming). People have also been assisted by machines that give the worker capabilities they would not otherwise have (eg, personal computer, smartphone, automobile).

Improvements in effectiveness and efficiency, comparable to those results gained with Lean and Six Sigma initiatives (ie, engineering) when applied to Type 1 (standardised) work, are now available with DesignedWORK™ initiatives (ie, humaneering) when applied to Type 2 work.

Humaneering applies design thinking and the most relevant current science pertaining to human work to optimise the economic value created from people-dependent work (and from the human capital employed). It focuses work design on human capabilities, and on transforming these capabilities into peak sustainable levels of human performance and organisational productivity.

It's possible with humaneering to transform organisations in which people now 'do the minimum' into organisations of highly motivated workers who complete Type 1 work as assigned, and approach Type 2 with their full potential (eg,

Humanengineering applies design thinking and the most relevant current science pertaining to human work to optimise the economic value created from people-dependent work.



talents, strengths, character). People performing mostly Type 1 work find deeper meaning and fulfilment in their work with the addition of Type 2 work like problem solving, process improvement, and organisational projects. People performing mostly Type 2 work find greater ability to develop and achieve with their full potential, often creating industry leading performance and job satisfaction levels. See Figure 1 for more comparisons between Type 1 and Type 2 Work.

Seizing this opportunity to achieve higher performance and productivity makes economic sense as a preparatory step before augmenting primarily Type 2 work with cognitive technology. The tightening market for skilled and professional workers across several new and developing occupations, has made worker satisfaction and retention a priority today that didn't exist during reengineering.

Implementing new cognitive technologies without reasonable participation and consideration of workers, regardless of the 'Type' of their work, may have consequences beyond management's gravest concerns. Furthermore, while acquiring and implementing this new technology, management still has the same routine concern of serving customers effectively and efficiently, growing both the top and bottom lines, sustaining a capable workforce at every level, and responding to significant events and changing conditions as they arise.

Leading the transformation of human work

Expert estimates suggest the adoption of cognitive technology to augment human capabilities will require a comprehensive long-term initiative. The estimates range from 10 to 30 years. No one can know for sure. Much depends on how quickly this technology is developed and deployed, and how eager organisations are to keep up with the frontrunners.

It was during the first three rounds of beta testing – consisting of more than 100 initiatives with humaneering within varied operations across more than 50 major organisations—when those of us involved discussed and experimented with the support of client organisation. We were trying to sort out the advantages and disadvantages of various approaches organisations might conceivably take when adopting new cognitive technologies.

Among these approaches, we considered having the required leadership and coordination provided by large-scale operations units. The potential leverage is great due to size. Plus, these are the managers and workers who are likely to be most affected by the adoption of cognitive technologies. The work performed by people is already within the unit's responsibility. This approach worked reasonably well for the adoption of 'physical' technologies by most production and logistics organisations. In most cases, much of the human work performed is already augmented by physical technology or involves people supporting machines with tasks more efficiently completed by people.

Another alternative considered was to have IT lead and coordinate this process. Cognitive technologies are most likely current applications involving IT, plus any new technologies would need to have IT's involvement to assure that sufficient infrastructure is available.

The last alternative given serious consideration was HR. On the surface this might not make sense, given HR's traditional role of personnel administrative and employment policy enforcement. Further consideration uncovered several reasons why the human resource function could be best suited to lead and coordinate the adoption of cognitive technologies, giving HR work that creates economic value and capitalises on HR's unique strengths within organisations. These are among the more prominent reasons we've witnessed:

1. One of few organisational functions deeply knowledgeable about people and experienced working with people on issues involving human work, employment policies and laws, etc.
2. Capable people will be a scarce resource for the foreseeable future, heightening HR's importance to most units of an organisation.
3. Already home to deep expertise with organisational planning, compensation, recruiting, onboarding, training, developing, evaluating, managing, and offboarding, all of which will be central to hiring and maintaining the best fitting workers throughout multiple work transitions brought on by even newer cognitive technology.
4. Much of HR's operations have been automated or outsourced, so it is very familiar with the virtues and consequences of these alternatives.
5. Maintaining the performance of people and productivity of people-dependent operations will be critical before, during, and after the adoption of each new injection of technology
6. Experienced in preparing people to work differently as required by new technology.
7. Have the most relevant resources for finding work for workers somehow displaced due to the new technology
8. Most capable when it comes to human learning and development.
9. Systematic application of humaneering over time will gradually wean the organisation off of Industrial Era methods and equip management with methods better suited for today's work, people, and work environment.
10. Experienced working and coordinating across organisational boundaries.

Time for something different

To provide further insight into how this HR-lead approach might develop, I've gained limited permission from a beta client who hosted an HR directed initiative. A year earlier, while applying humaneering to resolve some people-related operations problems, we needed HR's buy-in for a change to an HR policy negatively impacting the organisation's performance. This required a few conversations, during which we were asked for suggestions regarding HR's future.

At a meeting with the HR leadership team, we shared a lengthy discussion during which our team shared several conclusions reached by the Humaneering Technology Initiative during its extensive research and development work. The meeting ended with the team agreeing they had some things to consider further, and that was the last of it.

The head of HR client called about 10 months later, reminding

me of our conversation, and saying they were ready. 'Ready for what' I asked, not suspecting that they were interested in what was spontaneously proposed for their future. She said, 'You're right. We simply cannot stay like this. And we want to get started as soon as possible.'

One thing I learned quickly. If HR professionals can amp up their courage for leading across the organisation, they work smart, fast, and persuasively with other leaders. And because they made each client's objectives their challenge, their involvement was welcomed. Most operations were eager to see what this new HR initiative could accomplish.

Workers are typically nervous when HR is hanging around, but HR professionals are also skilled in putting people at ease by explaining their purpose as being there to (a) identify and reduce or remove any circumstances that made their jobs more difficult to perform, and (b) identify and develop any suggestions they had for improving their job/role. HR professionals are great listeners, especially when they are of a mind to make exceptions for individual job/roles, when doing so improves outcomes.

Starting small, the HR team tackled just one job/role in each of three organisation units based on the unit leader's predominant challenges. The design of each job/role was evaluated to determine if sufficient opportunity for improvement existed. Generally speaking, the opportunity in this case was substantial. The opportunity is substantial in most cases, primarily because organisations have moved away from designing job/roles, other than drafting a job description, job specification, and job posting, which barely qualifies as design. The humaneering DesignedWORK™ protocol spells out what to look for and what alternatives best fit situations.

Unlike reengineering, each job role is treated as a whole work system occurring somewhere along a business process. Reengineering typically focused only on the process, and failed to consider and design this work system for worker performance and job satisfaction. As a result, several years of fiddling with various elements of the job/role ensued in a subsequent effort to improve disappointing performance, low engagement, and poor retention.

Humaneering provides a reconceived HR function with a methodology for optimising worker performance and organisational productivity... increasing management's yield on human capital employed by the organisation. This empowers HR to substantially improve current levels of engagement, trust and loyalty. And it enables HR to create a more agile workplace, more change ready organisation, and more engaged and productive employees.

Many in HR are not known for being risk takers, which this challenge will surely require. HR will need the freedom to experiment, and demonstrating the courage and creativity to lead may be enough to secure it.

Perhaps you are already familiar with the UK-based 'DisruptHR' movement spreading across the world. Energised by the book, *HR Disrupted: It's time for something different* by Lucy Adams, this movement may signal HR's readiness to reinvent itself around new responsibilities for humaneering and for the augmentation of human work with cognitive technology.