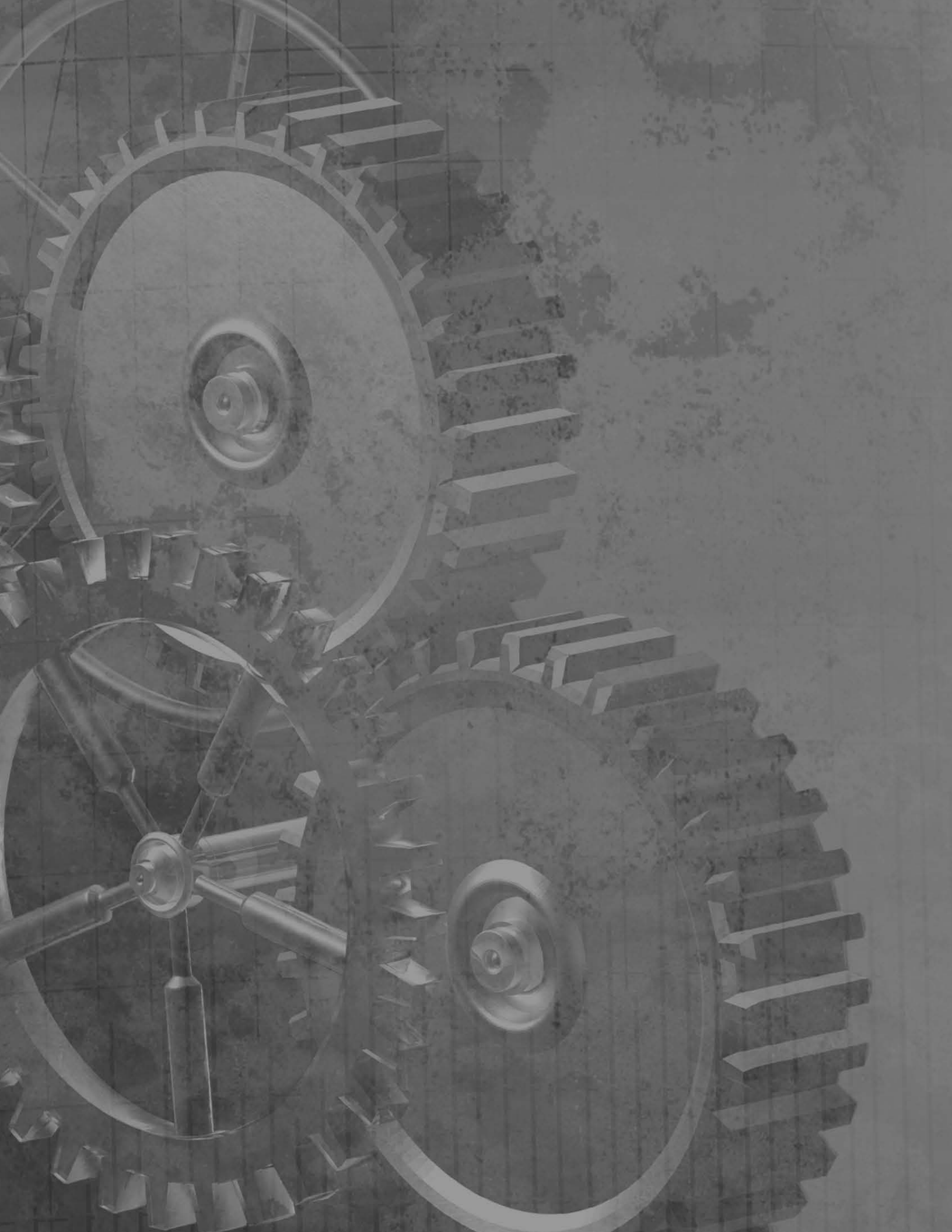


The background of the cover features a large, detailed image of several interlocking metal gears. The gears are rendered in a light, metallic green color with a subtle grid pattern overlaid on them. The lighting creates highlights and shadows, giving the gears a three-dimensional appearance. The overall aesthetic is industrial and technical.

# Knowledge Worker Productivity: *challenges, issues, solutions*

June 2011



# Knowledge Worker Productivity:

## *challenges, issues, solutions*

### Background

Knowledge workers are those employees who have responsibility for exploring and generating ideas and concepts rather than concentrating solely on implementing or managing existing processes or operations within the organization. The original 'prototype' used by Peter Drucker when he created the concept of 'knowledge worker' in the mid 1990s was a MD/PhD developing new drugs for a pharmaceutical firm. Generally speaking, knowledge workers have high degrees of expertise, education, or experience and the primary purpose of their jobs involves the creation, distribution or application of knowledge. Knowledge workers differ from manual workers because:

- **knowledge work is less standardized and structured**
- **knowledge workers are used to a certain level of autonomy**
- **before certain ends result it may be difficult to know whether knowledge workers are working or not**
- **knowledge workers basically own their key production mean – brains**

- **knowledge workers need to be committed to and enjoy their jobs.<sup>1</sup>**

In all organizations knowledge workers are a large category of workers that continues to grow. They are also the most expensive workers in organizations and they are essential to realizing the business strategies of the organization. As an example, the General Services Administration's (GSA's) value proposition reinforces the last point. As the graphic below shows, innovation and customer intimacy are two of the three key platforms of GSA's business strategy to support a government that works. All three platforms require knowledge workers but they are particularly critical to the Innovation and Customer Intimacy platforms.

This assertion is reinforced by a quick glance down the list of GSA's position titles. This suggests that the proportion of knowledge workers in the workforce is currently very high, and it is likely that further recruitment of staff will be in the knowledge worker category. This high proportion of knowledge workers raises a particular challenge for GSA as, like many organizations, it ramps up

1. Knowledge Work Productivity Measurement: Case Study In A Municipal Administration

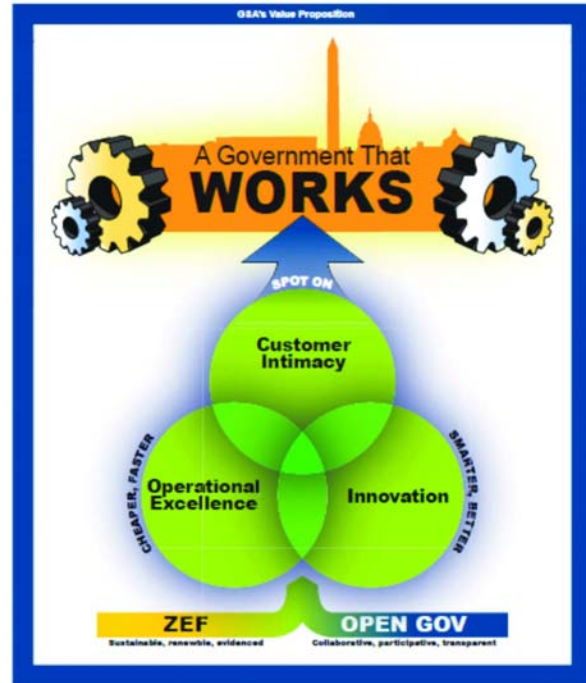
teleworking in order to, among other things, reduce its corporate real estate (CRE) footprint. Organizations need to be able to both extend teleworking and reduce CRE footprint while maintaining operational excellence.

## Challenge

Operational excellence is maintained by high levels of productivity with quality performance. Sadly, it's a 'well known fact' that it is very hard to measure knowledge worker productivity in spite of the fact that it is a critically important thing for any organization to be able to do. Peter Drucker, in 1999, wrote that "Increasingly, the ability of organizations – and not only of businesses – to survive will come to depend on their comparative advantage in making the knowledge worker more productive".

But more than ten years later there is little movement in the research or application field of how to measure knowledge worker productivity and from there improve it. This gap arises partly because knowledge work is intangible and difficult to categorize in sub-groups and partly because the existing productivity measures and performance review systems are rooted in 'machine age' organizations that are much more product than service oriented.

So, for example, it is easy to quantitatively measure the number of cookies that are boxed on a production line by a particular worker, or whether salespeople meet their sales targets, and in many of these instances the objective quantitative measure can be



backed up by a subjective quantitative measure for example customer satisfaction scores.

It is much less easy to measure productivity that may have a quantitative output but which depends on knowledge worker input - a policy paper is a case in point. In this instance the process for getting to the policy paper is not reliably measurable in quantitative terms. It would be difficult to know whether a policy paper that took ten weeks to write was 'better' than one that took five weeks to write because the speed of writing depends on the skills, knowledge and experience of the writer. In any event, the value of the policy paper is not in the fact that it was written but in the outcome of its use: delivering a policy that is never used is an **output** measure of productivity. Delivering a policy that is implemented and can be shown to have added value to the organization is an **outcome** measure.<sup>2</sup>

2. See Appendix 1 for more on outputs and outcomes.

Knowledge worker productivity is best judged on outcome measures. But here the relationships between time, cost, and quality come into play. Questions arise which are essentially judgment calls. Is the worker being productive when he/she interviews 10 people, or could he/she interview 5 people and get the same level of quality in the policy paper? Should the time allowed for writing the paper be 10 weeks or 6 months? Can you compare one policy writer's performance to another's?

Looking for organizational best practice in measuring knowledge worker productivity does not yield much. There are surprisingly few studies on measuring productivity in the administrative knowledge-intensive services of large public organizations.

This challenge of measuring knowledge worker productivity (and performance) and the questions that arise from the challenge, raise issues that come into clear focus as organizations now grapple with extending, across their populations, teleworking, mobile working, any associated hoteling, and new ways of delivering their missions.

But if such measures can be developed they would unveil the hidden potential for productivity improvement, help develop ways of productivity improvement, contribute powerful evidence to the business case for teleworking, and mitigate anxiety about teleworking.

## Issues

Four key issues, related to productivity and performance, are raised as organizations consider the prospect of extending teleworking across a larger population<sup>3</sup>:

### *a) Are 'invisible' workers working?*

Managers worry that they won't be able to tell whether an 'invisible' worker i.e. one not physically present in front of their eyes, is being productive. This sometimes results in managers refusing to let their staff telework or they resort to micro-managing their teleworking staff requiring them to 'report in' at defined times, state exactly what they will be working on, complete logs of work done or calls made, etc.

### *b) How will my manager know what I'm doing?*

Conversely teleworkers worry that they cannot prove value add productivity if the work involves, say researching for an article, or planning a strategy. People used to traditional command and control hierarchies feel adrift if they are given more range and autonomy than they are used to and lack the skills to feel comfortable working outside of the defined office environment.

### *c) Will my career suffer if I telework?*

Teleworkers feel they will miss out on recognition and career development opportunities if they are less visible to their managers than they would be in the office bricks and mortar environment. Many employees feel, rightly or wrongly, that managers reward and recognize people who they can physically see. They believe that face to face visibility leads to career opportunities – for example details – or recommendations for next steps in the career ladder.

### *d) How will my positional status be obvious?*

3. Other issues are raised relating to IT support, home office fit-out, etc. that are not the topic of this paper.

Teleworkers are concerned that their positional status will not be recognized by something that equates to an expected symbol of power or prestige which, in many organizations, is marked traditionally by 'personal real estate', for example a large personal office, or a car-parking spot.

These four performance and productivity issues both individually and collectively build a body of resistance to teleworking that government agencies in particular need to provide solutions to if they are to meet the goals set out in the President's Memorandum of June 10, 2010, and the Telework Enhancement Act.

## Solutions

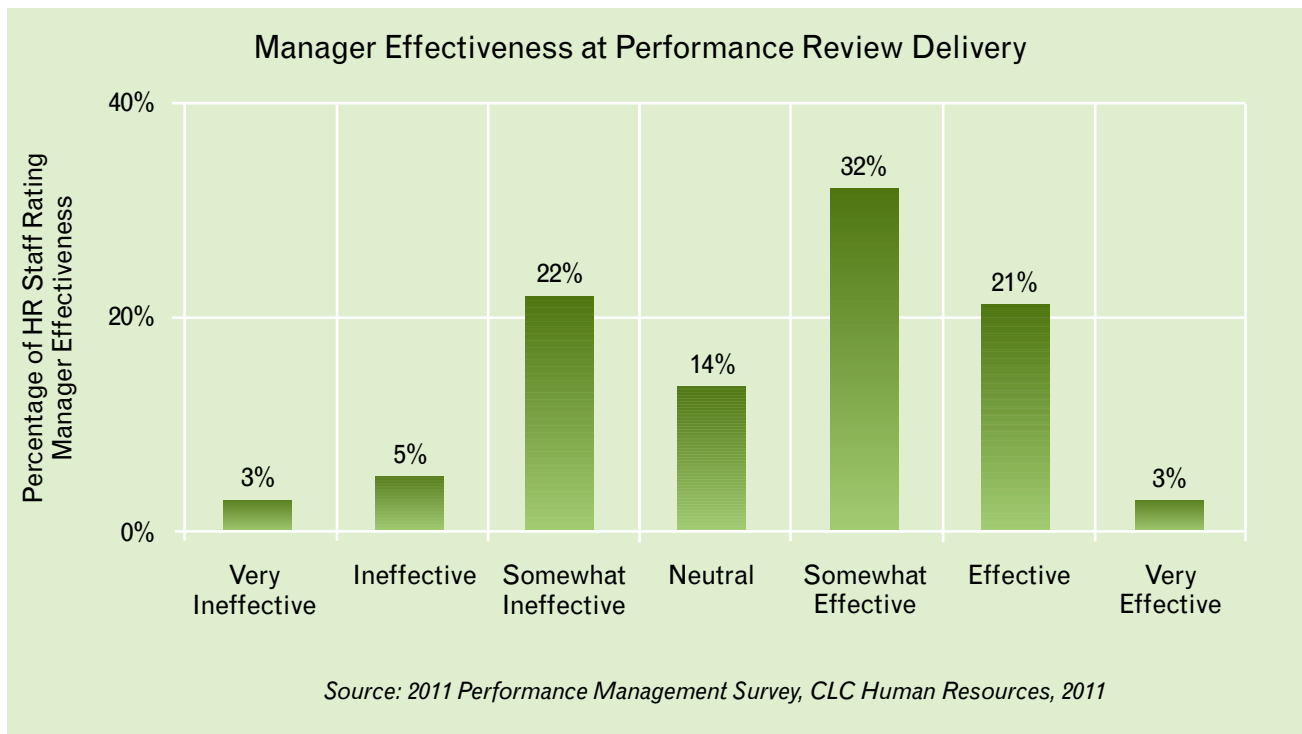
There are a number of solutions that need to be activated simultaneously that will address the issues raised by the challenge.

## # 1 Stop viewing the four issues noted above as specific to teleworking.

### *Are 'invisible' workers working?*

Managers who do not have the capability to performance manage remote workers are not likely to have the capability to performance manage on-site workers. Indeed, as the graphic below shows manager effectiveness at performance review delivery is, across the board, rather weak.

Managers who manage teleworkers differently from on-site workers (by requiring different reporting protocols for example) illustrate that lack of capability. An effective manager will manage work flows and people in a fair, equitable, and respectful way across diverse workstyles and locations.



### *How will my manager know what I'm doing?*

Workers, specifically knowledge workers, who worry that they cannot prove their value add in a telework setting probably cannot prove it in the office environment either. It is often an emotional feeling of 'rightness' in both manager and employee that 'presentism' is a sign of productivity and value. Managers and employees who have regular, meaningful, task related conversations, seek feedback from a range of people and develop informal communication paths regardless of location are unlikely to have problems with tracking performance and progress.

### *Will my career suffer if I telework?*

Career development opportunities result from an orchestrated and conscious approach to personal development and manager support that is good practice whether the employee is off-site or on-site. Most organizational policies on career development do not set out to prejudice one type of worker over another. Encouraging people how to develop career paths they are interested in and working with them to realize these is part of a manager's people development repertoire.

### *How will my positional status be obvious?*

Status symbols that are vested in CRE are not the way of the future. All organizations are trying to reduce their CRE footprint and in many organizations (Intel, for example) hierarchical power is not recognized by getting a corner office. Space is allocated by work type.

Positional power, in any event, is not the only source of power – nor indeed the best source of power to accord status to in a knowledge based organization. Status recognition should be tied to business mission delivery and knowledge worker productivity gains can be made by according status to things like the outcomes of their ideas implemented successfully, the increase in their customer satisfaction scores, etc.

## **#2 Develop a robust but flexible framework for measuring knowledge worker productivity**

The way university academic staff performance and productivity is measured is frequently cited as a best practice model in discussions of knowledge worker productivity. Although each university has developed its own measurement system all have common characteristics:

- a) They are based on manager/employee agreed outcome (not output) measures**
- b) They are contextually valid – that is, they are informed by what a particular business unit needs in terms of outcomes related to the business goals**
- c) They enjoy perceived fairness**
- d) They provide a quantitative basis for evaluation and reward of knowledge work**
- e) They are customized to provide incentives that individual workers value**
- f) They apply multidimensional measurement to capture productivity i.e. data is captured from a range of**

sources that simultaneously examine quantity and quality as well as tangible and intangible aspects in service provision. This approach also enables the combination of subjective and objective measures which may not by themselves provide information sufficient enough).

**g) The data captured is both objective and subjective**

Using these eight characteristics as guidelines gives organizations the opportunity to develop a scalable and replicable knowledge worker productivity measurement model. A number of data sources already in use could be captured and integrated for example, within GSA these include customer service measures, items from the Gallup Q12 survey, 360 feedback through software and so on.

### #3 Include knowledge workers in the efforts of deciding how to measure their productivity

Organizations that do measure knowledge worker productivity believe that knowledge workers should be included in the efforts of deciding how to measure their productivity – and intuitively that seems right. Structured conversation between manager and employee are commonly used with the conversation taking place around these types of questions, use Table 1 as a prompt to formulate questions such as:

- **What is the task (or tasks) you are going to work on/are working on?**
- **What is the outcome your work should aim at?**

- **What time period are we looking at?**
- **What are the main inputs you are using in your work? How do they help/hinder you**
- **What kind of factors you think affect the process through which you convert the inputs available into outcomes expected?**
- **What kinds of things hinder your productivity?**
- **What factors benefit your work?**
- **What ways can we measure your productivity/outcomes?**

The conversations should then continue on an informal but regular basis with the objective being to track progress towards the agreed outcome(s).

### #4 Increase manager skills in productivity and performance management

Managers who can give effective feedback on progress and combine with attentive listening to what the employee is saying are skills lacking in many.

If productivity is indicators and being tracked from a number of sources sensitivity in discussing negative indicators such as disparities, missed promises, failure to deal with setbacks, and so on becomes a core required skill. Equally indicators of progress made, hurdles jumped, decisions taken and so on should not be glossed over – many managers feel as uncomfortable praising or encouraging an employee as they do giving negative feedback. However, manager willing, these skills are learnable.



Inputs	Process	Outcomes
<p><b>Organizational:</b></p> <p>Mission  Human capital  Innovation potential  Organizational standards, practices and routines  Information systems  Quality of information available  Access to information  Networks and community  Time allocation  Working environment</p>	<p>Organization of work  Division of tasks  Ways decisions are made  Clarity of job descriptions  Teamwork  Knowledge sharing  Delays and waiting  Ability to affect own work</p>	<p>Innovations implemented successfully  Quality of product or service improved  Time and/or space gains made  Process efficiencies achieved  \$\$ saved  Customer's expectations fulfilled</p>
<p><b>Personal:</b></p> <p>Motivation  Job satisfaction  Social network  Work/life balance  Values and culture fit</p>		

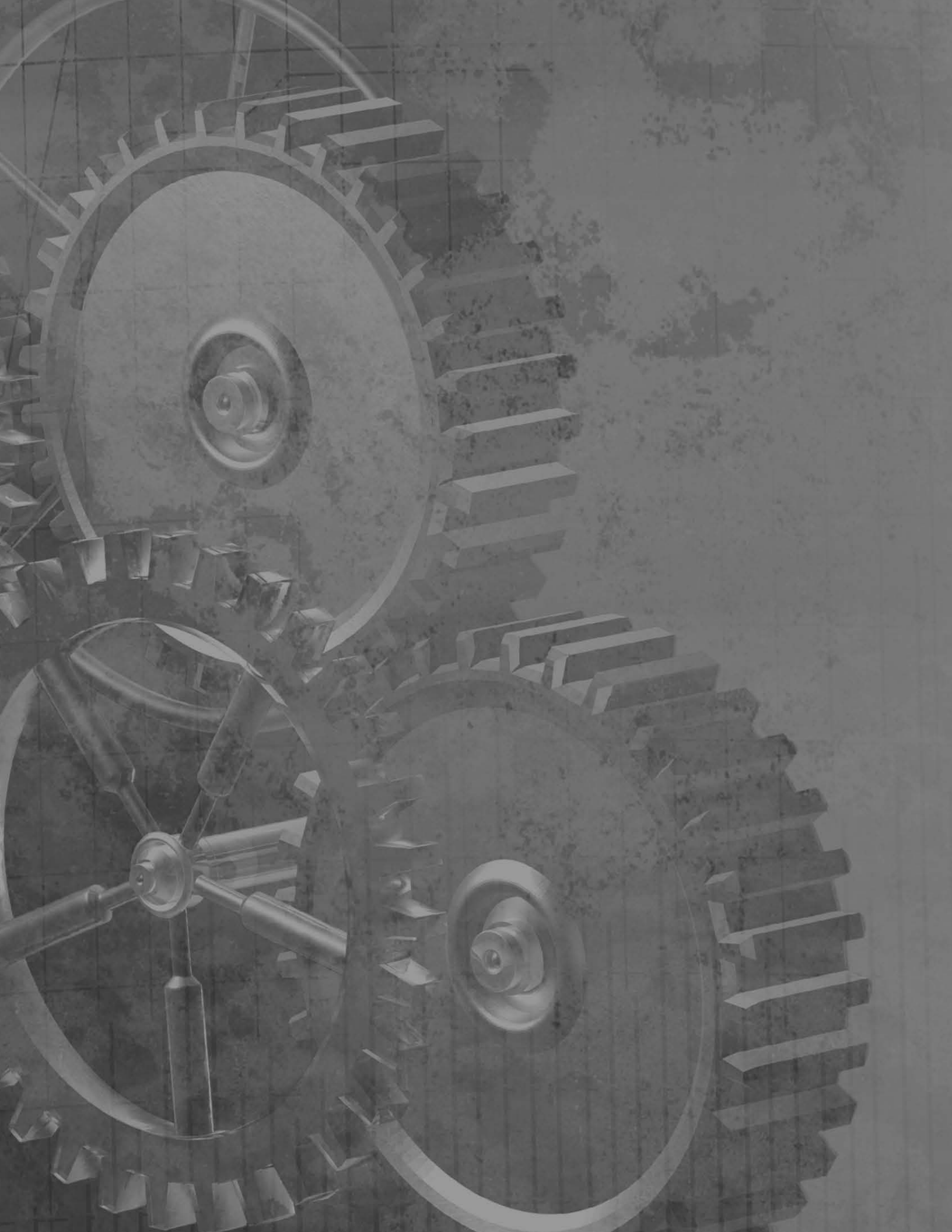
Table 1

## Summary

Measuring knowledge worker productivity is not a straightforward task, but working out how to do it using the suggestions in this paper, and then testing the approaches offer an opportunity to develop organizational performance in several aspects including productivity through more motivated staff, reduced CRE footprint, improved managerial skills, and increased knowledge management and transfer.

### *Recommended next steps include:*

- **Identifying a site to try out a productivity measurement system**
- **Developing a framework that includes multidimensional measures tied in some cases to existing measures**
- **Working with individual employees and managers to tailor the framework to their circumstances and then with their support implementing it**



# Appendix 1

## Output and outcome

**Output:** An output is something like “provided 1,000 families in a housing crisis with one-time emergency financial assistance.”

Outputs are simply things that happened as the result of some sort of tactic. For instance, the number of impressions for a banner ad campaign is an output of the campaign. Even the number of clickthroughs is an output — in and of itself, there is no business value of a clickthrough, but it is something that is a direct result of the campaign.

**Outcome:** An outcome is more like “reduced the number of families who became homeless due to a financial crisis by 15% over the previous reporting period.” Does the distinction make sense? The output is what the nonprofit agency did, whereas the outcome is why they did it — what result they were really trying to achieve at the end of the day.

An outcome is direct business impact. “Revenue” is a classic outcome measure, but outcomes don’t have to be directly tied to financial results. Growing brand awareness is an outcome measure, as is growing your database of marketable contacts. Increasing the number of people who are talking about your brand in a positive manner in the blogosphere is an outcome.

## Distinction between outputs and outcomes

The distinction between outputs and outcomes matters for two reasons:

- **At the end of the day, what really matters to a business are outcomes — if you’re only measuring outputs, then you are doing yourself a disservice**
- **Measuring outputs and outcomes can help you determine whether your best opportunities for improvement lie with adjusting your strategy or with improving your tactics**

From: Gilligan on Data,  
<http://www.gilliganondata.com/index.php/2009/10/26/measurement-strategies-balancing-outcomes-and-outputs/>

## ROWE

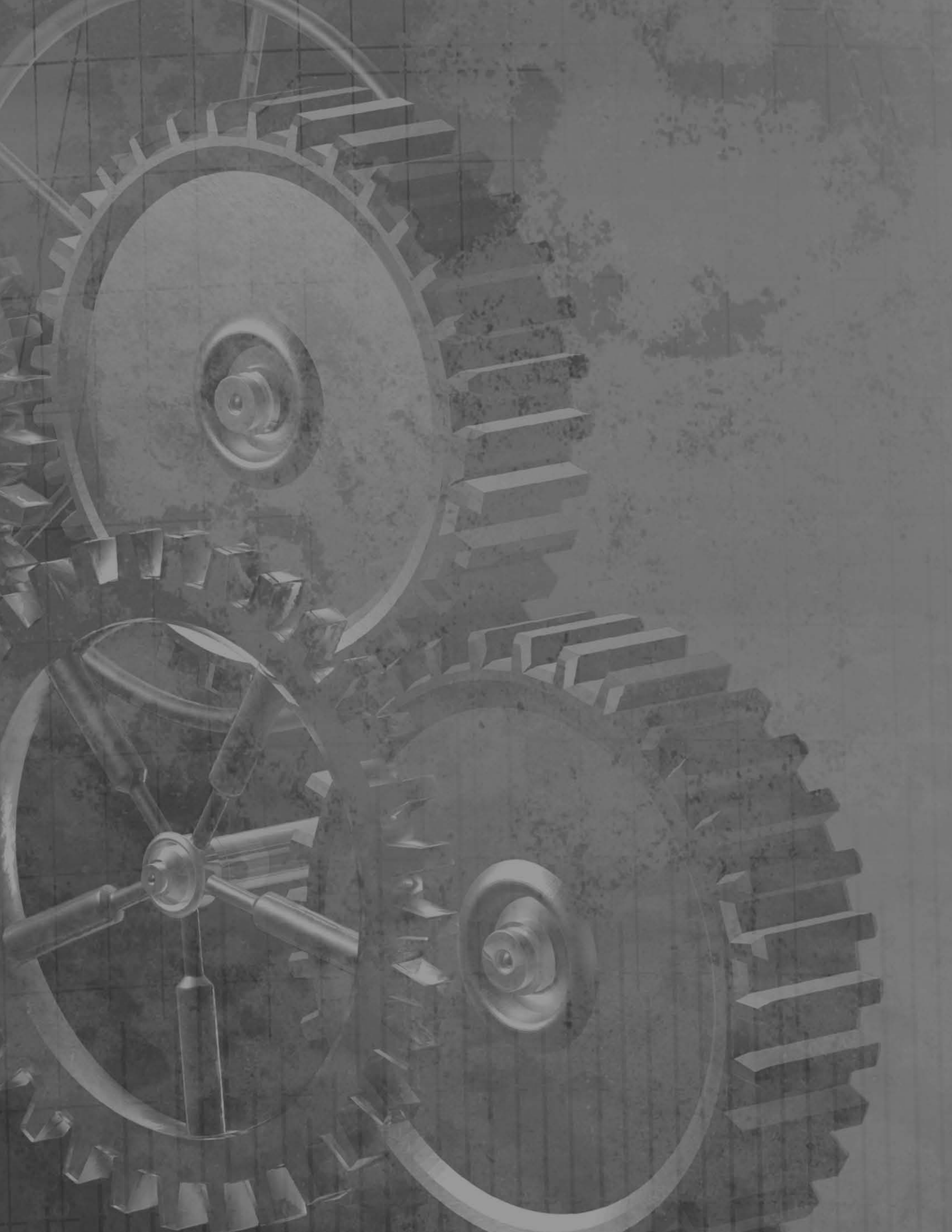
OPM has implemented its Results Oriented Work Environment (ROWE) pilot project. ROWE is based on employee management, under which employees are given maximum flexibility to schedule their work day, so they can continue making productive contributions to their organizations while also attending to family, pursuing higher education and taking care of other responsibilities. Managers manage for results rather than process. Employees are trusted to

get the work done, which is a shift in culture from permission granting (e.g., granting leave, permission to telework, etc.) to performance guiding.

In FY 2010, OPM evaluated its ROWE pilot and has since extended it for another year. The evaluation assessed the project's effect on employee performance and morale. As a result, OPM is developing performance appraisals that are in-line with the goals of ROWE and not based on more structured work environments. From OPM Fiscal Year 2010, Agency Financial Report [http://www.opm.gov/gpra/opmgpra/2010\\_AFR.pdf](http://www.opm.gov/gpra/opmgpra/2010_AFR.pdf)

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