Overview

In Greek mythology an evil king called Sisyphus was condemned to Hades to push a huge rock to the top of a mountain, but then the rock always rolled back down again. Perhaps a similar version of hell is suffered every day when employees open their over-crowded email in-boxes.

This topic is about productivity: getting more done in less time (with less stress!) It pulls together ideas, vision, plans, goals and action steps from previous topics into a workable system for achieving priorities and goals in professional and personal life.

University or TAFE may teach technical skills and professional knowledge that engineers, teachers, accountants or economic policy analysts need. However, they generally don’t teach the principles of work organisation. To become more productive, individuals need basic work principles. These underlie low-tech (manual) and high-tech (computerised) systems of desktop workflow and information handling.

A drive for efficiency in manufacturing saw close scrutiny of each stage of production. Services have felt similar pressure for efficiency but they don’t filter down to personal work organisation practices. Nonetheless, managers can make better use of their time by making meetings goal-oriented, controlling and organising their desktop activities, managing contacts and interruptions, using a more sophisticated To-Do list and focusing on the important rather than the urgent.

New technology is intended to render work more efficient and effective – and of course it does. It also brings novel problems of too much information. This and other work organisation problems can be dealt with by well-established techniques from the literature and practice.

Dealing with overload in email, meetings and other tasks is addressed, using evidence-based ideas. Time planners, setting priorities and applying the Eisenhower principle are all embraced.
Learning Objectives

On successful completion of this topic, you will be able to:

1. Explain why time management is important.
2. Use the Getting Things Done approach.
3. Evaluate work intensification.
4. Assess overload.
5. Implement personal effectiveness and efficiency procedures.
6. Organise your work space.
7. Address other productivity issues.
8. Apply priority management.
9. Implement personal work planning.
10. Critique issues around time in organisations.

8.1 Demand for Managers to be Good at Time Management

Manufacturing companies spend time and money analysing, refining and perfecting each production step, with dramatic increases in productivity. In the knowledge-worker environment, workflow and business procedures are more difficult to re-engineer (Gleeson 1998). Organisations look at overall knowledge management strategies but don’t apply them to individual knowledge workers (Heylighen & Vidal 2008). Individual work practices are rarely considered as part of an organisation’s management process and therefore not scrutinised for improvement. Nonetheless they should be and this topic does just that.

Based on two very large samples of practising managers from around 1990 and 2005, Gentry et al. (2008:173) examined how managers’ skills needs have changed. The main results of the study are shown in Table 8.1. One remarkable feature is that many percentages were unchanged over fifteen years. Overall managers perceived stability in the skills needed. The most noticeable differences were importance of relationships (up 10%), administrative and organisation skills (down 12%) and increase in time management (up 12%).
Table 8.1 Overall importance rankings for managerial skills

<table>
<thead>
<tr>
<th>Managerial role</th>
<th>% believed role is important</th>
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</thead>
<tbody>
<tr>
<td>Communicating information, ideas</td>
<td>60.1</td>
</tr>
<tr>
<td>Taking action, making decisions, following through</td>
<td>59.7</td>
</tr>
<tr>
<td>Getting information, making sense of it; problem</td>
<td>57.8</td>
</tr>
<tr>
<td>Identification</td>
<td>56.7</td>
</tr>
<tr>
<td>Knowledge of job, business</td>
<td>29.4</td>
</tr>
<tr>
<td>Relationships</td>
<td>45.0</td>
</tr>
<tr>
<td>Time management</td>
<td>19.7</td>
</tr>
<tr>
<td>Influencing, leadership, power</td>
<td>30.9</td>
</tr>
<tr>
<td>Managing conflict, negotiation</td>
<td>25.6</td>
</tr>
<tr>
<td>Coping with pressure, adversity; integrity</td>
<td>20.6</td>
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<tr>
<td>Selecting, developing, accepting people</td>
<td>20.6</td>
</tr>
<tr>
<td>Risk-taking, innovation</td>
<td>18.7</td>
</tr>
<tr>
<td>Energy, drive, ambition</td>
<td>11.6</td>
</tr>
<tr>
<td>Self-management, self-insight, self-development</td>
<td>8.6</td>
</tr>
<tr>
<td>Openness to influence; flexibility</td>
<td>8.8</td>
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</table>

Source: Gentry et al. 2008:173

Thus administration and organisation were down but time management was up.

Activity 8.1 – Skills in management

The role of various skills in management are shown in Table 8.1 from most to least importance. What themes can you identify in the list in terms of importance (eg items towards the top of the list compared to the bottom)? How do these managers’ ideas about what is important compare to your own? What does the table say about self-management?

A review of 32 research studies on time management conducted between around 1982 and 2004 clearly showed that using more effective time management techniques gives individuals a feeling of being in control, more job satisfaction and health, and less stress. It has been harder to demonstrate that these techniques directly improve performance as results in that area were mixed (Claessens et al. 2007). Nonetheless time management skills have a bearing on quality of work life and are worth addressing.

8.2 Ants, Stigmergy and Knowledge Worker Productivity

What do ants have to do with getting organised? What is stigmergy? This section will explain these ideas and introduce Getting Things Done (GTD). David Allen is a popular and successful author and consultant who claims to have helped many people improve their productivity and decrease their stress levels, through better time management and organisation, with GTD. His claims are backed up Heylighen & Vidal (2008) who look at the scientific basis for why GTD works.
**Required Reading 8.1**


The purpose of this reading is to introduce and evaluate David Allen's GTD. The reading uses cognitive science and cybernetics to evaluate the underlying principles and processes of GTD. The reading also explains how ants know something about getting organised that we can learn from. It is useful to know how to do practical tasks such as following the GTD. It is also good to understand the theory behind them.

As you read through Section 3 **Cognitive foundation of knowledge** work on pp. 9-12, identify points in the theory that have implications for work organisation or time management. For example, Miller’s discovery of the magical number 7, where only about 7 items (+/- 2) can be held in working memory at the same time. This means that your To-do list should be written down, to avoid clogging your short-term memory. There are several other points like this in the section that you should link to practical actions. Section 4 in the paper explains these links in more detail.

As the reading says, GTD is about ‘selectively ignoring demands while remaining maximally in control of the situation.’ The reading first explains GTD, which is important practical information for you to have as a foundation for other material in the unit. It then goes on to explain the cognitive foundations of knowledge work which can help you understand what is really going on with your work. The interesting point about this material is that it discusses how your mind interacts with the information environment, whereas much of what we have looked at in this unit discusses how your personality and emotions interact with the social environment. These domains are not completely separate but the reading brings a different perspective. The section on **Being in Control** makes some useful observations that also relate to your previous work on goal-setting. The second last main section of the reading integrates an explanation of cognitive processing with GTD. The reading then extends GTD to how it can make group work more effective, which you should think about in relation to your team, committees etc. The conclusion shows how GTD can reduce stress.

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### 8.3 Work and Time Intensification

Organisational shifts in management thinking translate to pressures on individuals to deliver results and meet key performance indicators. Work intensification and pressure to do more with less have escalated workloads and hours. Together with other pressures, these shifts can lead to work overload and job burnout. On the other hand, mastering these demands can add to your promotability and enjoyment of work. To contextualise this argument to the public sector, consider this from senior public sector commentators:

> There is one further aspect of management that is key to the development and exercise of leadership that can be overlooked: self-management. The individual’s capacity to organise and maintain the very high workload demands of executive positions in the contemporary public service establishes a foundation for their capacity to exercise influence and shape organisational action. It is unlikely — although not impossible — that
a highly disorganised individual who is overwhelmed by their in-tray is going to be able to contribute effectively or consistently to the leadership of their organisation (Edwards, Ayres & Howard 2003:15).

The pace of life has increased noticeably and time has taken on a new dimension in the management literature and popular media, with such phrases as 24/7, doing things faster (time acceleration), eating faster, sleeping less (contracting time expenditure) and eating lunch while answering emails (compressing actions) (Claessens et al. 2007). There has also been a blurring of boundaries between work and non-work time:

‘Mobile technology … enables work extension – the ability to work outside the office, outside “normal” office hours. This provides flexibility with respect to the timing and location of work, and makes it easier to accommodate both work and family. But at the same time, of course, it also increases expectations: managers and colleagues alike expect staff to be almost always available to do work, which makes it easier for work to encroach on family time, and also leads to a greater workload … (and is) then, a dual-edged sword’ (Towers et al. 2006:593).

If the bar has been raised, what can self-managing individuals do? Improving time management and personal efficiency along with a robust system of priority management provide some answers.

Activity 8.2 – Getting things done

There is a lot of useful information in the Heylighen & Vidal (2008) paper. Your task is to work through the GTD from David Allen as it is summarised on pp. 4-8. It consists of five stages and particularly Figure 1. Perhaps list and summarise the main stages and sub-points. It may be that you already do some or all of the processes in GTD. Make a note of which ones you do and choose at least one to put into practice. After a few days or weeks reflect on how this new practice is working for you and what difference it has made. Figure 1 might be useful to keep in your office, laptop or somewhere close at hand.

Activity 8.3 – More on getting things done

As with most ideas or techniques it seems likely that not all of Allen’s GTD would work for all of the people, all of the time. What do you think? It does seem to include a great deal of flexibility to accommodate different contingencies and gives you the option to only do what you feel like doing at certain times. It also gives a great deal of permission not to do much formal planning. Heylighen & Vidal (2008) argue that the way our brains work, abstract symbolic manipulation and conceptual high level planning are difficult. It could be argued that in fact our brains vary and that some people prefer or are more suited to a more structured planned approach, and some are better at abstract conceptual manipulation. This argument is supported by the material covered in the learning topic (eg Honey and Mumford learning styles) and in the personality topic (eg MBTI). Your task here is to reflect on what you learned about yourself and others in those earlier topics and make some comments about which if any styles or types might prefer the GTD or certain aspects of it, with a view to maximising your ability and that of others to use the GTD.
Activity 8.4 – Required reading 8.1 – ‘the flow’

Heylighen & Vidal (2008) talk about ‘the flow’ on p. 11. Have you heard of this before? Perhaps it is where that statement about ‘going with the flow’ comes from? On the other hand, it also sounds a bit like what sportspersons describe as being ‘in the zone’. What do you think? How often if ever do you feel this? Heylighen & Vidal describe some of the circumstances where feeling and working like this is possible. They say they haven’t reached this ‘Zen-like state’ yet. It could be argued that feeling like there is enough time to relax and work on the current task is also an important pre-condition. What do you think?

Activity 8.5 – Required reading 8.1 - organising and allocating work

Heylighen & Vidal (2008) talk about what sounds like a fairly radical system to organise work and allocate who does what in the workplace on p. 18. What do you think about this idea? Would it work in your agency or team? Why or why not?

8.3.1 Lipstick on Pigs

Have computers, email, palm pilots, mobiles and other hi-tech devices made us less busy and more organised? Gleeson (1998) doesn’t think so and neither do IBM researchers Whittaker and Sidner (2000). Gleeson claims that if individuals can’t get organised in a low-tech world, they aren’t going to be any more organised or effective in a high-tech world. Fite (2001:np) makes this point in a humorous way:

But, time and time again, in my personal coaching practice, I frequently see folks simply using technology to automate a poor time management system. They are in effect, paving the cow path or putting lipstick on a pig.

Senior executives expect that emerging public sector leaders such as PSM Program participants will cope as efficient, effective and ‘emergent’ self-managers. This topic looks at making the most of the limited time we have.

8.4 Information Overload

Does this scenario sound familiar?

It’s Monday morning and you pass the pile of faxes on the machine, grab a stack of mail from your pigeon-hole and wonder why you still get so much paper in a so-called paperless office. On the way to your desk your mobile buzzes and you wearily note five text messages in your in-box. At your desk, you check the time as it scrolls by on your screensaver, review today’s information alerts, click the links to get last night’s footy scores/celebrity gossip/this morning’s political headlines and, finally, check your email. There are more than fifty messages. Some are useless; some are mildly interesting and buried near the end of the list, and there’s an urgent message from
your manager. If you had broadband at home, you could have been in touch over the weekend and avoided the build-up. The list goes on.

The most obvious locus of information inundation is in the office: email, voicemail, phone calls, meetings, business journals, faxes, memos, manuals, text messages and Internet research (Bezroukov 2001). However, it is also chasing us home as we are increasingly wired to the office.

Information overload is information received at such a rapid rate that it can’t be assimilated. It results in information saturation. There has been an explosion of information in health care (Hall & Walton 2004) and no doubt professionals from other disciplines report a similar increase. When too much information is provided or accessed then ability to reason and process the information diminishes. Individuals can feel deficient when confronted by an ever growing load of information (Iastrebova 2006:383).

If knowledge is power and technology is intended to make life easier, then why is everything so complex and stressful? In the 1990s the average knowledge worker was required to sift through:

- 30 emails
- 20 voicemails
- 18 pieces of ‘snail’ mail
- 10 Post-it notes
- 5 faxes every day (Potter 1999).

**Activity 8.6 – Information overload**

Keep track of how many emails, voice mails, snail-mails, Post it notes, faxes and other sources of incoming information you receive over a few days or a week.

How does your inflow compare with the details given for the 1990s from Potter?

What are the implications?

Technology was supposed to increase the efficiency of human effort per production unit, make life easier and give us more family time. The opposite is closer to the truth. For example, Stephen Roach says:

*Technology traps us into working 24/7. Courtesy of laptops, mobile phones, home fax machines and other appliances, knowledge workers are now online in cars, planes, trains and homes, virtually tethered to their offices. Technology will burn out human beings. The 24/7 culture of nearly round-the-clock work is endemic to the wired economy. Acceleration of productivity growth through hard work alone isn’t sustainable: People simply can’t work harder and harder indefinitely* (Farrell n.d. in Bezroukov 2001).

Technology such as laptops, mobiles and palm pilots make it harder to get away
from work, leaving little or no time out, with burnout a potential risk (Passmore 2004). However, it may be that not everyone shares this view. It may well be that younger people have grown up with the seamless interface between work and home and accept it as ‘normal’. What do you think?

**Activity 8.7 – Investigating information overload**

Survey five to ten co-workers or fellow participants and ask questions about their views on information overload. Investigate the causes and consequences and possible solutions. Include both older and younger individuals where possible.

There are several aspects to the problem of information overload. One is overload due to the complexity of the situation. The second is ‘junk’ information, which is like a type of pollution: ‘information smog’ (Bezroukov 2001:np).

**8.4.1 Information Overload and Dealing with Bumph**

Information from all sources goes into people’s brains and competes for their attention. To some individuals everything that comes across their desk appears to be useful and empowering; however, when faced with a stream of information
others feel numb, unreceptive and incapable of differentiating between critical and trivial information. As Redway (1995:3) puts it, they are suffering from infectious information and need proactive and reactive strategies to divide the material they receive into information and 'bumph'. This is where David Allen’s GTD strategies come in as shown in Figure 1 of Heylighen & Vidal (2008).

Activity 8.8 – Bumph management

Use the following questionnaire to see how effective your current bumph management strategies are.

<table>
<thead>
<tr>
<th>Item</th>
<th>1 Strongly agree</th>
<th>2 Agree</th>
<th>3 Not Sure</th>
<th>4 Disagree</th>
<th>5 Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 My email is cluttered with volumes of information that will never</td>
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<tr>
<td>be of interest</td>
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<tr>
<td>2 I receive lots of information that is of little or no use</td>
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<td>3 I spend too long in meetings</td>
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<td>4 I spend too long reading work information</td>
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<td>5 I have difficulty identifying why I need information in a document</td>
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<td>or other information source</td>
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<td>6 Reports I use contain a lot of information I don’t need</td>
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<tr>
<td>7 I feel guilty about piles of reports, journals and info alerts</td>
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<td>waiting for me</td>
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<tr>
<td>8 I think other people manage their ‘bumph’ better than I do</td>
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<td>9 I don’t know what information to keep</td>
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<td>10 I don’t know how to file information</td>
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<td>11 I often feel a document looks uninviting and leave it aside</td>
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<tr>
<td>12 I have to re-read a paragraph or page</td>
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<td>13 I find it difficult to make notes from reports or other material</td>
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<td>14 I find making decisions painful</td>
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<td>15 There are only a few key documents that are crucial to my work</td>
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<tr>
<td>16 Only a few meetings I attend are absolutely essential to my work</td>
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</tbody>
</table>

Source: Adapted from Redway 1995.
Interpreting your assessment

Add up your scores on items 1–14. The score is the number written above the response, for example 1 = Strongly Agree, 2 = Agree and so on. For items 15 and 16, reverse the score. That is, Strongly Agree = 5, Agree = 4 and so on. The maximum possible score for good ‘bumph’ management is 80 and the lowest is 14. If your score is between 60–80 you are in the top third of bumph management, average at 37–59 and could do with some improvement at 14–36.

Workload and effectiveness are impacted by personality, preferences and habits. To change, individuals need to be aware of strengths and weaknesses and motivated to persevere and build on strengths (Seiwert 1989). For example, from a previous PSM Program participant:

I would add another series of questions to the ‘bumph’ self-assessment exercise relating to bumph that comes from informal discussions with colleagues or subordinates. These discussions often result in being dragged down to a level of detail that is unnecessary.

Further:

Differentiating the important from the ‘bumph’ isn’t as easy as it might seem. Bumph is sometimes disguised to look important. I no longer record the bumph; instead I delegate directly to other policy officers.

And:

The latter exercise was very relevant in view of the number of emails, reports and ‘spam’ circulars I receive daily. It made me focus on those essential to my work and provided quick strategies for identifying and dealing with the rest.

And:

I am skeptical of self-assessment and first two activities depended on me providing honest self-reflective answers. Although I feel I did that I can see it would be easy to manipulate the result.

So the point is less about giving the right answers and your score per se, and more about identifying areas where you can improve.

8.5 Assessing Personal Efficiency and Effectiveness

Gleeson’s (1998) principles are based on many years of experience helping knowledge workers get themselves organised, and also from over 300 000 managers and professionals from twenty countries who attended training in the principles of work organisation. Gleeson’s principles and ideas are referred to throughout this topic, as are David Allen’s ideas about GTD. These approaches to personal work organisation involve working right (efficiency) on the right things (effectiveness) (Gleeson 1995:48; Heylighen & Vidal 2008). However, as we saw in the previous topic, this assumption of rationality doesn’t give the complete picture as issues, problems and ideas also emerge. As Heylighen and Vidal (2008) point out, for knowledge workers, ill-defined and changing priorities and information resources
make for a demanding work environment.

Effective time management is crucial. Time (in some views as we see in a later section) is the only economic resource that all managers share and should receive the same emphasis as finance or human resources. Organisations and managers should focus on the money value of time (Oshagbemi 1995), especially when the public sector is endeavouring to provide public value.

A managing in or self-management approach to work and information overload is to make better use of the time available. With this aim in mind, Oshagbemi (1995) carried out an extensive review of research on how managers spend their time, consolidating results from sixty-four studies.

**Activity 8.9 – Keeping track of your time**

Keep a time log for a while, say a week or so. How you do it is up to you, but an accurate way is to make a note every fifteen minutes or when you switch between tasks. The purpose is to monitor your time use as a prelude to controlling it. You could log crisis management as well as interruptions, to get a better handle on where your time is going and who is generating crises and interruptions (Fite 2001). Reflect on how much time you put into achieving the goals you set in the earlier topic.

The image of the ideal time-manager is a cool, rational operator who allocates their time in advance of events, by having objective priorities aligned with organisational goals. Research into managers’ actual time use suggests that the reality is far from this so-called ideal. This suggests that the ideal doesn’t reflect reality, or that managers need a great deal of improvement. What do you think? The main practice improvements needed by public sector managers are:

- make meetings more effective
- control and organise desk-work and paperwork
- delegate
- manage fleeting contacts and interruptions
- improve email in-box and To-Do list (Oshagbemi 1995).

**Activity 8.10 – Work organisation efficiency and effectiveness**

The following questions examine personal work organisation efficiency and effectiveness. Tick the response that comes closest to your preferences and habits over the past month or so.
<table>
<thead>
<tr>
<th>Do you tend to:</th>
<th>Almost never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Procrastinate on unpleasant tasks?</td>
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<td>2. Postpone unpleasant but necessary decisions?</td>
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<td>3. Look for reassurance from others when it comes to unpleasant or difficult decisions?</td>
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<td>4. Do everything yourself?</td>
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<td>5. Try to do too many things at once?</td>
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<td>6. Work hastily?</td>
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<td>7. Tackle tasks before considering the best way to do them?</td>
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<td>8. Interrupt work to attend to other matters?</td>
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<td>9. Postpone difficult tasks after starting on them?</td>
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<td>10. Work without much concentration?</td>
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<td>11. Work for too long without a break?</td>
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<td>12. Not finish tasks, because of interruptions?</td>
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<td>13. Use precious time for matters of secondary importance?</td>
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<td>14. Work on tasks that are not yours, only because they interest you?</td>
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<td>15. Take on tasks at any time, just because you can’t say no?</td>
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<td>16. Tackle pointless cases, such as looking for the culprit of a mistake or fighting administrative bureaucracy?</td>
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<td>17. Try to be perfect, even where it’s unnecessary most of the time and excellent or good would do?</td>
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<td>18. Want to know all the facts?</td>
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<td>19. Take the initiative only after being induced to do so?</td>
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<td>20. Always want to help others with their work-related problems?</td>
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Add up the ticks in each column and calculate your total point value by multiplying the total for each column by the number shown at the bottom of the column. Add these subtotals to get a total score.

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<thead>
<tr>
<th>Column</th>
<th>x 0</th>
<th>x 1</th>
<th>x 2</th>
<th>x 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Source: Adapted from Stewart 1989: 127.
The maximum possible score is 60. The higher the score, the less effective and efficient your work organisation habits. A score between 0–20 indicates that you are not prone to some of the worst habits. At 40–60 there is room to improve, which is the ‘norm’ for PSM Program participants.

<table>
<thead>
<tr>
<th>Efficiency &amp; effectiveness blocks</th>
<th>Probable causes</th>
<th>Some techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procrastination</td>
<td>Dislike some tasks</td>
<td>Eat the crust first</td>
</tr>
<tr>
<td></td>
<td>Lack self-confidence</td>
<td>Find a position where the work is enjoyable</td>
</tr>
<tr>
<td></td>
<td>Tasks seem too daunting</td>
<td>Set manageable sub-tasks – use a Work Breakdown Structure (project management)</td>
</tr>
<tr>
<td></td>
<td>Don’t have right skill or knowledge</td>
<td>Go to training</td>
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<tr>
<td></td>
<td></td>
<td>Ask for help</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tackle problems before they escalate</td>
</tr>
<tr>
<td>Indecision</td>
<td>Fear of making mistakes</td>
<td>See mistakes as learning opportunities</td>
</tr>
<tr>
<td></td>
<td>Fear of risk</td>
<td>Use proven decision-making techniques and follow through</td>
</tr>
<tr>
<td></td>
<td>Irrational or unprofessional decision-making processes</td>
<td>Use risk management techniques</td>
</tr>
<tr>
<td></td>
<td>Fear of the unknown</td>
<td></td>
</tr>
<tr>
<td>Trying to do too many things at the same time</td>
<td>No time planning</td>
<td>Set goals and priorities</td>
</tr>
<tr>
<td></td>
<td>Concentrating on urgent rather than important issues</td>
<td>Apply the Eisenhower principle</td>
</tr>
<tr>
<td></td>
<td>Interests and responsibilities too far reaching or diverse</td>
<td>Use time planner and plan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Focus on important and essential issues first</td>
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<tr>
<td></td>
<td></td>
<td>Eliminate the little things that pull your attention away from major tasks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Delegate</td>
</tr>
<tr>
<td>Disorganised</td>
<td>No system</td>
<td>Write down everything important in a planner and file the paperwork, email or other documents</td>
</tr>
<tr>
<td></td>
<td>Afraid of losing track of things</td>
<td>Start with the important tasks first</td>
</tr>
<tr>
<td></td>
<td>Can’t find things</td>
<td>Use clear desk policy</td>
</tr>
<tr>
<td>Not getting tasks finished</td>
<td>Not setting priorities</td>
<td>Set priorities</td>
</tr>
<tr>
<td></td>
<td>Not setting deadlines</td>
<td>Set realistic deadlines</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Use your planner</td>
</tr>
<tr>
<td>Inability to say no</td>
<td>Fear of insulting someone</td>
<td>Saying no can be done honestly without being rude, particularly by suggesting an alternative or later date</td>
</tr>
<tr>
<td></td>
<td>Wanting to be helpful or please all people all the time</td>
<td>Saying that you don’t have time will be more credible if you have a reputation for planning your time and knowing what the priorities are</td>
</tr>
<tr>
<td>No set goals or priorities and no plans</td>
<td>No system</td>
<td>Managers waste time the same way over again – be different from the rest</td>
</tr>
<tr>
<td></td>
<td>Success sometimes achieved without planning</td>
<td>Use a time planner (not just a diary)</td>
</tr>
<tr>
<td></td>
<td>Belief that each day is different or that unforeseen events can’t be planned</td>
<td>Planned activities more often lead to effectiveness than unplanned ones</td>
</tr>
<tr>
<td></td>
<td>Too action-orientated – doing not thinking</td>
<td>Planning creates time for unforeseen events</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Knowing priorities and strategic focus leads to more success</td>
</tr>
</tbody>
</table>

From assessing PSM Program participants, experience shows that most public sector
managers are doing quite well on work organisation and efficiency. However, there is always room for improvement and Table 8.2 provides clues for increasing efficiency and effectiveness.

Table 8.2 Solutions to efficiency and effectiveness blocks and poor work organisation habit

*Source: Seiwert 1989; Gleeson 1995.*

**Activity 8.11 – Diagnosing inefficiency and ineffectiveness**

1. Identify the main source of inefficiency and ineffectiveness using your responses from the questionnaire in Activity 8.4.
2. Analyse the possible causes given in Table 8.1 to see if they accurately describe your situation.
3. Where necessary, add comments to supplement the causes.
4. Look at the solutions and note relevant ones.
5. What is one main point emerging from the table of advice that is most relevant for you and how you can put it into practice?

The rest of the topic provides tools and techniques for becoming more effective in personal work organisation and time use. It elaborates on the ideas above.

### 8.6 Desktop and Work Space Organisation

One of the main chunks of managers’ time was spent on desk work, which included paperwork and computer work such as report writing, reading, compiling statistics and so on. On average, this type of work occupied a quarter to a third of managers’ time.

Managers spend about half the time in their own office and the rest in other parts of the organisation. Since at least twenty hours a week are spent at the manager’s desk, this is an area where significant productivity improvements can be realised (Oshagbemi 1995).

#### 8.6.1 An Empty Desk and Empty Mind?

Keep your desk tidy – only have current work for the day on your desk – file the rest. Despite office jokes about empty desks and empty minds, all time management and organisation experts recommend that you keep only the current task’s paperwork on your desk (or computer desktop) at any one time.
If you want to be more organised, see every task as having a beginning, middle and end. The beginning includes planning for and setting up the task, such as opening the correct documents, searching for information and so on. The middle is doing the task, such as writing the report or memo. The end is tidying up, filing things, putting material away, backing up and so on. Similarly, meetings should be seen in three parts: the beginning is the preparation you do before the meeting, the middle is the meeting itself, and the end is the work done after the meeting to action follow-up items (Gleeson 1998).

8.6.2 How well Organised are your Files?

Filing is a cognitively difficult task. It depends on projecting or imagining future retrieval demands, that is, picturing or visualising the circumstances when a document or other piece of information will be needed and the cues used to remember where it was filed. The aim of filing is to reduce a large number of undifferentiated items into a smaller set of folders containing large numbers of related items. Therefore, if an individual has a large number of folders with only a few items in each, the filing system has failed. Similarly, if there are only a few folders stuffed with too much information the system isn’t working either. This was the case for about thirty-five per cent of individuals in one research study (Whittaker & Sidner 2000). That is, around one in three managers do not have an effective filing system.

Organise your papers and files on the principle of frequency of use. Those you use more frequently should be physically closer. Also organise them by currency:

- today
- this week
- this month
- this year
- archived.

That is, you have your immediate work (and only the immediate work) open on the desktop, you have an in-, current- and out-tray (or electronic equivalent of folders) for work that is current in terms of one or a few days. You have working files close to hand in a filing cabinet under or very close to your desk or in a working file. Reference files that are current in terms of the past few or the next few months are kept in a separate filing cabinet or in separate folders. Material dated as previous years’ work goes into archives, which are less accessible and further away. This concept is illustrated in Figure 8.1 and laid out in Table 8.3.

Figure 8.1 Organising files and information by physical location – the older they are, the further away they should be
<table>
<thead>
<tr>
<th>Useage/timeframe</th>
<th>Where</th>
<th>What</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>Close to hand, or most accessible</td>
<td>Incoming emails, faxes, mail etc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pending matters</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ongoing projects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Outgoing emails, faxes, mail etc.</td>
</tr>
<tr>
<td>Weekly</td>
<td>Close to hand, but not all over the desk</td>
<td>Working files</td>
</tr>
<tr>
<td>Monthly</td>
<td>Further away, for example in the compactus</td>
<td>Reference files</td>
</tr>
<tr>
<td>Yearly</td>
<td>Archived as far away from your desk or office as possible</td>
<td>Old files no longer in use but must be retained</td>
</tr>
</tbody>
</table>

Table 8.3 Filing system

This way may be out of some people’s comfort zone, but it works as the following quote attests:

As an unreformed pack rat given to occasional bursts of spring cleaning, I picked up Kerry Gleeson’s Personal efficiency program: How to get organized to do more work in less time … with a measure of scepticism. However, the before and after pictures of office swamp and sparkling workspace featured on the book jacket unhinged me from my attachment to the notion that clutter equals creativity. Fuelled by the dream of seeing the surface of my desk again, began to read. The premise … is straightforward: Achieving personal efficiency is the key to improving white-collar productivity. …

I invited Gleeson into the jungle that is my office, hoping he wouldn’t notice the books kicked out of his path as cleared a seat for him amidst the magazines and files that reside on my sofa. Even as I attempted to distract him with pointed questions, Gleeson turned toward my desk and lunged for the nearest pile of paper.

‘What’s this?’ he asked, picking the first piece off the top.

‘Hmmm, aahhh, ummm,’ I stuttered and looked blankly at the yellowed sheet. ‘I was going to input that…’ I began.

‘Do it now,’ he interrupted and set me on the road to productivity (LaBarre 1995:66).

Building on these ideas about physical location of files, another option is the 43 file system, which fits with GTD. That is, one file for every month (12 files) plus one file
for every day of the month (31 files) in which you slot relevant information and
tasks which then become part of your incoming ‘stuff’ (as per David Allen’s GTD)
in determining what you do each day.

I have implemented the 43 file system, which is an organisational strategy to reduce
clutter. Each time I get an email, an agenda or a report to read, I file it for a particular
day of the week. Each morning I pull out the file corresponding to the date, add the
duties to my task list, and once the task is complete, I throw the paper in the bin or file
the document.

8.6.3 Can You Handle Each Item Once Only Where Possible?

Here we look at processing incoming ‘stuff’ as per the GTD (Heylighen & Vidal
2008). A general principle is that each piece of information (email, voicemail,
memorandum, report, phone call, meeting etc) should only be handled once. Effective
time managers will tell you to touch incoming ‘stuff’ only once. Either use and
file it or toss it in the recycle bin. If you are not going to do it now, don’t read
it. Read and then delete or file incoming emails that are informational (i.e. don’t
require a response). Read, respond to and then delete or file other messages that are
correspondence (i.e. do require a response). Don’t leaf through the papers in your
in-tray or scroll through your email unless you are actually going to handle and
complete that piece of work at the moment.

Although less than foolproof, the technique is helpful from a discipline sense, making
me think whether I could deal with the information with one touch.

The GTD tells us that only incoming stuff that can be completed in two minutes
should be dealt with only once (Heylighen & Vidal 2008). The exception to this
rule is when you are going through these sources of work to add them to your To-
Do list in your time planner. It is better to sift and sort them in your planner than
in hard copy.

Sometimes a two-step approach is more effective. That is, scan the document or
email, decide if it can be handled quickly on the spot. If yes, do so. If no, add that
task to your To-Do list and schedule a time to handle it, then file the paper in a file
— not your in-tray.

My other criticism was that as I work in a technical environment lots of my emails are
of a technical nature, with details that are difficult to work on quickly. This approach
may work in a purely administrative environment but the public service is more diverse
that that.

This may be necessary if the task is going to take an hour or so and you don’t have
time to do it at present.

The ‘one touch’ approach did not always work as many documents and e-mails
pertained to a later date or were dependent on the actions of another party before I
could action them.

The disadvantage of the two-step approach is that when you come back to the
document or email, you have to re-orientate yourself to what it was about and
what you are supposed to do with it. It might take some effort to adapt to this approach, rather than putting things off till later. By recording the task in your To-Do list, you can then work it into your daily scheduling and priorities, particularly using GTD ‘next action’ ideas. Also, if you add the equivalent of a Post It note to your work saying ‘next…’ (ie indicating what you intended to do next on this task) then it makes it easier to get started again when you have time to come back to the task. Try doing this with your PSM Program assignments.

8.6.4 Does The Handle-it-once (One-Touch) Model Work?

If the one-touch model worked in practice, then employees’ in-boxes would only contain a small number (that day’s) incoming messages. However, Whittaker and Sidner (2000) found that employees’ in-boxes contained on average over two thousand items! They concluded that the one-touch model didn’t work in practice. On the other hand, it may be that the employees they studied didn’t know about the one-touch model or didn’t know how to put it into practice. Whittaker and Sidner suggested that employees were using the in-box as a task manager (To-Do list), as well as a general file to keep relevant information at hand. They found that if employees did create folders to file emails in, later on they could not find the information, could not remember what they had called the folder or ended up with duplicate folders.

All of this suggests that new work organisation practices are needed, particularly as the modern organisation has very few secretaries or personal assistants, who were once trained in how to set up file systems and carry out these tasks for managers and professionals. The in-box serves as a visual task reminder for managers, as the following quotation shows:

I live in the in-box. And that is kind of my To-Do list. I’ll keep things in there…there’s probably about twenty or thirty in there now of things that I want to keep like in my frontal lobes, that I have to deal with (Whittaker & Sidner 2000:6).

As this quote shows, and in accord with GTD, the In-box relieves the manager of having to keep all these items in their head (Heylighen & Vidal 2008).

8.7 Other Productivity Techniques

Here we look at reports, delegation, email, telephone, interruptions and meetings.

8.7.1 Reports

Save the trees! The following information was provided by Bentley (1998). He was describing the over-supply of information in the form of reports. How applicable is it?

TJ carried out a survey of the usefulness of 37 monthly reports. They added up to some
2350 pages. The outcome of the survey was as follows:

- seven were no longer used by anyone
- eleven were filed without being referred to
- fifteen were used to some extent, but improvements were suggested for all of them, usually for them to be simplified
- two were used extensively, but needed summarising and reorganising
- two were produced but not sent to anyone.

The result of the survey was that overall the number of reports was reduced to 18, most of which were shorter. Several of the new reports were exception reports focusing on specific customers, services and so on. The total number of pages was reduced from 2350 to 650. A procedure was established for a frequent review of all reports (Bentley 1998:131).

Some statistics or reports may not actually be read or used by anyone and fulfil no legitimate function. Is this the case in your office?

8.7.2 Delegate

Many time management texts say to delegate more, don’t hang on to all the work yourself, empower your employees. Does your team (if you have one) have any spare capacity?

Delegation dates back to prehistoric times when powerful individuals dished out daily rigours to others in order to survive. In the modern workplace delegation in theory is simply assigning your duties and responsibilities to a subordinate. However, it is a subtle managerial transaction with unavoidable risks and it may feel easier to do the job yourself or you may be able to do it better. However, you have a responsibility to develop staff by extending them with higher duties, giving them more control and perhaps motivating them in the process (Engel 1983). PSM Program participants frequently report that they don’t delegate enough, preferring to do the task themselves. This results in overload and deprives staff of development opportunities. The task of managers and leaders is to manage and lead, not do.

8.7.3 Email

Email overload creates problems for personal information management. Whittaker and Sidner (2000:2) of IBM researched the impact of email on managers’ time and concluded that the decision to process a message at a particular point in time should be made rationally and economically. As one person in their study indicated: ‘One of my pet peeves is when someone does not get back to me, but I am one of the worst offenders. I get so many emails (average 30–40 a day) and phone messages (15–20) that I can’t keep up and also do my real job …’. Using the GTD input system for ‘stuff’ will help deal with this.

Required Reading 8.2

This reading uses in-depth interviews to explore the pros and cons of email in the office as well as developing a two level model to how the different forms it takes and the functions it fulfils, making interesting links to knowledge management and relationship management. Since it mostly formalises what you would already know about email from experience, the paper does not need to be studied in great detail unless you are particularly interested, but do focus on the managerial implications on p. 320 and answer the following questions:

1. The elements in the model indicate ways in which leaders (or managers) can fully engage staff in taking advantage of the technology. Review the elements in the model and your role in each as well as your team where appropriate. Can you make better use of the technology?

2. How much attention is paid to correctly composing and considering email interaction in your workplace according to the criteria in the managerial implications section?

3. Do you and your staff manage the ‘in-box as an effective information receptacle, rather than a disorganised reflection of information overload and knowledge leakage’?

Following on from what O’Kane, Palmer & Hargie (2007) say about disorganised In-boxes, here are some tips for better management.

Don’t keep everything in your in-box. Previous participants attest to the productive value of managing email:

Another strategy I am implementing is keeping my inbox manageable. I check my email at certain times (morning and afternoon), I have turned off the sound which beeps every time I get an email, I use the preview pane to view email and if I can’t deal with it straight away it remains bold and once the email is dealt with I delete the email from my in-box. If the email is important information, which needs to be retained, I save attachment or email.

Some ways to use it more efficiently as a To-Do list if you are not prepared to adopt a proper manual time planning system are as follows.

- **Set up folders to sort emails**: Just as you would sort snail mail before reading, sort email. This way you can deal with the most important first and go back to the others when you have time.

- **Keep one, move the rest to a folder**: If you have several emails relating to a particular topic, leave one of the emails in your in-box to serve as a reminder and file the others in a folder. Label the folder to correspond with key words from the email left in your in-box, so that the remaining email can serve as a trigger for finding the folder that has the rest of the information in it. To use information management jargon, you leave one semantic category exemplar in your in-box as a reminder and file the rest (Whittaker & Sidner 2000). This way you can reduce in-box clutter without compromising the accessibility of current working information by having all relevant items listed ideally on one or, at most, two screens.

- **Preview messages**: How many messages do you really need to open? Sometimes you can glance at the subject line to know you can delete. Other times you need more information. The Microsoft Outlook preview pane allows you to quickly scan an email without opening it.
• **Filters**: Set up filters to delete all emails from a particular source, such as organisation wide emails.

• **Discipline yourself**: There’s another simple way to manage email overload: don’t check it. Try to only check once a day at a low energy time like late in the afternoon or only first thing in the morning (Berst 2000).

### 8.7.4 Telephone

The telephone interrupts concentration on strategic tasks that need sustained thought. Emails may be an advantage since they can be accumulated and dealt with in batches, replacing frequent interruptions. Work in blocks of time, rather than piecemeal (Gleeson 1995:48). The GTD system from David Allen recommends this as well. That is, clustering like tasks together such as phone calls and emails and doing them in batches (Heylighen & Vidal 2008).

### 8.7.5 Numerous Short-Duration Tasks

The duration of activities was part of Oshagbemi’s (1995) research into how managers spend their time. Meetings can be very long, but a great deal of the rest of management work consists of numerous brief and varied tasks, of about ten to twenty minutes (not counting fleeting interruptions). Lumping together all routine tasks such as opening mail and email and returning phone calls and doing them in batches can be more efficient (Gleeson 1998).

Managers need to regain concentration and focus at short notice and to switch effectively from one task to another. This can be done with the priority management and planning system discussed in a later section of this topic and following the GTD as discussed in Heylighen & Vidal (2008).

The final main demand on managers’ time was subordinates and co-workers (rather than senior managers). This signifies that managing up takes less time than managing down or across. Subordinates and colleagues are potential time-wasters through personal or social activities or attempts to delegate up (Oshagbemi 1995).

So far we have looked at a series of strategies for dealing more effectively with various aspects of the management role. Next we will introduce a coherent, coordinated and reliable system for pulling it all together and achieving congruence between your goals or objectives and your actions (Hobbs 1976).

### 8.7.6 Meetings

Meetings on average take up half managers’ time. Clearly meetings are an area where greater efficiency may be obtained. How much of your time is spent in meetings? Do they follow the accepted principles of good meeting procedure – not necessarily formal meeting procedure and protocol, which can be extremely time wasting, but reducing the number and duration of meetings and making them goal-oriented and action orientated? (Oshagbemi 1995).

Keep meetings short, sweet and focused. Make it known from the beginning what
your time limits are and confirm beforehand a constructive agenda. This saves time wasting by ensuring that individuals come prepared. Set the agenda ahead of time, in order of priority with the most important (not urgent) items to be dealt with first. This can save time on trivial issues and make sure the most productive time (the early part of the meeting) is spent on the most useful items.

Meeting minutes or notes need to accurately record what decisions have been made and agreed to and on what basis in order to avoid any subsequent debates. The group also needs to have an agreed basis for decision-making. The actual process may vary depending on the situation, but having some accepted principles is helpful.

The meeting minutes need committed action items with a person taking responsibility for that action and an agreed date for completion. These should be followed up and reviewed at the next meeting with an expectation that measurable progress has been achieved in a reasonable time.

Effective groups pay attention to the process of their meetings, not just the content. It can be appropriate to take the initiative and put an agenda item in to discuss meeting process and to revisit it from time to time to ensure the meeting is achieving its purpose and not wasting time. Challenge the length of time allocated to meetings. Does it really need an hour, could it be possible to wrap things up quickly? Perhaps you could just attend part of the meeting? You also need to take account of different MBTI and learning style preferences of meeting attendees.

Can some meetings be scheduled once a fortnight instead of once a week? Perhaps it won’t actually make any difference if you don’t attend a particular meeting. Previous participants on the PSM Program have reported that they stopped attending certain meetings and it didn’t seem to make much impact.

### 8.8 Priority Management

It is highly unlikely that any person who has reached the senior levels in an organisation would ever think of leaving their home or office without a diary. Do you? Any top-flight leader is much too busy and too involved in too many tasks to rely on memory for important dates. Carrying and using a diary (in whatever form) may seem basic, but it is one of the tremendous trifles that go into self-management and effectiveness (Johnson 1987).

Diaries are not just for recording dates of meetings or deadlines. An efficient time planning system consists of both a calendar (with date and time slots) and a daily prioritised To-Do list. Live by the list. Conventional office diaries usually only provide for date/time planning by marking in meeting times and other appointments. To work effectively, a good time planner must have a separate column to also create the prioritised daily action list or To-Do list.

### 8.8.1 Prioritised To-Do List
Each day or so you should create a prioritised To-Do list. Even the simple act of writing a list rather than keeping it in your head can combat overload as we saw from GTD in Heylighen & Vidal (2008). A proper time planning diary is essential to efficiency because cognition is interactive in nature and relies on external environmental sources or artefacts to facilitate it. Properly organised, your diary or time planner can serve as a visual device for attention manipulation. It can extend your working memory beyond its physiological capacity and maintain concentration on ongoing activities in an interruption-driven operating environment (Whittaker & Sidner 2001).

8.8.2 Write down what you have to do

As per the GTD, create the To-Do list by writing down everything you are required to do or want to do. Carry over any tasks from the previous day, as well as new tasks that present themselves. Breaking down major, long-term goals into manageable day-to-day steps is also done in your time planner. Integrate your SMART goals into your daily responsibilities. Each day or so, review short-, medium- and long-term goals (which should also be kept in your planner). Create macro- and micro-goals as small steps to your major goals and make these steps in to To-Do list items. Achieving SMART goals is enhanced with a prioritised, daily To-Do list.

8.8.3 Re-consider tasks that keep getting carried forward

If you find that you are carrying the same a task forward every day for several days, then you may need to break that task down into a number of smaller tasks that you can achieve in a shorter timeframe and therefore tick off your list. This is very important to promote a sense of accomplishment, as making small gains is a key strategy in developing self-efficacy particularly for difficult challenges, as we saw in the goal-setting topic. Alternatively, if you have transferred the same task several times then you need to consider why. One way or another you need to bite the bullet and either get that task done, drop it off the list, delegate it or find another way to deal with it.

8.8.4 Priorities

For years, texts have been telling us to set priorities. Self-management requires people to decide what tasks have to be done and in what order (Seiwert 1989). This idea was ‘glamourised’ in Stephen Covey’s bestseller The 7 habits of highly effective individuals 1989). However David Allen and his GTD system has a somewhat different approach. Once you have compiled the To-Do list, you need to prioritise it. The priorities should be based on how important each task is to achieving the outcomes of your position. (In the other arenas of your life, this system will also help progress towards other goals.) You could use an A B C D system, with:

- **A** = highly significant to the goals of my position, or my personal goals
- **B** = medium significance
- **C** = low priority but still needs to be done at some stage (admin type work)
D = drop or don’t bother and eventually will disappear from your list.

If you make some time each day to work on A priorities, some of the Bs or Cs may not get done, but at least the work you have done is focused on the right area, the most significant work. It may be that you spend the first twenty minutes of the day on the As or some other part of the day when you feel most productive.

Seiwert (1989) offers more criteria for deciding what the A priorities are.

- Which tasks will contribute most towards achieving work group or organisational goals?
- Which tasks will be instrumental in moving me towards my main goals (yearly, monthly, weekly, daily, mini or micro goals)?
- Are there some tasks which will address more than one problem or issue?
- The highest rewards and recognition are going to come from which task or tasks?
- Which task is going to result in the most trouble (negative reactions, criticism, ‘dramas’ and the like) if I don’t do it?

Assign priorities (ABCD) based on your selected criteria. Then consider the urgency or deadlines and so on as per the Ti-Mandi window. Items can be low priority (C) but are urgent since they have to be done by a certain date. The priority should not be changed on these items: they are still low importance. You can put an asterisk next to these items so that you are aware of the urgency and can get them done before the deadline if appropriate.

Number tasks within each priority (that is, A1, A2, B1, B2, B3). Have a quick look at your appointments and the approximate time it will take to do some of the A tasks to get a feel for what can be achieved that day. Almost invariably you will conclude that you can’t get everything on the list done that day. This is a fact of life. Nonetheless, with this technique you can make sure that at least what you do is the right thing, not the trivial, less productive or less-significant thing.

The benefits of a written, prioritised To-Do list are:

- The ability to assess the value or priority of tasks and their duration develops gradually with time and the benefits coming from the use of a prioritised To-Do list will grow.
- Sorting the order and assigning priorities will partly reduce the stress of browsing an unmanageable list of things to do.
- End of worry about others enquiring about what you have/have not done – present your prioritised To-Do list to them. In ‘The Seven habits of highly effective individuals’, author Stephen Covey suggests a way to say no without offending, ‘of course, I’ll be happy to do anything you want me to do. Just let me share with you my situation.’ Then you map out your many projects, pressures and deadlines. Also, as Heylighen & Vidal (2008) indicate, if everybody in your office uses GTD then there is common understanding of the priorities and process.
- Ease of re-evaluating and re-prioritising – if things change, find the task on
the list, change its priority and sort the list again.

- Having a clear, ordered list of tasks is the best way to deal with an interruption-driven operating environment.

- Another way is the ‘next’ strategy – scribble what you were about to do next on a Post It note and stick it on the document, or on your computer – when they get back to the task, your note will help re-focus thoughts – especially if it is days or weeks before you get back to the task. This fits with what Heylighen & Vidal (2008) say about the brain’s ability to cope with task switching.

8.8.5 Make all Tasks Justify their Existence and Priority

Do a regular review of priorities on activities that you are spending time on. The principle of questioning the value of all projects, tasks, actions and activities should be extended to all aspects of working life, including meetings and other responsibilities. It can be done by asking four ‘liberating’ questions:

1. **Why at all?** It may not be absolutely necessary to go on this trip, attend this meeting write this report or keep these statistics.

2. **Why me?** Perhaps someone else can take over this work; it may be an attempt by employees to reverse delegate; perhaps you are dealing with things that don’t or shouldn’t really concern you; or perhaps the task doesn’t fit in with your strategic priorities.

3. **Why now of all times?** This task may not really be that pressing; perhaps it can wait; now may not be the best time to carry it out.

4. **Why in this form?** Instead of a written response, a phone call or informal email may suffice. There may be ways of simplifying a task or making it more automatic.

Copy these questions onto a Post It note and sticking the note on your desk or computer where you can frequently see it, in order to protect yourself from unnecessary overload and be more productive (Seiwert 1989).

8.8.6 Eisenhower Principle and Ti-Mandi Window

As you may have gathered, you need to distinguish between what is **urgent** and what is **important** when setting priorities. Tasks may present themselves as being **urgent**, but often they are actually not the most **important** or significance things you are supposed to be accomplishing. Ministerials, client crises and agency issues may all present as urgent actions but it is important to determine if they are important – they may well be, but it is worth assessing their urgency and importance. One way of working smarter rather than harder is to stop doing things that aren’t all
Pressing or urgent tasks have a very short deadline. On the other hand, many important and significant tasks seldom have an urgent deadline and don’t demand attention (Seiwert 1989). Determine what is important based on its significance in achieving your position’s key result areas or key performance indicators (KPIs). Don’t be overcome by the ‘tyranny of the urgent’. Prioritise by importance not urgency.

This distinction between the important and the urgent is called the Eisenhower principle. It has since been enhanced with the addition of new ideas and evocative names to produce the Ti-Mandi Window (‘time and I’) (Nicholls 2001). It is illustrated in Figure 8.2.

**Figure 8.2 Ti-Mandi Window**

<table>
<thead>
<tr>
<th>Importance</th>
<th>B Neglected essentials</th>
<th>A Priority for action</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>B priorities – (strategic, important tasks that don’t get done because they are not ‘urgent’)</td>
<td>A priorities – (vital and most relevant to adding public value)</td>
</tr>
<tr>
<td></td>
<td>Do second</td>
<td>Do first</td>
</tr>
<tr>
<td>Low</td>
<td>D Don’t bother</td>
<td>C Trivial hot potatoes</td>
</tr>
<tr>
<td></td>
<td>D priorities – (neither important or urgent)</td>
<td>C priorities – (routine)</td>
</tr>
<tr>
<td></td>
<td>Drop, file in the round file</td>
<td>Do in less productive time, delegate, do last or don’t do at all. Strip the false ‘urgent’ label off unimportant things and stop doing them</td>
</tr>
</tbody>
</table>

**Activity 8.12 – Using the Ti-Mandi Window**

Undertake the following tasks to distinguish between what is urgent and important in your work.

1. Draw up a figure like the one in Figure 8.2.
2. Going back over everything you did last week, allocate each task, activity or project to one of the quadrants in Figure 8.2.
3. Estimate how much time you are spending in each of the ABCD quadrants.
4. Consider also whether meetings you attend are concentrated in the wrong quadrant.
5. Is the balance right?
6. If not, what can you do about it?

Previous participants have frequently said that Ministerials affect this process. On the one hand it could be said that Ministerials are rightly placed in the A quadrant. On the other hand, how legitimate is it for political manoeuvrings to disrupt the strategic work of your agency? Is it possible to educate
Typically up to sixty per cent of time may be spent in the C _trivial hot potatoes_ quadrant (low importance but high urgency), when in fact this should take up about fifteen per cent. In contrast, you probably spend only about fifteen per cent of your time doing work in the B _neglected essentials_ quadrant, when in fact this type of work (high importance but low urgency) should take somewhere around fifty per cent or more of your time at least based on PSM Program participant input. The key then to greater effectiveness is to migrate your focus, attention and actual time spent from the trivial hot potatoes to the neglected essentials and priority for action items (Nicholls 2001). Doing so will reinforce the line of sight between your objectives (or your work team’s) and the overall strategic mission of the organisation and your goals as per the previous topic. What the GTD here says about staying on the runway or getting to 50,000 feet is relevant (Heylighen & Vidal 2008).

This point is illustrated by the experience of a previous PSM Program participant:

> For some time I have recorded work tasks using Outlook and, although useful in reducing the burden on my memory, did little to improve workflow management or increase output. After reading the ‘Eisenhower principle’ and working through the associated exercise I realised why. I wasn’t forcing myself to work on higher importance tasks, rather I was lulled into a false sense of productivity because everyday I could tick numerous, albeit insignificant, tasks off my list. Actually my list was counter-productive, because whilst some of the ‘trivial hot potatoes’ and ‘don’t bothers’ may have been lost in my short-term memory they were now permanently recorded!

### 8.8.7 Eat the Crust First – Avoid Procrastination

When people have a nice piece of apple pie, they are more likely to eat the pie part first and leave the crust till last – or leave it altogether. In time management terms, this means putting off the hard tasks or procrastinating on the difficult, boring or otherwise unappealing parts of a task. This might be chasing down that final bit of information to fill in a form, or working out complex calculations required to finish a report. Eat the crust first. Make a conscious decision to do the hardest part of the task first.

Mark Twain said, ‘if you have to eat two frogs, eat the big one first and don’t think much about it.’ Gleeson (1998) makes this point, but calls it _worst first_. He says, ‘imagine the worst possible task [you] have to do and then think about how great it will feel to have it out of the way. (Successful Meetings 2000:440). It can make you feel better about having the most difficult or least enjoyable task or sub-task already done, rather than having it hanging over you and creating a feeling of dread. This
doesn’t work on every task in every situation but it is worth a try sometimes.

Procrastination might be because you don’t like your job as this previous PSM Program participant attested:

> One of my bad work habits of procrastination on unpleasant tasks has been overcome by moving to a new position where I have renewed energy and job enjoyment and satisfaction.

Over time, setting priorities may become more automatic or unconscious. You may have a well developed sense of what the most effective elements of your work are – the ones where you can make the greatest contribution to organisational and personal goals.

## 8.9 Regular and Frequent Personal Planning

Some time management courses teach that people should spend the first twenty minutes of every day planning. This is incorrect – first of all, some people don’t need to spend more than twenty minutes a week planning, if their job is low-level, routine or simple. Second, other people may need to spend a lot more than twenty minutes each day. Third, for some people it may be better to spend the last twenty minutes of each day, and finally others may plan at the beginning and end of each day. The point is that in any case it is useful to handle the ‘stuff’ as GTD says, on a regular basis.

It is unrealistic to develop a plan for your full working day whether eight or twelve hours because of interruptions and shifting priorities of other people (Seiwert 1989). If necessary you might also need to allow some time to finish any B or C priorities that absolutely must be done that day. Start with your A1 priority. If you get interrupted, deal with the interruption and then come back to your A1 priority. When this is complete, do the A2 priority and so on.

On bigger projects, more formal planning is needed. Movie makers don’t shoot a single frame until the whole movie has been plotted on a story board that outlines every detail of every scene including the characters, their positions, the script, camera angles and so on. Why is this planning so detailed do you think? Because the costs of executing filming on location are very high, and without adequate pre-production planning, production becomes too expensive. The same is true of knowledge work. Time spent in planning is time saved in execution (Gleeson 1998).

### Activity 8.13 – You and planning

1. Think of the biggest project you have done – something that took at least a year if not two or three. Perhaps the PSM Program.

2. Reflect if it would be an advantage to do more planning up front such as investigating all the steps, laying them out in a rough time order and so on.

3. Would your approach change?
8.10 Critique: Being Organised and in Control isn’t the Only Option

Like most management subjects there are always alternative views and we consider some of them here.

8.10.1 Observable Time Use is Only One Aspect of Time Management

Time use has more than one dimension. Organisation theorists typically address how to use time to get the work done in the most efficient manner. This is still important, as we have noted. However, it isn’t the only issue. Goddard (2001:19) quite rightly points out that the focus on time as a linear, measurable resource to be managed within the control of organisational and personal resources is only one way to view time. ‘Time use includes not only activities which are readily observable and measurable, such as completing tasks, but also those that are not readily seen, such as thinking and reflecting on problems.’ That is, a full and ordered To-Do list isn’t the only way.

Time viewed in the traditional, measurable way may not provide long-term advantages for organisations, since there is no emphasis on learning. Learning is a key way that managers use their time that contributes to future gains and improvements for the organisation.

Work is a more flexible concept in terms of space, time and physical boundaries, with telecommuting and knowledge work. In this environment, the way organisational time is viewed will need to change. Gen Y staff are said to focus more on meeting task goals rather than spending 9-5 in the office. Traditional organisations are based on paying staff for time. In the knowledge era, there will be more emphasis on paying staff for knowledge (Goddard 2001).

There is a distinction between task time and organisational time. In the former, the manager is fully engaged in typical management tasks such as report writing or staff meetings. However, there are other times when the manager is engaged in organisational time that isn’t directly related to a specific task, but is still of value to the organisation. This might include reflecting on issues or plans during the drive home, networking with potential contacts at a social function and so on. This organisation time may be incidental in normal practice, but some organisations are focusing on it more consciously to make sure that managers are more engaged with the goals of the organisation in a deliberate and reflective way. This time can’t be scheduled in the manager’s diary – it needs to be free flowing (Goddard 2001).

Required Reading 8.3

This paper reviews a series of subsequent submissions to the journal which adopt a post-modern critique of how time is constructed in organisations, arguing that it can be contested. Like most post-modern writings the paper may seem somewhat obscure or inaccessible but Critical Management Studies (CMS) are gaining ground so it is worth getting a glimpse or flavour of the arguments. The main point is to question assumptions about whether time and space are fixed and immutable. Another point is how time management training and other management discourse about time in organisations (such as taught in this topic) is a particular (and not necessarily acceptable) way of defining and controlling time and how people use it.

8.10.2 Polychronicity

Have you heard of polychronicity? People vary in their approach to time and goal accomplishment. This fits with Allen’s GTD approach in terms of its built in flexibility. Polychronicity is the extent to which we prefer to be involved in multiple tasks at the same time. At the other end of the spectrum, people with monochronic preferences like to do one task, finish it and get on with the next (Conte, Rizzuto & Steiner 1999). Polychronic types are less concerned with being on time, will often feel like they are in a hurry, are less likely to make and follow To-Do lists and are more likely to have unpredictable days. These individuals are less likely to be ‘in sync’ with a planned organised approach to work, however they don’t necessarily get less done (Conte et al. 1999).

This is the end of this topic which has covered a lot of practical details that you might already know but have been asked to question how much you put them into practice. Also, by now you should have some idea of the theory that underpins personal productivity.

Review

Having completed this topic, you should now be able to:

1. Explain why time management is important.
2. Use the Getting Things Done approach.
3. Evaluate work intensification.
4. Assess overload.
5. Implement personal effectiveness and efficiency procedures.
6. Organise your work space.
7. Address other productivity issues.
8. Apply priority management.
9. Implement personal work planning.
10. Critique issues around time in organisations.
Required Reading


Further Reading

http://www.davidco.com/tips_tools.php

Free downloads on David's Allen’s GTD take on subjects in this topic. Note you have to sign up (presumably for marketing purposes) but the materials are free.


Paper on information overload in parliamentary support.
Topic 8: Required Reading


Getting Things Done: The Science behind Stress-Free Productivity

Francis Heylighen and Clément Vidal

ECCO - Evolution, Complexity and Cognition research group
Vrije Universiteit Brussel (Free University of Brussels)
Krijgskundestraat 33, 1160 Brussels, Belgium
Phone +32-2-640 67 37
Fax +32-2-6440744

fheyligh@vub.ac.be, element.vidal@philosophons.com

Abstract: Allen (2001) proposed the “Getting Things Done” (GTD) method for personal productivity enhancement, and reduction of the stress caused by information overload. This paper argues that recent insights in psychology and cognitive science support and extend GTD’s recommendations. We first summarize GTD with the help of a flowchart. We then review the theories of situated, embodied and distributed cognition that purport to explain how the brain processes information and plans actions in the real world. The conclusion is that the brain heavily relies on the environment, to function as an external memory, a trigger for actions, and a source of affordances, disturbances and feedback. We then show how these principles are practically implemented in GTD, with its focus on organizing tasks into “actionable” external memories, and on opportunistic, situation-dependent execution. Finally, we propose an extension of GTD to support collaborative work, inspired by the concept of stigmergy.

Keywords: personal productivity, personal information management, time management, task management, praxeology, situated and embodied cognition, stigmergy, information overload.
1. Introduction

Our present society is characterized by quickly growing complexity and change: opportunities, constraints, and objectives are in a constant flux. Managing the situation requires gathering and processing an incessant stream of potentially relevant information. As such, most of our day-to-day activities fall under the heading of knowledge work (Drucker, 1973). But how can we efficiently organize such heavily information-dependent work? While there is a large and established literature on how to organize traditional physical activities, such as industrial processes, the literature on knowledge management is as yet much less well developed, and mostly concerns the static storage and reuse of existing knowledge rather than the processing of incoming information. The extensive literature on information processing, on the other hand, mostly concerns computer systems rather than human information.

Some aspects of human information processing, such as decision-making, project planning and problem solving, have been well investigated. However, the corresponding theories are not really helpful to cope with the information explosion, since they generally assume a given range of possibilities from which the best possible one is to be chosen. However, in a situation where new information may arrive by the minute, both the relevant options and the criteria for deciding between them are constantly changing. This makes formal optimization methods basically useless in day-to-day knowledge work. As Simon (1997) pointed out long ago, rationality is bounded: we never have the full information needed to make optimal choices.

But Simon’s alternative strategy of “satisficing” is flawed too: a choice that is satisfactory now, may not appear so good anymore when new information comes in. In practice, people follow a strategy of “betering” choosing what seems best from the available options now, but being ready to switch to something better when new information arrives. This opportunistic mode of decision-making is pervasive in today’s fast-paced and uncertain world. However, its lack of a clear focus makes it likely that people would not really know what to aim for, what to do, and what not to do. Moreover, the constant bombardment with new information means that previous plans, decisions and relevant data are often forgotten or neglected.

The last two decades have seen an explosion of methods for “time management”, “task management”, or “personal productivity enhancement” that try to teach knowledge workers efficient routines for dealing with this overload of ever changing demands (e.g. Covey, Merrill & Merrill, 1994). Most of the recommendations concern concrete tools and techniques, such as installing spam filters, using personal organizers, sharing calendars, etc. Insofar as they look at the wider picture, however, they tend to remain within the optimization paradigm: they suggest first to formulate clear objectives or priorities (optimization criteria), and then to order the different tasks according to (a) how much they contribute to the priorities, (b) how much time, effort or other resources you need to invest in them. The recommendation is then to focus on the tasks that contribute maximally to the chosen objectives while requiring minimal resources.

Although this strategy may seem self-evident, it does not take into account the fact that for knowledge work both priorities and resources are in general ill defined and constantly changing. The reason is that information, unlike material resources, is not a conserved quantity: it can appear without a pre-existing stream (unplanned) or disappear (stored or communicated) at any moment. For example, an engineer planning the construction of a bridge can be pretty confident that the amount of concrete and steel necessary for the construction will not suddenly change. On the other hand, an author planning to write a book about how to use this new communication software may suddenly find out that the software has a fatal security flaw, or that another writer has just finished a comprehensive treatment of the same subject. If that author had planned her complete work schedule around the book project, she would have to start her planning from scratch. More generally, applying an optimization strategy to knowledge work may produce rather than reduce stress, as people worry about what priorities to accord to different alternatives, and then feel guilty or disoriented when they have not managed to follow their own prescriptions because of unforeseen changes.

The personal productivity consultant David Allen (2001) has proposed a fundamentally different approach. Based on years of experience in teaching knowledge workers how to deal with their backlog of unprocessed issues, the method is known as “Getting Things Done”, or GTD for short. GTD is intended to minimize stress and anxiety while maximizing productivity—in the sense of maximizing the number of useful tasks performed, not in the sense of maximally achieving a given objective. The method has become remarkably popular in a very short time. According to the Amazon web bookshop, in October 2007 Allen’s book ranked number one in the bestseller lists for both the domains “time management” and “business: health and stress”. At the same time, a search via Google found more than a million web pages referring to this methodology. Numerous software applications and adaptations of existing software have been created to help people implement GTD in their daily life (Wikipedia contributors, 2007). In spite of the many testimonials that GTD works in practice, however, as yet no academic papers have investigated this method. A search (October 2007) for articles referring to (Allen, 2001) turned up a mere 14 documents, none of which discusses the method in any detail.

The present paper intends to fill this gap in the scientific literature. While it would be interesting to test GTD empirically, e.g. by comparing the productivity of people using GTD with the one of people using different methods, this is intrinsically difficult. The reason is that because GTD does not embrace explicit priorities or optimization criteria, there is no obvious standard by which to measure expected productivity enhancements. A simpler approach may be subjective evaluation: how satisfied with their work are GTD users compared to users of other methods? However, this will still teach us little about precisely how and why GTD is supposed to work. The present approach has chosen to address this last issue from a theoretical angle, starting from recent insights in cognitive science and cyborgics.

We wish to view GTD and its proposed theoretical foundation as a first step towards a concrete praxeology, i.e. a theory of practical action, with specific application to knowledge work. A praxeology has been recognized by the philosopher Leo Apostel as one of the fundamentals components of a worldview (Aerts et al., 1994). Such a theory is independent of any specific goals or values: these are chosen by the individuals performing the actions. In GTD, however, the implicit value is to maximize productivity, i.e. to do more (tasks) with less (time, effort, resources).

In our present information society, mental resources in particular tend to be strained. Indeed, in Simon’s (1971, p. 40) memorable phrase, “a wealth of information creates a poverty of attention”. Given that the amount of attention that we can devote to our work is finite, a growing amount of information clamoring for our attention must at a certain moment produce an overload, where a number of (potentially important) items simply can no longer be processed. GTD is intended to facilitate this unavoidable process of selectively ignoring demands while remaining maximally in control of the situation. Although the method is rooted in practical experience, we will try to show that its success can be justified on the basis of solid theoretical foundations. To do that, we will need to review what the most recent theories about cognition and the brain tell us about information processing in the real world—as opposed to an abstract realm of logic and rationality. But first we need to outline the basic principles of GTD.
2. The GTD method: summary

GTD is a simple and flexible method for managing your day-to-day tasks or activities, so as to maximize personal productivity. The intended result of applying GTD is being able to keep up with a high workflow in a relaxed manner. The main principle is to get everything that is nagging you out of your mind and into a trusted external memory (file system), so that you can stay focused on what you actually have to do now, rather than on various ideas, plans and commitments for later. To achieve this, GTD provides a compilation of tips and tools, organized around a central flowchart, as depicted in Fig. 1. Organized people will certainly already use calendars, to-do lists, note-taking devices, and other tools. What GTD adds, however, is a method for using those tools systematically together. Allen distinguishes five basic stages in our work:

We (1) collect things that command our attention; (2) process what they mean and what to do with them; and (3) organize the results, which we (4) review as options for what we choose to (5) do. (Allen, 2001, p. 24)

Collect (1)

The first phase is to collect everything that catches your attention as potentially relevant to your activities, whatever its subject, importance or degree of urgency. This includes incoming letters, emails, phone calls, reports, articles from magazines, agenda items, suggestions and requests from other people, and personal ideas and memories. For the collecting process, you need one or more collection tools, which can be physical (trays, folders, notebook, etc.), or electronic (email application, outliner, or word processor, on a computer or a PDA). These together define your “in-basket”.

Collection is just the first step: to gain control over the collected materials, you need to empty the in-basket regularly. Emptying means deciding what to do with—not actually doing—the items in the collection. This happens by processing and organizing the items one by one.

Process (2) & Organize (3)

The processing and organizing phases are summarized in the flowchart (Fig. 1).

Figure 1: a flowchart depicting the GTD process for organizing and processing incoming “stuff” into action categories (elaborated from Allen, 2001, p. 32). Rectangles represent actions, diamonds represent decision points, stacks represent external memories (lists, folders, files, ...) in which reminders are stored. Continuous arrows represent the immediate sequence of processing; broken arrows represent delayed processing, during a review of an external memory; dotted lines represent follow-up processes left implicit in GTD, but whose importance will become clear in the explanation of Fig. 2. The process starts by taking one item out of the In-basket (top left), and then follows the arrows depending on the answers to the questions. It ends when the item is classified in an external memory or the corresponding action is performed. The most important actions are likely to end up on the bottom-right.
The sequence of decisions to be made starts from the top left of the flowchart and proceeds downwards. The first question to ask is: "What is this stuff?" Note that "stuff" is a catchall word, which can refer to an email, something at the back of your mind, a note, a voice-mail, a scrap from a newspaper, etc., i.e., any item that has been collected. More precisely, the crucial question is: "Is it actionable?", i.e., does it require you to perform an action?

- if it is not actionable, there are three possibilities:
  - eliminate the item if you really will not use it (i.e., throw it in the trash bin);
  - store the item for possible implementation later (i.e., store it in a Someday/maybe file that you will review at a later time);
  - reference the item if it does not require action but may need to be consulted later (i.e., store it in a Reference file, which is organized so that items are easy to classify and retrieve).
- if it is actionable, then you have to decide, "What is the next physical action?"
  - if there is more than one action required, store it in your Projects list.
  - if the action requires less than two minutes, it is not worth the effort of entering it into the system; better perform it immediately.
  - if you are not the best person to do it, delegate the action to a more qualified person/organization, and keep track of whether you get back the desired result by entering a note in the Waiting for file.
  - if the action is to be done on a particular day and time, defer it to this moment, and note it in your Calendar.
  - if the only time constraint is that you should do it as soon as you can, put it in your Next actions file.

When you review your Projects list, for each project you should start developing a Project plan. This in general does not mean a formal scheme with milestones, deadlines and objectives, but a formulation of the overall goal or desired outcome, with a focus on the list of next actions required to move towards this goal. Once these actions are defined, they need to be reviewed, which means that they should follow the part of the flowchart that describes the decision tree for actionable items. There is in general no need to plan actions far ahead: once the first "next action" is done, the next "next action" will probably become obvious.

To make this summary more concrete, Table 1 shows an example of a very simple GTD list of reminders arranged in their appropriate categories. Note that items are susceptible to move from one category to another. For example, the item "plane tickets for Brussels" was initially in the Project Plan "Travel to Belgium", reminding you to order the tickets; now you are Waiting for them to arrive by post; if they don’t arrive, it will become a Next Action to call the company about the tickets; after you have used them, you may store the tickets as a Reference, so that later you could potentially use them as proof of expenses made.

<table>
<thead>
<tr>
<th>Next Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Buy a present for Ellen</td>
</tr>
<tr>
<td>- Call Peter about the new contract</td>
</tr>
</tbody>
</table>

| Project Plan: Travel to Belgium |
| - Book hotel |
| - Phone tour office |
| - Change money |

| Calendar |
| - Oct. 29: Ellen’s birthday |
| - Nov. 12: departure for Brussels |

| Waiting for |
| - The plane tickets for Brussels |

| Someday/Maybe |
| - Read that novel set in Belgium |

| Reference |
| - Visa pin code: 4576 |

Table 1: an example of some reminders listed under their corresponding GTD categories

Review (4)

The reviewing phase is crucial to remind you of what you still have to do. The daily review includes reviewing first your Calendar (which are the things that you have to do imperatively on this day?), and then your Next actions list (which are the things that you should do as soon as practicable). The weekly review is a more in-depth review of all your (potentially) actionable files (In-basket, Calendar, Next actions, Projects, Project plans, Waiting for, Calendar and Someday/maybe). It is essential to get an overview of what has to be done in the coming period, and thus get the feeling of being in control. Concretely, it means that you make sure that the different files in your external memory are kept up-to-date. This will include a complete cleaning of your desk, email, and other collection places, and thus some further processing and organizing according to the flowchart.

A regular review is important in order to develop and maintain genuine trust in your system. Most people who are not applying GTD do this kind of review a few times a year, for example at the beginning of a new year. This gives them a great feeling of clarity, control, and purpose. These good intentions, however, quickly dissipate when new, unprocessed things start to accumulate, and previous plans become outdated because of changing circumstances or lack of follow-up. If they would do such a review systematically every week, this feeling of control and goal-directedness could become permanent.

Do (5)

Having all your lists of to-dos up-to-date, what should you do right now? Allen proposes three models for deciding which action to perform. The first is the "Four-criteria model for choosing
actions in the moment”, which advises that you consider the following factors in the listed order:

1. **Context**: What can you do here and now? You cannot do the same actions when you are at your desk as when you are walking in the street. The context limits your choices to the tasks you can (practically) perform. If you have a large number of “next actions”, it is recommended to classify them by context (“office”, “home”, “errand”, etc.) so that actions requiring the same context can easily be performed together.

2. **Time available**: How much time do you have now? Fit the duration of the next action you choose to the amount of time available: if the time is limited, do only short actions.

3. **Energy available**: How much energy do you have at this moment? Adapt your choice of action to your level of physical and mental energy: when you are tired do not require actions, and expect difficult actions for when you feel more energetic.

4. **Priority**: What are your priorities? Given the context, ask whether you should be doing the next action? The two following models help you to answer this question.

The “threefold model for evaluating daily work” proposes the following possible strategies:

1. Do work as it shows up
2. Do predefined work
3. Define your work

Is the work that shows up (1) the most urgent thing you have to do? When you accomplish tasks as they appear (answering a phone call, replying to an email that just arrived, etc.) by default it means that you are deciding that these tasks are the most important ones at this moment. Alternatively, you can decide, if possible, to postpone the work that shows up, in order to focus on your predefined work (2). This means that you systematically go through your next actions list. If you do not have any next actions listed, or you do not feel confident that the listed “next action” is the best thing to do, you have to define your work (3).

This is similar to the reviewing phase, where you clarify your mind by updating your system of to-dos.

Still, to be confident that what you are doing is truly important, you need a deeper insight in your general goals and values. The “six-level model for reviewing your own work” can support such clarification. Allen uses an airplane analogy to define the levels (Allen, 2001, p. 51):

- 50,000 feet: Life
- 40,000 feet: Three- to five-year vision
- 30,000 feet: One- or two-year goals
- 20,000 feet: Areas of responsibility
- 10,000 feet: Current projects
- Runway: Current actions

You can define goals for different time or space, from tasks to undertake immediately (Runway) to missions that extend over the rest of your life span (Life). The latter require you to answer almost philosophical questions, like “What is my purpose in life?” It is important to engage from time to time in this “vertical thinking” (Allen, 2001, p. 20-21), and write down and review lists of goals, so as not to be constantly chasing priorities at the runway level.

### 3. Cognitive foundations of knowledge work

Knowledge work consists of various forms of human information processing, which includes such activities as data gathering, interpretation, classification, problem solving, and decision making. These mental processes have been studied since the 1950’s by cognitive science (e.g. Luger, 1994; Thagard, 2005).

#### Limitations of symbolic cognition

Initially, the guiding metaphor for analyzing cognitive processes was the manipulation of symbols according to a complex program or algorithm. This led to the symbolic paradigm for cognition. Its basic assumption is that knowledge is an abstract, internal representation of the external environment. The main task of cognition is to solve problems, i.e. answer queries about an environment and design plans to achieve goals in that environment. This is done by manipulating the elements (symbols) of the representation according to given inference rules in order to find the combination that best solves the problem. The symbolic paradigm thus sees reasoning, planning (and bounded) rationality as the essence of cognition.

The symbolic paradigm was implemented in artificial intelligence (AI), a general approach to simulate cognitive processes by means of computer programs. However, symbolic AI has been much less successful than expected—in particular in terms of reproducing actual human performance. In contrast, the logical reasoning of AI programs, people’s reactions are based on intuition, which is rooted in their subjective experience of the situation. This makes them much more flexible in dealing with complex and unforeseen circumstances. In part as result of these failures, the symbolic view of cognition has come under harsh criticism over the past two decades (e.g. Bickhard & Terveen, 1996; Clancey, 1997; Suchman, 1990). It has now been largely overtaken by a “new” cognitive science, which is inspired more by the concrete functioning of the human mind (biologically, neurologically, psychologically, socially) than by abstract theories of logic and computation.

One fundamental criticism of symbolic theories is that if you try to represent all the relevant aspects of the real world with symbols, your representation becomes much too complex to be systematically explored by a computer, and a fortiori by the human brain. Indeed, the brain is limited by the famous “magical number seven” (Miller, 1956): not more than about seven items can be held simultaneously in working memory. A sufficiently detailed description of a real-world situation will typically include hundreds of symbols (words, concepts, features) that can be combined in millions of different ways, making it essentially impossible to manipulate these symbols in order to systematically explore all their potentially relevant combinations.

Instead, the brain relies on its long-term memory, which can store millions of facts, to quickly recognize patterns in the incoming information. Recognized patterns function as stimuli that trigger appropriate responses or actions. Unlike a computer program, the neural network structure of the brain is very good at identifying patterns, at associating perceived patterns with the appropriate actions, and at storing patterns and associations in long-term memory. However, it is very poor at simultaneously keeping several such patterns actively in mind while reasoning, because the corresponding patterns of neural activation tend to interfere with each other. Moreover, association quickly decays because of diffusion and neuronal fatigue.

Finally, while long-term memory is very effective at recognition, it is rather poor at recall, i.e. activating memory patterns without perceptual stimulation. This is illustrated by the “tip of the tongue” phenomenon, where a fact, such as a colleague’s name, cannot be recalled—even though you know the memory is there. In that sense, human memory is much less reliable than a computer memory for retrieving a fact outside of the concrete context that reminds you of that fact.
Situated and Embodied Cognition

One of the key insights of the new cognitive science is that cognition is necessarily situated and embodied (Clark, 1997, 1999; Clancey, 1997; Anderson & Michael, 2003). This means that a cognitive system, such as the human mind, is always interacting with its environmental situation via its bodily sensors (eyes, ears, touch...) that perceive, and effectors (hands, vocal chords...) that produce actions. The complexity of the real world is dealt with not by manipulating an abstract internal representation, but by manipulating the world itself, i.e. by performing actions and monitoring their results via perceptions. This interaction is controlled via sensory-motor feedback:

- perceptions trigger actions;
- actions produce changes in the environmental situation;
- these changes are again perceived,
- these perceptions trigger new actions to—if necessary—correct or extend the effects of the previous actions.

Different situations will produce different perceptions, and therefore trigger different actions. Both cognition and action therefore are situated; they are determined much more by the concrete external situation than by internal reasoning or planning (Suchman, 1990; Susi & Ziemcke, 2001; Clancey, 1997). This shifts most of the burden of memory and reasoning from the brain to the environment: instead of having to conceive, predict and remember the potential results of an action, the action is simply executed so that its actual results can be read off from the environmental situation.

Effective actions leave their mark on the environment. Insofar that this mark is made in a stable medium, such as stone, paper or silicon, it functions like an objective registration of what has happened, storing the information for later inspection by the brain. In that way, the brain can “offload” information and store it in an external memory that is more reliable and less energy consuming than its own working memory. In this case, we may say that the mind extends into the physical environment (Clark & Chalmers, 1998), or that cognition is distributed across the brain and various material supports (Hollan, Hutchins & Kirsh, 2000: Hutchins, 1995). A simple example is a map: the marks the paper change as the results of our actions (writing). On the other hand, they remain safely stored while we do not interact with the paper. When perceived (read), they trigger thoughts and corresponding new actions, such as adding a related item to the list of already registered items.

A useful paradigm to conceptualize the dynamics of such environmentally mediated activity is the concept of synergy (Parunak, 2006, Susi & Ziemcke, 2001; Heylighen, 1999, 2007). An activity is synergic if the action by an agent leaves a mark (stigma in Greek) in the environment that stimulates an agent (the same or another one) to perform further work (ergon in Greek). This subsequent action will leave another mark which in turn will stimulate yet another action. Thus, different actions indirectly trigger each other, via the traces they leave in the environment. For example, upon noticing that someone has used all the paper, you leave a note to your secretary to buy paper; the subsequent appearance of paper reminds you to print that long report; the printout in turn stimulates you to study its recommendations; etc. Synergy was initially conceived by Grasse (1959) to explain the activity of social insects, such as termites and ants. This collaborative activity, such as nest building, is apparently complex, intelligent and goal-directed. Yet, the individual insects are intrinsically very dumb, lacking anything like a working memory or ability to plan. Thanks to the mechanism of synergy their work is efficiently coordinated.

The environment not only provides a passive medium that registers the effect of actions: it actively intervenes in the agent’s activity, producing opportunities to perform new actions or disturbances that make the actions’ result deviate from what was intended. In situated cognition, opportunities for action created by the presence of specific objects or situations are called affordances (Nornan, 1999). For example, the presence of a phone affords you the opportunity to make a call. Because our brain has evolved to quickly adapt to its environmental situation, our perception is especially tuned to the recognition of both disturbances, that create problems that need to be addressed, and affordances, that may help us to solve problems and achieve our goals (Gibson, 1986).

Being in control

Another simple paradigm to understand this agent-environment interaction is the cybemetic notion of feedback control (Powers, 1973; Heylighen & Joslyn, 2001), which is also known as error-controlled regulation. A goal-directed agent, such as an ant or a human, tries to achieve its goals by eliminating any difference between its present situation (perception) and its desired situation (goal). A goal here should not be understood as a completely specified objective or end-state, but merely as an (explicit or implicit) preference for certain situations over others. For every perceived difference between the present situation and the goal, an action is performed to reduce that deviation, i.e. bring the situation closer to the preferred one. If the result as perceived is not sufficient, a next action is performed to again bring the situation closer to the goal, and so on, until the agent is satisfied. Although some actions may be counterproductive (in that they increase the distance to the goal), the overall process tends to zoom in efficiently on the goal because of negative feedback: every new action tends to correct the errors created or left over by the previous action. External disturbances are dealt with in the same way: whatever caused the deviation or error, the system’s reaction is to try to maximally reduce it, until there is no deviation left. In that way, the system remains in control of the situation, by efficiently counteracting any movement away from its desired course of action. In feedback control, there is no need for planning or for complex reasoning. This makes the mechanism very robust, and able to deal with the most complex circumstances (Gershenson & Heylighen, 2004).

This cybelemetic notion of control is at the basis of the psychological state of flow (Csikszentmihalyi & Nakamura, 2002). Flow is the pleasurable state that people experience when they are absorbed in an activity that demands their full attention, but such that they feel in control, i.e. able to effectively move towards their goal, however far away this goal may still be. The psychologist Csikszentmihalyi (1990) discovered the flow state by finding common patterns in those activities during which people reported the highest level of pleasant feelings, as measured by the method of experience sampling. Flow is characterized by a clear sense of goals, and by continuous feedback indicating in how far the last action brought the situation closer to the goal. To experience flow, challenges should match skills, i.e. the task should be neither too difficult, which would produce stress and anxiety, nor too easy, which would produce boredom. During flow, people tend to forget their worries and even their notion of time, focusing completely on the task at hand. Typical flow producing activities (for those who are good at them) are playing a video game, performing music, painting, playing tennis, or climbing rocks. But flow can also be achieved during everyday work—even doing something as prosaic as assembly work on a factory conveyor belt—provided the above conditions are met (Csikszentmihalyi, 1990).
Situated cognition: conclusion

We may conclude that the feelings of stress, anxiety, and information overload (Shenk, 1997) that are often experienced during knowledge work may be avoided by restoring a sense of control. Given the limitations of the brain, this is best achieved when the intrinsically difficult functions of information processing, memory, and the triggering of actions are as much as possible delegated to the environment (cf. Kirsh, 1996, 2000). This means that we should choose or arrange the external situation in such a way that it can reliably store information, stimulate new actions, and provide feedback about the effectiveness of previous actions. In that way, it will allow a complex train of activity to be efficiently sustained, coordinated, and steered towards its intended goals.

The different components of this mind-environment interaction are summarized in Fig. 2. We can distinguish two nested levels of mind: 1) the traditional idea of mind as inherent in the brain, 2) the “extended mind” (Clark & Chalmers, 1998) which encompasses the brain together with any external memories that are used to support information processing. In the traditional perspective, external memory is part of the environment. In the cybernetic or distributed cognition perspective, however, it is part of the agent, since it is completely controlled by the agent. The part of the environment that is not under control—i.e. which does not perform merely as the agent expects—involves the agent’s activity via what we have called affordances and disturbances. These, together with the feedback received via the environment about previous actions and the reminders stored in the external memory, determine the situation as perceived by the agent, and therefore the agent’s further actions.

![Fig. 2: The major components of mind-environment interaction.](image)

The environmental situation with its affordances and disturbances is perceived by the mind/brain. The information in this perception is processed and compared with the goal or preferred situation. This determines an action to correct any deviation between perception and goal. The action affects the situation, and some aspects of this new situation, influenced by further disturbances and affordances, are again perceived (feedback via the environment). Some actions merely function to register information for later review in an external memory, which is not affected by disturbances. The external memory together with the mind/brain constitutes the “extended mind”, i.e., everything that is under the direct control of the agent.

4. Cognitive paradigms applied to GTD

Given the situated embodiment of cognition and action, we are ready to provide a scientific motivation for the different recommendations of GTD. We can first note that Fig. 2 can be seen as a simplified version of the GTD flowchart in Fig. 1, with the different external memories collapsed into a single one. The affordances and disturbances of Fig. 2 are simply the “stuff” collected in the In-basket of Fig. 1. The feedback in Fig. 2 makes explicit the fact that the monitoring of performed actions generally suggest further actions to be added to the In-basket.

Let us now summarize the most important innovations proposed by GTD and interpret them from within this cybernetic/cognitive framework.

Externalizing memory

The first basic message of GTD is that you should as much as possible get everything out of your mind and into a rusted external memory, e.g., by writing it down on paper or in a computer file. In that way, not only won’t you forget important or simply interesting tasks, plans, references or ideas, but you will feel much less stressed by the need to remember all that “stuff”. Indeed, the limitations of both working and long-term memory are such that you cannot rely on them to recall all the important facts when they are needed. Trying to do that will merely overburden the brain, as it requires several patterns of neural excitation to be kept activated without getting distracted or undergoing interference with new information coming in. The brain is an intrinsically active medium where patterns are always in flux. As such, it is poor at keeping track of unchanging details. The passive media of paper or hard disk are much better at storing information in an invariant way, so that you can be sure that what comes out is exactly what you put in.

Stigmergic action

The next basic message of GTD is that you should register information as much as possible in an “actionable” form, i.e., in a way that stimulates you to act when you review your external memory. This fits in with the perception-action logic that underlies situated cognition or cybernetic control. Reviewing your external memory means re-entering it into your brain so that its underlying patterns can be recognized by your long-term memory. If the meaning of those patterns is not clear, the brain will need to further process them, by combining them with various other related patterns, in the hope that some new pattern will emerge in which everything fits. This pattern may then suggest a specific action. While such interpretation processes are necessary in complex or novel situations, they demand a lot of additional effort, without any guarantee of success. Therefore, to work efficiently, such processes should as much as possible be avoided, or at least be performed independently of the actions that eventually need to be executed.

GTD recommends performing this reflection before the pattern is registered in the external memory. In that case, reviewing the external memory will avoid remaining vagueness and ambiguity, and the procrastination that this typically engenders. Instead, the reviewed item should directly suggest the action to be taken, maintaining the flow of activity without interruption for further reflection. The whole activity can then be performed in a quasi-automatic, “stigmergic” mode, where the note read immediately triggers an appropriate action. Moreover, GTD makes items more actionable by classifying them in a number of discrete categories, each demanding a specific type of action (Next action → perform, Project → plan, Someday/maybe → reconsider…), so that there is no doubt in your mind about what the next step is.
effort, involving the kind of abstract symbol manipulations for which our brain is not very well suited. For simple, routine activities, starting the job with just a few reminders of what should be done will get you to the desired result more quickly.

Moreover, in our quickly evolving information society we are bombarded with new constraints, challenges and opportunities (what we have called affordances and disturbances), so that priorities and plans constantly need to adapt. What seemed to be a good idea two months ago may well appear outdated today. As a result, you cannot look ahead in any detail for more than a few months. Applying GTD means being ready for any opportunity that arises, but without forgetting earlier commitments. To achieve that, you simply need to register all the interesting opportunities and decide whether you commit to them now or merely file them as Someday/maybe. When the situation changes or new information comes in, some of the Next actions you had committed to may no longer appear so important, whereas a Someday/maybe may now turn out to be worth committing to. In any case, the interesting opportunities will still be available in your external memory, ready to produce actions—unlike a more rigid plan where everything will have to be rescheduled once it turns out that those objectives are no longer worth achieving.

This flexible and pragmatic approach fits in with the cybernetic paradigm, which notes that error-controlled regulation or feedback (reacting after the event) is more basic and dependable than anticipatory regulation or feedforward (acting on the basis of plans or predictions) (Heylighen & Joslyn, 2001; Gershenson & Heylighen, 2004). The reason is that predictions can never be fully reliable: there are always unforeseen events that disturb the most carefully laid out plans. Feedback control, on the other hand, is specifically intended to cope with disturbances. Whatever the nature of the disturbance, once it has been assessed, a counteraction is produced to reduce its effect. If this corrective reaction occurs quickly enough, the disturbance will be dealt with at the early stage when it is still easy to handle, and not have the time to grow into a serious problem.

Planning, of course, is still useful—and necessary in those cases where problems may be foreseen, such as catastrophes, that are too large to be countered after the event. But the planning mode advocated by Allen (2001, p. 54) is loose and flexible, emphasizing a clear sense of overall purpose coupled with a spontaneous “brainstorming” approach where different ideas on how to approach the goals are written down in an external memory, and then organized according to their intuitive relationships, rather than an imposed, formal structure. This “natural” planning method fits in much better with the way our brain works, and is more likely to adapt easily to unforeseen circumstances.

Indeed, the situated action approach (Suchman, 1990) reminds us that plans must always remain subordinated to the situation: whenever something unexpected happens, control switches back to the feedback mode, and any plans will have to be adapted or improvised from scratch. This applies in particular to basic research, which is in a sense the episteme of knowledge work. There is an unfortunate tendency in science funding to demand detailed and explicit planning of research projects. Research, by definition, is intended to be creative or innovative. This means that its results cannot be predicted: if you could anticipate a discovery, it would not be a discovery. Moreover, as an almost purely information-based enterprise in a very rapidly changing environment, its objectives constantly have to adapt to new insights and observations. Requiring the achievement of a priori fixed objectives, deadlines, milestones and deliverables is absolutely counterproductive to innovation, as it forces practitioners to restrict their goals to safe and predictable outcomes, while ignoring unexpected opportunities.

Organizing from the bottom-up

Again in contrast to more traditional management methods, GTD starts from the (concrete
issues you have to deal with) rather than from the top (high-level goals and values). The rationale is that modern work and life are so complex that if you start from abstract, idealistic goals and try to work your way down to their concrete implementation, you will simply be overwhelmed by the number of possibilities you have to take into account. This is likely to result in a scheme that is either unworkably ambitious, or rigidly limited. GTD proposes that you first tackle the concrete issues that presently demand your attention, until you feel more or less in control. Only then should you start considering long-term implications of what you are doing, at increasingly more abstract levels. If this long-term extrapolation appears unsatisfactory, it may be time to redefine your priorities and change course, safe in the knowledge that at least the short-term problems are under control.

This recommendation can again be motivated from cognitive and cybernetic principles. Long-term planning requires the kind of abstract symbol manipulation that is intrinsically highly demanding on the brain. Moreover, given the lack of sensory feedback, the plans that are laid out in this way are likely to remain vague, abstract and unrealistic. Making them more concrete will run into all the contingencies and unforeseen perturbations that make detailed plans intrinsically unreliable. On the other hand, any unsolved present issues will remain nagging, creating a sense of anxiety and lack of control, that makes it difficult for the mind to focus on something faraway. When daily activities are running smoothly and on course, it becomes easier to extrapolate this course towards an increasingly distant future, thus getting a sense of where long-term priorities are best laid.

Using feedback to keep on track

Without planning, the danger is that you would just wander from one thing to the next, without clear goal or direction. To counter that, GTD teaches you to couple a sense of overall purpose with a concrete list of Next actions, i.e. the very next steps you need to take to move your project(s) forward. Each time you have performed one of these tasks, you can mark it off, thus getting the concrete feedback signal and satisfaction that you are moving forward, and be ready to perform or define a subsequent “next action”. In that way, you are constantly advancing towards your goal at the most efficient speed, without the need for a deadline or otherwise artificially imposed time schedule to make sure that you attain your objectives.

Such feedback-driven, uninterrupted advance towards your goals, at the highest pace you still feel comfortable with, is precisely what Csikszentmihalyi (1990) found to produce the experience of flow. Allen (2001, p. 10) refers to the corresponding mental state as the “mind like water” experienced in martial arts. The idea is that if your GTD task management system is set up well, doing your work becomes stress-free, seemingly effortless, and a source of continual satisfaction. While we personally have not yet reached that Zen-like state where dealing with various administrative hassles, Csikszentmihalyi’s (1990) work makes it very plausible that applying GTD, with its emphasis on clearly defined goals, feedbacks and efforts adapted to the concrete challenges of the situation, would indeed bring one closer to a flow state.

5. Extending GTD to support collaborative work

GTD is intended as a method to enhance the productivity of individual knowledge work. However, as Allen (2001, p. 255-256) points out, its application in an organizational framework will moreover produce collective benefits. Most obviously, if every individual in the organization becomes more efficient, the group as a whole profits. More specifically, GTD is intended to make individual work more dependable, by reducing the risk that commitments are neglected. If you are less likely to forget or postpone the promises you make to your co-workers, your co-workers will have more reason to trust your future contributions. If all people in an organization become similarly reliable in performing the tasks they have committed to, the organization as a whole will function much more efficiently, profiting from increased trust, synergy and social capital, while being less vulnerable to friction, conflict and confusion.

However, in addition to these spontaneous organizational “side-effects” of GTD, we can envisage more direct contributions to organizational efficiency, by extending the underlying cognitive and cybernetic principles to collaborative work. To do that, we can build further upon the paradigm of stigmergy, which was initially proposed to describe the collaborative organization of social insect. The advantage of extending the environment is not only that it supports individual information processing, but also that it facilitates sharing between different individuals. Indeed, an external memory, such as a library or database, can typically be used by many people—unlike the memories in your brain. But the stigmergy/GTD paradigm focuses on more than mere information storage: it demands the externalization of tasks, to-dos or “next actions”, i.e. the registration of concrete stimuli that trigger an activity when encountered in the right context. By sharing these, coordination between different agents becomes much easier.

Let us illustrate this with a classic example of insect stigmergy (Bonabeau et al., 1999; Heylighen, 1999): the creation of a network of pheromone trails by ants. When an ant finds food, it will leave a trail of pheromones (smell molecules) on its way back to the nest. An ant setting out from the nest looking for food will preferentially walk along such a pheromone-marked path. If it too finds food, it will come back along the same route leaving more pheromone. The larger the food source, the more ants will come back from it while adding pheromone, and thus the stronger the trail will become. The stronger the trail, the more ants will follow it to find food. Once the food is exhausted, no new pheromone will be added, and the trail will quickly evaporate. In this way, ants are efficiently steered towards the presently most promising locations for carrying out their main task: bringing food to the nest. They need neither to individually remember locations, nor to communicate with each other: the pheromone network performs the function of both a shared external memory and an indirect communication medium that triggers productive action.

Let us try to imagine how such a mechanism could be implemented in a collective GTD-like system. Most obviously, we can provide shared access to most components of the GTD filing system. Modern computer and network technology makes it easy to create a shared reference system, where all bits of information that are potentially useful for one of the members of an organization are stored for all to be consulted. For example, if you get an announcement of an interesting new publication or the address of a potential customer, you can store it in the organization database, where others can find it by entering relevant keywords. Another already existing tool is a shared calendar, where members of a working group can mark meetings, presentations, or other events that are relevant to more than one individual. Similarly, we have recently seen the appearance of group tools for brainstorming, mindmapping or outlining, which can be used to support the “project planning” stage of GTD.

More complex workflow systems can support the process of delegating tasks to co-workers. However, these tools typically assume a rigid scheme that specifies exactly who does what when. Such explicit plans run counter to the philosophy of adaptability, opportunism and self-organization that characterizes GTD and stigmergy. A more flexible approach is suggested by job ticketing systems, which are used in organizations such as call centers that provide support about technical problems concerning software or hardware. When a customer calls in with a specific question, an expert needs to be located that has the relevant knowledge and that is available as soon as possible. Rather than immediately delegating the task to a specific individual, the system creates a “job ticket” with a short description of the type of problem. These tickets are then matched with the most appropriate pool of skills to be performed. When one of the technicians has finished a task, he or she will immediately consult the pool and select the task that best fits within his or her
domain of expertise as a “next action”. In that way, tasks are performed in the most efficient way without need for any advanced planning, and thus without a risk of unanticipated problems (such as a job requiring more time than expected so that the designated technician remains unavailable for a newly delegated task).

What will be needed for a collaborative GTD system is an integration and coordination of these different systems so that an organization-wide task monitoring system is created. Incoming items will first have to be processed and classified individually according to the existing GTD scheme, except that now an additional decision has to be made about whether to file the item in the individual or in the organizational memory system. Items for the organizational system will have to be classified as Reference, Someday/maybe, Calendar, Next action or Project. Note that items that individually may fall in one category (e.g. trash) may collectively fall in another (e.g. Reference): what is irrelevant for one person in the organization may be relevant for someone else.

The most important items are the ones that are actionable. Here the additional decision needs to be made who will perform the action. In a truly flexible, stigma energic system that decision is ideally made by the individual who commits to the action, not by a boss who delegates the action to a subordinate without knowing precisely whether that subordinate is available, competent or willing to perform it. The philosophy of GTD is that people commit to a certain action on the basis of personal criteria, such as context, time, energy and priority—not because it is imposed on them. Normally, the individuals themselves are the ones best able to judge whether they are ready to perform a task. However, such freedom entails the risks that certain important tasks are never executed, or that certain individuals do not perform their fair share of the workload. To avoid this, items could be entered into the shared work pool with a number of points attached to them, where the points represent an estimate of the importance of the task for the organization. Employees who satisfactorily perform one of the tasks in the work pool receive the corresponding points. At the end of the month, their wages or bonuses may be calculated in function of the total number of points they have earned. This would ensure that everyone is motivated to tackle as many important tasks as possible.

The system would moreover stimulate an efficient and flexible division of labor, since employees would tend to select those available tasks for which they have most skills and the most appropriate situation. Indeed, they would perform these tasks more efficiently than less qualified colleagues, and therefore become available more quickly to collect a subsequent task and its associated points. This ability to work on the task that one feels most competent in is part of the explanation for the surprising success of open-source software development, where the programmers themselves decide what they contribute to (Bekler, 2002; Heylighen, 2007).

If it turns out that certain tasks still have not been performed after an extended period, in spite of the points they offer, this may be a signal for the management that the task is either not that interesting and therefore should better be withdrawn, or—if it is deemed really important—that the task is more difficult than expected and therefore deserves more points. In that way, the pool of tasks with their associated points and the pool of available workers will mutually adapt. Thus, the task pool could start to function like an internal job market whose “invisible hand” efficiently matches supply (of worker’s efforts) and demand (tasks in the pool that require effort).

Like the ant trail network, such a job market is an example of quantitative, marker-based stigma (Pan, 2006; Heylighen, 2007), i.e. the quantity of markers (points, or pheromones) attached to a task determines the amount of effort that is invested in performing it.

Conclusion
The bombardment with information that knowledge workers presently undergo produces a lot of stress and confusion (Shenk, 1997). Traditional methods for task and time management only provide superficial relief, because they fail to address the central problem: new information typically requires reconsideration of priorities, objectives and resources. When priorities are inconsistent, methods based on optimization or detailed planning become ineffective. In his best-selling book of the same name (Allen, 2001), David Allen has proposed an alternative method: "Getting Things Done", or GTD. In GTD, the focus has changed from establishing priorities to meticulously keeping track of opportunities and commitments for action. When (or even whether) these opportunities are followed up depends more on the affordances of the present situation than on any shifting plans for later. Referring to a lot of personal experience, its practitioners claim that this method minimizes stress, while ensuring that work proceeds smoothly towards maximal productivity.

While there are as yet no empirical studies confirming these claims, we have argued that they can be justified on theoretical grounds. For this, we have reviewed a variety of concepts and insights emerging from the new science of situated and embodied cognition, which has largely taken over the old symbolic paradigm within cognitive science. Proponents of situated cognition assert that the basic functioning mode of the human mind is not reasoning and planning, but interacting via perception and action with the environmental situation. The kind of abstract, internal reasoning envisaged in the symbolic view of cognition is intrinsically hard on the brain, because of its strict "magical number" limitation on working memory and the unreliability of recall from long-term memory. The more natural approach to problem solving is simply trying out actions in the environment and using sensory-motor feedback to correct the situation when errors or disturbances make it deviate from the goal. Further actions are typically triggered by such feedback together with the affordances and disturbances of the environment, i.e. by new information coming in through the senses—not by pre-existing plans. Moreover, the burden on memory can be very much reduced by "offloading" information into a stable external memory, where it is safely stored and ready to trigger actions later on.

Although Allen (2001, p. 72) merely hints at the perspective of distributed cognition, GTD appears to implement these same principles. It does this by insisting that all task-related information be stored in a system of external memories, and this so as to be maximally actionable, i.e. ready to stimulate action. To achieve this, GTD proposes a detailed flowchart (Fig. 1) that formalizes the process of collecting and organizing incoming information into a set of action categories. This is followed by reviewing and performing the registered to-dos. The emphasis is on first doing the actions that best match the affordances and constraints of the present situation, rather than the actions with the highest priority. Implicitly, GTD assumes that all tasks in the external memory are worth performing; if in practice not all of them can be done, then it is up to the observer to decide (or, as is presently possible, to actually try) which of you should start with the ones that require the least time and effort given the constraints and affordances of the situation. Priorities are subjective and likely to change. Affordances are objectively given, but remain available only as long as the situation lasts. Therefore, maximizing productivity means optimally exploiting the present affordances. This means being ready with a comprehensive list of worthwhile actions to perform whenever the occasion presents itself.

GTD’s claim of making work stress-free can be justified on two grounds. First, GTD minimizes the burden on memory and reasoning by systematically exploiting external memories. As argued by Allen, this will reduce the anxiety caused by not being sure that you remember everything you need to remember. Second, and more fundamentally, the consistent application of GTD should promote all the features that characterize the flow state: a clear sense of purpose; regular feedback as to-dos are “ticked off” one by one; on-going, unrestrained advance towards the goals; and challenges (tasks) adapted to skills (affordances and personal abilities). As extensively documented by Csikszentmihalyi (1990), activities with these features are
characterized by a sense of control, focus, and well-being—in sharp contrast to the confusion, anxiety and procrastination that accompany the all-too-common situation of information overload (Shenk, 1997). Of course, we are never fully master of our own destiny, and from time to time challenges will be imposed upon us for which we lack the necessary skills. Therefore, GTD cannot guarantee the absence of work-related stress, but it clearly seems like an important step in the right direction.

The present reinterpretation of GTD on the basis of recent scientific theories does more than justify GTD’s experience-based claims. By grounding the concrete recommendations in a broader theoretical framework, it enables a further generalization, improvement and extension of the methodology. We have discussed one example of such a suggested extension of GTD, from individual to collaborative work. This extension was inspired by the concept of stigma, which explains how shared external memories can support the coordination of collective activity. Further research will be needed to explore this and other implications of our approach.

In the meantime, we hope that both practitioners and theoreticians will be inspired by our paper to apply, test, and further develop GTD as a general method for knowledge work. Even if they do not use GTD proper, we hope that they will take to heart the general principles that we have reviewed, such as the importance of external memory and situation, and the priority of adapting over planning. The philosophy underlying GTD is that true productivity should be measured not by the number of planned objectives that are achieved, but by the number of intrinsically worthwhile results. Whether these results were foreseen or not is completely irrelevant to their ultimate value. What counts is the total amount of progress made. As we have argued, a flexible and opportunistic approach such as GTD is intrinsically better prepared to maximize productivity in this sense.

References
Workplace interactions and the polymorphic role of e-mail

Paula O'Kane
School of Business Organization and Management, University of Ulster, Jordanstown, UK

Mark Palmer
Aston Business School, Aston University, Birmingham, UK, and

Owen Hargie
School of Communication, University of Ulster, Jordanstown, UK

Abstract

Purpose – One of the principal organizational developments in the last decade has been the pervasive influence of computer mediated communication (CMC) tools. The purpose of this paper is to closely interrogate the day-to-day role of e-mail in explicating, influencing and shaping social and information interactions within an organization.

Design/methodology/approach – A series of in-depth interviews (n = 29) were undertaken to elicit employee opinions on their e-mail adaptation, experiences and practices.

Findings – The paper provides insights into the polymorphic role of email, particularly the way in which it is adapted by individuals within the organization. Specifically, it shows how this tool interacts within day-to-day work activities and tasks.

Research limitations/implications – This paper investigates only one CMC tool, e-mail, although it is envisaged that this initial work will be used to raise a new understanding of the socially skilled adaptation of other CMC tools by employees as well as leaders.

Practical implications – Previously unreported insights into employee opinion are delineated in order to provide a focus from which organizations can train and develop their employees and leaders to maximise knowledge creation within the organization.

Originality/value – This study assesses CMC from an under-researched “real-life” perspective in which everyday interactions are used to understand employee reactions to e-mail communication and hence foster an atmosphere in which these interactions assist organizational development.

Keywords Electronic mail, Social interaction, Workplace, Information management

Paper type Research paper

Introduction

One of the most dramatic and indeed marked changes in recent years, to the working life of most employees, has been the introduction of computer mediated communication (CMC). CMC takes many forms such as e-mail, the intranet, video-conferencing and instant messaging, and has become an integral part of most, if not all, of our workplaces. Notwithstanding this ubiquity, and despite its pervasive role in everyday organizational practices and processes, CMC tools largely remain under-researched and under-theorized in the organizational literature. Debates about CMC within this field have retained much of their traditional real-time, group decision-making focus (for example, Adams et al., 2005; Kerr and Murthy, 2004), and arguably research studies into the role of CMC tools within the organizational development and leadership fields...
have not advanced in a way which we might expect for this phenomenon. This is reflected in the extensive research into both trust and social exchanges between leaders and employees (for example, Bartram and Casimir, 2007; Bhal and Ansari, 2007), which appears to play down the mediating role of CMC. Change and uncertainty with the organizational domain are also impacted by the introduction of mediated processes, and as such manager’s need to be aware of, and act upon, the new dynamic which this adds to the domain.

Away from the organizational theoretical domain, however, CMC has received a growing level of interest in several fields including: information systems (Rafaeli and Ravid, 2003); communications (Walther et al., 2005); human computer interaction (Whittaker et al., 2005) and knowledge management (Bontis et al., 2003; Gadman and Cooper, 2005). From this work many important questions have been raised about the role of CMC, not least about how information systems change and adapt over time; how CMC tools facilitate both organizational and interpersonal communication; how computer interfaces affect information flow; and how e-mail can be used as a receptacle for knowledge management. Although a considerable body of work has addressed these questions, interestingly most stop short of exploring the way in which individuals (both employees and leaders) use CMC in their day-to-day organizational practices. Therefore, in this paper we aim to understand how e-mail, the most common application, is used to explicate, influence and shape knowledge creation within an organization. In doing so, this paper meets Grimshaw et al.’s (2002) and Bätschi and Steyn’s (2006) call for more research to theoretically engage with and consider the individual idiosyncrasies of e-mail practices within organizations in order to understand fully how employees manage their e-mail communications. The organizational development and leadership issues surrounding e-mail will now be examined.

E-mail and information transfer within the organization

E-mail has been widely recognized as an efficient information transfer tool (Peckham, 1997; Gan Kong Guan et al., 2002) but one that brings many behavioural manifestations. Managing these is, for the most part, the key to increasing e-mail’s impact upon organizational development. The speed, asynchronicity and “one-to-many” aspects of e-mail can lead to efficiencies such as reduced office administration and avoidance of “telephone tag” (a succession of unsuccessful interactions between colleagues) leading to both time saving and management rewards (Dawley and Anthony, 2003; Hargie et al., 2004). However, the downside of this, as Dawley and Anthony (2003) have shown, is the ubiquitous complaint of overload, although it should be noted that the perception of overload differs from employee to employee (Edmunds and Morris, 2000). Additionally, e-mail can have a disruptive effect on the employee as uninvited, sometimes unwanted, tasks can interrupt the working day (Jackson et al., 2003). As with many channels of communication, e-mail can directly explicate, influence and shape the nature, function and effectiveness of the message.

From the research conducted to date in this area a number of observations may be made. First, the role of “humanity” is often objectified within e-mail exchanges; that is, it treats the e-mail tool as a well-defined entity that can be considered independently of human beings. However, CMC tools influence, and are influenced by, the adaptation
process and must be seen in this social context. Second, much of the literature conceives of knowledge within organizations only as an acquisition-orientated process, effectively painting a picture of empty containers or parcels being filled with objects—knowledge. From this interpretation of knowledge, there is a clear-cut demarcation in the beginning and the end points for knowledge absorption. Finally, when knowledge and CMC tools are discussed interchangeably within the literature, this is normally portrayed as a “transfer” or an “exchange” process, rather than creation. How, and the extent to which, information is transferred and ultimately knowledge created is dependent upon the working relationships within the organization.

E-mail and working relations within the organization
Developing and maintaining working relations with colleagues, managers and the organization is integral to organizational communication (O’Kane and Hargie, 2007), and ultimately knowledge transfer. In one sense e-mail has been suggested as a medium which is more suited to communicating information and coordinating projects than for building relationships (Pauleen and Yoong, 2001), but other empirical evidence has disagreed with this viewpoint. In terms of relationship building, some employees have found that being able to initiate contact with other employees via e-mail is much simpler (and perhaps more importantly, less intimidating) than using the telephone or introducing themselves to a person in a different department or site (Hacker et al., 1998). In a study of external communication, Leek et al. (2003) concurred that IT was allowing suppliers and buyers to form new contacts and relationships. Bishop and Levine (1999) interviewed 17 employees in a high-tech company and found that e-mail provided them with the ability to contact other “like-minded” colleagues in order to conduct their work more effectively. Both these groups of people therefore developed relationships with others through e-mail, which may not otherwise have occurred. Similarly, employees may find themselves maintaining contact with people they have met within the company through e-mail exchanges. For example, in a study of e-mail use in a university participants reported feeling more “in touch with others”, because prior to e-mail they had found themselves becoming distanced in their expanding workplace. This consequently also increased their general communicative confidence with both known and unknown colleagues (Romm et al., 1996), providing a platform through which knowledge can grow and develop.

Originally, much of the research in this field, which tended to be experimentally-based, suggested that CMC reduced the social aspect of communication (Walther, 1992). When the research was extended into the “real-world” the apparent negative relational impact of CMC diminished (Walther and Burgoon, 1992). It was suggested that this occurred due to participants being involved in on-going interaction rather than one-offs and adopting meta-language to reflect non-verbal behaviours. It may not be surprising, therefore, that field studies of CMC have found higher levels of socioemotional content than experimental studies (for example, Rice and Love, 1987; Huang, 2002). Huang investigated supervisor-subordinate relationships and discovered that those who frequently used e-mail to communicate had much better interpersonal relationships. He suggested a number of reasons for this: increased communication led to higher levels of social information being transmitted; the opportunity for misunderstandings to occur was decreased; and additional ways of social networking were introduced. It should be
noted that it was an increase in actual communication instances that led to an improvement in relationships.

Within relationships a number of issues directly and indirectly affect e-mail's effectiveness. These are the changes in face-to-face contact, e-mail composition and the opportunity for increased conflict. The first surrounds the decline in face-to-face communication. Although numerous authors have commented on this (for example, Gan Kong Guan et al., 2002; Rosengren, 2000; O’Kane and Hargie, 2007) few have directly addressed the problem. The evidence appears to suggest that CMC does cause a reduction in face-to-face contact. For example, in Utley’s (1997) study 46 percent of respondents reported that there was less face-to-face communication in the workplace due to the use of e-mail.

The second seminal area is e-mail composition. This can create a series of issues, the so-called landmines, which employees need to take care to avoid. One of these is caused by the informality of the medium. This was identified by Sallis and Kassabova (2000) who demonstrated how poor grammar, vocabulary and written expression can all increase the ambiguity level inherent in the communication. Additionally, the tone can be too informal. If e-mailing the managing director it would be inadvisable to write “Can I C U ASAP 2 jaw about stuff”. In another sense, informality can create the impression of a more personal medium, which may facilitate relationship building through the use of such features as jokes, symbols like smileys [:)] and “Netspeak” (Crystal, 2001).

Conflict has emerged as a side effect of e-mail. Termed “flaming”, there is a tendency for people to communicate irate or negative emotions in e-mails, which would have been less likely to be expressed through other media. Low levels of feedback, a reduction in social cues, brief messages and excess attention to the e-mail (through time spent rereading) have been found to escalate conflict in e-mail interactions (Johnson, 2002). Additionally, the ability to respond immediately can result in people sending messages, which if they “cooled off”, they would not contemplate communicating.

The importance of maintaining interpersonal relations within knowledge-related relationships was highlighted by McFadyen and Cannella (2004) who found that the strength of the relationship impacted upon the potential for knowledge creation more than the number of relationships. In a similar way, Levin and Cross (2004) found good relationships were critical to both knowledge creation and trust. Peters and Fletcher (2004), in their investigation into the effect of communication on intra-organizational team working, found significant impacts upon group performance. They suggest that both frequency and reciprocation of communication between team members helped to develop knowledge, and that CMC could have a key role to play within this. Conversely, Connelly and Kelloway’s (2003) study into employees’ perceptions of knowledge sharing found that technology was not a significant construct, but they did caution that the employees’ opinion of the technology was not sought. Lakshman (2007) furthered this investigation by exploring the role of leader effectiveness within information and knowledge management and concluded that not only was leader skill an important construct, but information technology was used to provide focus. Our research furthers this debate by specifically exploring the role of e-mail within day-to-day interactions.

Perhaps the most fitting description of the general attitude towards e-mail was made by Wilson (2002, p. 121) when he iterated that “people love e-mail when it helps
them and hate it when it hurts them”. It is a tool of great convenience that needs to be managed effectively. This leads us to our three research questions:

RQ1. To what extent does e-mail have an impact upon the day-to-day information transfer within an organization?

RQ2. How and in what ways does e-mail affect the day-to-day social interactions within an organization?

RQ3. How does the mediated communicative role of e-mail explicate, influence and shape knowledge creation?

Methodology
The study employed a qualitative methodology in order to establish the underlying issues which impact upon day-to-day e-mail interactions and its subsequent propensity for knowledge creation. Qualitative data enables “thick descriptions” of employees’ experiences to be utilized in order to interpret their cognitive constructions (Denzin and Lincoln, 2000). To date few studies have undertaken case study research into this area, and while this method prevents large-scale generalizations, there is scope in this exploratory research to interpret the underlying deeper issues and provide a focus for future research to address the findings.

Research setting
Organizational research is complicated by the necessity to gain access to companies and this limits the opportunity for random sampling (Bryman, 1989), therefore, a case study methodology was utilized to investigate the research objectives. The nature of the case study approach enables exploratory research to be conducted and developed from qualitative data, hypotheses developed and findings investigated in other situations (Yin, 1994).

The chosen organization is involved in aerospace industry in the UK and employs approximately 6,700 people in five local sites. It also has sites throughout North America. E-mail is used at senior management level, within the office floor and at supervisory level on the factory floor, giving access to 1,200 members of staff. Potential participants were initially filtered using their access to e-mail as the key criteria. Only those with e-mail access were included in the study. Following this, a purposeful sampling procedure was employed to select participants from different genders, grades, departments and managerial levels reflecting the overall make-up of the organization. Given the nature of the aerospace manufacturing sector, there was a predominance of males.

Interview procedure
The deep-probe interviews followed a semi-structured approach, enabling issues that were identified in an initial literature review to be used as the prompts for the interaction while encouraging the participants to develop their own experiences. The interview framework was modified throughout the duration of the first few interviews, consistent with the work of Strauss and Corbin (1998) and enabled a grounded theory approach to data analysis to be undertaken. The process of analysis was facilitated by NUD*IST 6. Four sweeps were made of the data, using the constant comparison method which involves analysing the interviews line by line in order to identify ideas
and text to code (Gibbs, 2002). Gibbs divides this process into three stages: open coding to identify relevant categories (one sweep made by each author); axial coding to refine the categories; and selective coding which links the categories together and enables a story to be told. Responses were tape-recorded and transcribed before analysis took place.

The concepts emerging from the in-depth interviews are explored in the following section and excerpts are used throughout in order to build “thick descriptions” of the relevant themes.

Findings
An exploration of the in-depth interviews, and subsequent refinement, revealed five core areas in which a role for e-mail was established (see Table I for a summary). Each of these will be discussed in turn using excerpts from the in-depth interviews to illuminate the concepts identified and their role within knowledge creation. Additionally, relationships between these are highlighted, and will be further discussed within the development of the Knowledge Creation model (see next section).

<table>
<thead>
<tr>
<th>Theme</th>
<th>Number of respondents</th>
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<tbody>
<tr>
<td><strong>Information management:</strong></td>
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<tr>
<td>Punctuating and spanning geographical boundaries</td>
<td>11</td>
</tr>
<tr>
<td>Speeding up the interaction process</td>
<td>15</td>
</tr>
<tr>
<td>Improving information sharing opportunities</td>
<td>22</td>
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<tr>
<td>Increasing irrelevant information</td>
<td>19</td>
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<tr>
<td>Limiting discussion opportunities</td>
<td>11</td>
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<tr>
<td>Changing message accuracy</td>
<td>15</td>
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<tr>
<td><strong>Contact management:</strong></td>
<td></td>
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<tr>
<td>Asynchronous contact</td>
<td>12</td>
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<tr>
<td>Changing interaction dynamic</td>
<td>17</td>
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<tr>
<td>Confirming of communication</td>
<td>21</td>
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<tr>
<td>Increasing contact opportunities</td>
<td>13</td>
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<tr>
<td>Involving inappropriate people</td>
<td>15</td>
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<tr>
<td><strong>Personal (in)effectiveness:</strong></td>
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<tr>
<td>Increasing personal information management</td>
<td>8</td>
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<tr>
<td>Reducing administration</td>
<td>17</td>
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<tr>
<td>Appearing diligent</td>
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<tr>
<td>Negating responsibility</td>
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<tr>
<td>In(de)creasing personal time management</td>
<td>24</td>
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<tr>
<td><strong>Social interaction:</strong></td>
<td></td>
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<tr>
<td>Building and maintaining relationships</td>
<td>19</td>
</tr>
<tr>
<td>Undermining colleagues</td>
<td>8</td>
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<tr>
<td>Avoiding face-to-face interaction</td>
<td>14</td>
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<tr>
<td>Depersonalization of contacts</td>
<td>21</td>
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<tr>
<td><strong>E-mail composition:</strong></td>
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<td>Increasing misunderstandings</td>
<td>6</td>
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<tr>
<td>Using inappropriate tone</td>
<td>12</td>
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<tr>
<td>Impulsiveness</td>
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Table I. E-mail interaction: themes and sub-themes
The interviewees reported extensively on their experiences of using e-mail for transferring information. These revealed themselves within five key areas. The first two relate to the way in which e-mail punctures and spans geographical boundaries while also speeding up the interaction process. By virtue of being able to transfer information to another person (or group of people) “at the click of a button” the multi-unit and large organization has become spatially condensed enabling information, and ultimately knowledge, to be shared in real time, as the follow excerpt illustrates:

With the e-mail, it speeds up the whole process, so they would e-mail it plus put it on the intranet so everybody knows that it is there... So in that way it has speeded it up and improved it, reaching a lot more people.

This quotation highlights the underlying benefit of both the tool’s speed and distance crossing benefits, which, in turn, help to improve information sharing opportunities. In order to foster knowledge creation within an organization information needs to be openly transferred. E-mail has facilitated this not only through speed and distance, but also as a result of: providing the opportunity to contact more people; preventing repetition; receiving previously inaccessible information (due to the simplicity of information transfer); simultaneous availability of information (through group e-mails); and the increased choice of what to view and what not to view. As one respondent clearly puts it:

You have far more information now than you would have had with the written documentation. The written stuff has reduced, the verbal stuff has possibly reduced, but the amount of information that you are getting is far, far greater. That is bound to be a bonus!

This suggests that by creating a simple method of sharing information with others, the immediate effect is an increase in data-flow. The downside of this is that data does not always transform itself into “valuable knowledge” – evaluated and organized so that it can be used purposefully. This is reflected in the growing level of irrelevant information, which encompasses two key ideas:

1. information overload; and
2. time wasted in dealing with irrelevant e-mails.

Although some employees valued receiving as much information as possible, others found that it made spotting the important information, and therefore creating knowledge, more difficult. For example:

It is too easy to send you stuff, so everybody is sending you everything because, “why not it is a key-click to me,” it is not a key click to the receiver who has to read it...the problem with that is that there is important ones in there that you miss.

It can be seen that this increase in irrelevant information also links to personal (in)effectiveness (discussed below) as information can easily be missed by the receiver. In addition to this, the over-reliance on e-mail as a communication tool was suggested as limiting discussion opportunities. This can be dependent on the people involved and their selection of an appropriate communication tool (see avoiding interaction). For example one respondent suggested:
Unless everybody’s at their desk and is communicating directly I think this kind of timelag between people reading your suggestion and maybe two and three people getting back to you quite quickly and maybe somebody else takes a day or so and yet they have a valid point that gets lost or hasn’t been brought up on time to get incorporated.

Surrounding each of the first four points, which relate to the efficiency of information transfer, is the idea of changing message accuracy. Paradoxically, e-mail can have the effect of improving or reducing the accuracy of messages. Improving the accuracy refers to the information being up-to-date, “written” communication being less open to misinterpretation than verbal, and the use of e-mail for clarification. This is explained by one interviewee:

I find if you formulate your questions in the written word it gives you much more clarity to what you want to know and gives the other person a lot more clarity about what they want.

This links to the importance of e-mail composition. Additionally, it was suggested, the use of CMC appeared to have reduced the grapevine in the organization:

It used to be [our organization] was notorious. For if something was going on in the business you heard it first on the news. Now, well that is definitely not the case.

The reduction in message accuracy can be seen through the way in which e-mails are written, and this is also explored in e-mail creation. Creating accurate and up-to-date information can be considered a building block for knowledge creation. The next theme, contact management, links to this.

**Contact management**

Contact management refers to way in which e-mail has impacted upon contact opportunities. It encompasses five key themes. The first, asynchronous contact, is concerned with the ability to transfer information to a person without the need for them to “be present” to receive it immediately. Unlike face-to-face and telephone communication, e-mails can be picked up at a time that is convenient for the receiver. This enables an employee to engage in time management (personal effectiveness); because they can both send and receive information at their convenience. For example:

If it is not that important, albeit that you need an answer, you tend to forget about it and it will go two or three days later. Where you know if you have e-mailed it, it is done and dusted and you can expect a result.

Tied to this is confirming of communication. Not only does this include the receipt function available on most systems, but also by virtue of being able to send a quick e-mail to convey that you have received and understood a message the receiver is reassured that the message has arrived. For example:

I can know immediately if the recipient has got the document rather than send a fax piece of paper that may lie on someone’s desk or get to the wrong person.

On a more interpersonal level e-mail was viewed as increasing contact opportunities. This was facilitated through a number of actions, such as group e-mails and access to more people in the organization. This, in turn, can help to develop relationships and social interactions. The downside of this is involving inappropriate people, such as a
manager, in communication incidences. It is suggested that this occurs for a number of reasons:

- to “force” someone to do a job;
- to demonstrate how “hard” a person is working, and;
- “just in case”.

This in turn can cause conflict, as one person suggested:

It creates problems because people will forward information to people who are not supposed to get that information and it can cause absolute grief.

The final area of contact management is the changing interaction dynamic. Through the use of e-mail interaction has changed extensively and this has realised issues such as lack of responses from others, people who use it to avoid communicating and people who ignore their e-mails. This can cause all sorts of relationship and information transfer problems, which in turn could affect knowledge. This depersonalization of the workplace needs to be managed, as one interviewee explained:

There would be people that we would talk to rather than e-mail because you never get a response with e-mail.

By encouraging both effective contact and information management within the organization, it can be seen that employees are provided with a greater chance to manage their personal effectiveness.

**Personal (in)effectiveness**

Linked to the previous two themes are the first two sub-themes within personal (in)effectiveness:

1. increasing personal information management; and
2. in(de)creasing personal time management.

E-mail enables employees to manage their access to information in a number of ways. It was suggested that it both acts as a “to do” list and also its asynchronous nature enables employees to chose when they view and react to the communication. This, in turn, allowed people to manage their time more effectively:

E-mail gives you the ability to schedule your time because they e-mail you the problem, and you can sit and think about it.

The downside was apparent with those who found it more difficult to ignore information that arrived uninvited onto their desktop.

Linked to time management is reducing administration. This can be an advantage for both the sender, who can send information much more efficiently and the receiver, who receives it quicker:

It is quick, so it means once you get all your minutes, you have no photocopying to do, you just attach a database and everybody has got the minutes within an hour of the meeting.

The final two themes, appearing diligent and negating responsibility were previously referred to in contact management. Specifically, these are a method of misusing e-mail communication to the sender’s advantage. By copying others into their e-mail
communication some people were demonstrating, particularly to a manager, their supposed workload:

The politics in here means that Billy, Johnny and Henry are going to send their e-mail to you and CC it to [our manager], "by the way I am actually doing something."

A more disturbing use of e-mail is to negate responsibility, what is now euphoniously termed "passing-the-buck":

It tends to be at its worst used as a means of off-loading responsibility and accountability for fixing problems.

These final two sub-themes illustrate the concept of personal (in)effectiveness, in that what is effective for one party can create extra workload for another. The next area identified from the respondents' comments relates to social interaction.

Social interaction
E-mail can both facilitate and inhibit organizational relationships. This is reflected in the first two identified sub-themes, building and maintaining relationships and depersonalization of contacts. Respondents suggested that through the use of e-mail they were able to contact more people in the workplace, which subsequently enabled them to develop more relationships. Within already developed relationships the use of "quick hello" e-mails and the ease with which a person could be contacted encouraged people to maintain their interaction. For example:

With some individuals whom you don't know, if you are e-mailing them on a regular basis, you sort of would have a tendency to become more friendly.

On the other side, however, e-mail can both isolate and depersonalize contact with colleagues as well as being used to deliberately avoid interaction. This can be seen in this comment about a specific incident:

I seen him walking by me and then with the delay in e-mail...I opened it as he was walking back by me. Very impersonal, and it was just something that he could just have said in three, four seconds.

This also reflects the next sub-theme, avoiding face-to-face interaction, in which it is suggested that relationships can be negatively affected by people deliberating choosing not to engage in face-to-face contact. The final sub-theme in this section, undermining colleagues, relates to the impact misuse of e-mail (previously suggested) can have on relationships. By copying in someone's manager or bringing an e-mail out "as evidence" against a colleague, relationships can be easily damaged. For example:

Between a couple of people or interpersonally it is not particularly good. It is a good way to hide behind things. You can sort of cover yourself, "I sent you an e-mail, did you not get it?"

And brush it off like that.

Not only does the type of contact utilised via e-mail impact upon relationship management, but also the way in which people actually write their e-mails can lead to misunderstandings and relationship breakdown.

E-mail composition
The current research identified three core areas related to e-mail composition:
LODJ
28,4

(1) increasing misunderstandings;
(2) using an inappropriate tone; and
(3) impulsiveness.

The way in which e-mails are written can create unintentional misunderstandings. When people do not take the time to check their e-mails to ensure they are clear problems can result:

It can happen at times, where we have misunderstood what somebody has been trying to say or somebody has thought they have sent an e-mail and we haven’t got it or we’ve looked at it, we have thought it wasn’t relevant and we have binned it, and it ended up it was relevant.

As well as misunderstandings people can both intentionally and unintentionally use an inappropriate tone. This could be to intentionally demonstrate unhappiness with an issue, or unintentionally creating ambiguity, as suggested by one respondent:

Trying to judge the tone was maybe difficult and I know I have picked up some e-mails and I have thought, what is he sending that for and I have went and spoke to him, and after we spoke it was okay, he didn’t mean it that way, so that is probably one of the difficulties.

The final sub-theme, impulsiveness, in some respects links the other two and suggests that if people send an e-mail too impulsively, before they have had the chance to check its content, then it could contain misunderstandings or an inappropriate tone, as one respondent explained:

You nearly have to write it and then go away, just like you are with a letter, and then come back to it again and read it... the easier it is the more tempted you are just to send it off and then you regret it. But no you need to be disciplined.

In order to ensure message accuracy it is therefore suggested that the communicator needs to carefully consider how s/he sends their message.

It can be seen that each of the five themes and 23 sub-themes outlined are interrelated with and interdependent on each other. In the next section these results are used to propose a model of e-mail and knowledge construction in order to examine the role these prolific tools play in this key aspect of organizational life.

Discussion
In this study the role of CMC, in the form of e-mail, was investigated. In doing so the findings from this exploratory research revealed five interrelated themes, and 23 sub-themes, which demonstrate e-mail’s polymorphic role (see Table I). Throughout the course of the previous section linkages between these themes were demonstrated and provide the basis from which to separate the five themes into two levels reflecting the interactions between them (see Figure 1). The first level consists of e-mail composition, contact management and personal (in)effectiveness. These first-order themes reflect the day-to-day interactions using e-mail and in turn feed into the two second-order themes of information management and social interaction. Within this a number of one and two-way relationships have been identified, as illustrated in Figure 1. Subsequently, this paper proposes a necessary interdependence between the elements in order to manage e-mail’s role within knowledge creation. This model proposes tentative relationships based on the findings from the study, but this requires
further empirical research in order to confirm the linkages. Each second-order concept, and its linkages, is now discussed.

**Information management**

Information management refers to the way in which information travels and is managed throughout the organization, and formed the basis of RQ1. These results demonstrate that a one way relationship exists from email composition to information management. Depending on the way in which emails are composed, the information that is transferred can either be accurate or inaccurate, and interpreted correctly or incorrectly. Knowing how, and having a willingness, to contact people via email will impact on the amount of information that a person receives. Not only does this refer to the level of information, but also to its relevance. Therefore, a secondary two-way relationship also exists between contact management and personal (in)effectiveness. Clear and accurate decisions about whom to transfer information to and when can help personal effectiveness, but this can become ineffective if too much irrelevant information is transferred. Personal (in)effectiveness was also demonstrated to have a two-way relationship with information management. If people can effectively control their time and information then the level of accurate information flowing in the organization can increase, but when this is negative the opposite occurs. At the same time, when information management is effective then, this can lead to improved personal effectiveness. Thus, a clear two-way, interactive relationship is emergent here.

**Social interaction**

RQ2 addressed the role of email within social interaction and two of the three first order effects can be seen to relate to this. The respondents identified email composition as an issue. If the wrong tone was used then relationships could be damaged between two parties, but careful consideration of email composition could help to build and maintain a relationship between two people. In the same way, if people did not manage their contacts effectively, perhaps ignoring some people in the communication or, on the other hand, over-emphasising the importance of others then relationships could also be damaged. Again, this is linked to personal effectiveness. By having the ability
to effectively manage e-mail communication social interaction can be positively impacted, and vice versa. In other words, relationships can be built and maintained, or damaged and deconstructed.

Knowledge creation
The final research question explored a possible link between information management and social interaction. Although previous authors have suggested that communication is associated with knowledge creation (see, Connelly and Kelloway, 2003; Peters and Fletcher, 2004), the day-to-day interaction between people using e-mail has not been specifically investigated. This paper aimed to redress this balance. What emerges from our findings is the important role of the e-mail tool in day-to-day information management and social interaction, both of which have been considered to impact upon knowledge construction (Levin and Cross, 2004; McFadyen and Cammella, 2004). New organizational knowledge and understanding is not only acquired and transferred but also constructed and explicated when employees take part in an ongoing interactive e-mail process. This participation-orientated view reinterprets and re-interrogates the role of e-mail as co-participants and helps us to rethink our vocabulary of what it means to use e-mail within an organization. The two-way interaction between information and relationship management assumes an important role in relation to knowledge construction. If a good relationship is present between two or more people then the information transferred will be enhanced, but on the other hand in order to create relationships people must be willing to share information, and in essence trust the other person. Once these two factors are combined knowledge creation becomes much more of a reality within the organization. In this sense the model of knowledge creation provides a theoretical framework, which enables e-mail to be viewed as a tool in the organization’s knowledge management repertoire. Although the scale, depth and scope of the current research prevents both statistical generalizations and an identification of the strength of the relationships between themes it is envisaged that future research could be undertaken to validate this model and the relationships therein.

Managerial implications
Each of the elements in the model indicate ways in which leaders can attempt to fully engage their employees with the technology, and each other, in order to harness its potential. In turn, these can be utilised to assist organizations to develop their knowledge sharing capacity. Through encouraging employee interaction not only through e-mail but also other communicative mediums leaders can enhance the likelihood that knowledge creation will occur. Specifically, in regard to e-mail communication, the workforce needs to be tutored in relation to composing and considering their e-mail interaction carefully, something which rarely occurs in an organization. Writing style, as well as grammar and vocabulary use, priority status, informative subject lines, consideration of who “needs” the information and a foresight into how it will be interpreted all need to be schooled and counselled throughout the organization. Secondary to this is a requirement to understand how the e-mail system works. This should, therefore, facilitate employees to manage their in-box as an effective information receptacle, rather than a disorganised reflection of information
overload and knowledge leakage. Third, relationships need to be fostered and maintained not only through CMC but also relevant and timely face-to-face interaction.

Conclusions
The adoption of CMC tools by organizations has transformed everyday workplace conventions and has impacted upon organizational design, leadership roles and employee practices. But this adoption has behavioural consequences for the development of the organization, particularly the way in which such tools are adapted for use by individuals. This paper has attempted to provide insights into this adaptation process, not least because of the interactive nature of the e-mail environ, and its role as a social tool within work situations. It illustrates that those individuals using e-mail – at whatever scale in the organization – influence, and are influenced by, the adaptation process of the tool. What emerges from this process is the polymorphic nature of e-mail adaptation. That is, the tool interacts with day-to-day work activities and tasks, stimulating and moving knowledge through improved connections, while also simultaneously introducing disruptive relationships behaviour. Employee ties were seen to develop through increased access opportunities and ease of contact; whereas disabling consequences resulted from negative communication incidents. It also found that its participatory knowledge creation role had been largely subservient to the more dominant information transfer script. This assessment can assist organizations to make decisions about both future technological investment and training needs and therefore move with the times and develop beyond the competition.

The role of CMC within the organization is a profoundly neglected topic in the organizational literature. Outside the organizational field, researchers largely regard CMC tools as facilitators which, when used appropriately, can result in more efficient and effective communication process. Salient as this research activity is, future research may also investigate the socially skilled adaptation of CMC tools by employees and the various ways in which social interaction leverages power over workplace activities, tasks and colleagues. That is to say, further research must not only consider the tool per se, but rather the socially skilled adaptation of CMC tools and how this varies across multiple levels and functions within the organization.

References


About the authors
Paula O’Kane is Lecturer in Organizational Behaviour at the University of Ulster, Jordanstown. Her research focuses on computer-mediated communication and its impact upon the organizational environment. Specifically, she is interested in the processes and consequences associated with the use of e-mail and the intranet within internal communication. She was awarded a grant from the Norwegian Research Council to further this enquiry into cross-cultural...
analysis, and is currently involved in extending this research agenda into other countries and cultures. Her other areas of enquiry include interpersonal communication, organizational psychology and corporate strategy. Paula O'Kane is corresponding author and can be contacted at pm.okane@ulster.ac.uk

Mark Palmer is Senior Lecturer in Marketing at Aston Business School, Aston University. He is particularly interested in the micro processes of firms – the mundane activities that shape organizational life – and the adoption and adaptation of tools for organizing and strategizing. Other areas of interest include the role of investment banks in retail TNC decision-making, learning processes and outcomes and institutional retail change. Prior to moving to Aston Business School, he was employed as a Research Analyst at a small Cambridgeshire-based company in the software industry for a number of years.

Owen Hargie is Professor of Communication at the University of Ulster. He is also Associate Professor at the University of Chester and Adjunct Professor at the Norwegian University of Science and Technology. He is an Associate Fellow and Chartered Member of the British Psychological Society, a founding Executive Council Member of the European Communication Association, and an Elected Member of the exclusive and prestigious Royal Norwegian Society of Sciences and Letters. For the past 20 years he has conducted research into internal and external communications in major private and public sector organizations. He has published some 20 books, 50 book chapters, and over 100 articles in refereed journals, and has been Keynote Speaker at numerous international conferences. He has also secured a large number of research grants. He was recently awarded a Senior Distinguished Research Fellowship by the University of Ulster for his research into communication.

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INTRODUCTION

Space and time in organizational change management

Adrian N. Carr
School of Social Sciences, University of Western Sydney, Sydney, Australia, and
Philip Hancock
Warwick Business School, The University of Warwick, Coventry, UK

Abstract

Purpose – The paper aims to introduce the manner in which management and organization theory have viewed space and time as significant resources and to put forward a number of more contemporary views as to how space and time is both managed and experienced.

Design/methodology/approach – The paper adopts a postmodern approach in assembling what it regards as “fragments” from a variety of disciplinary discourses on space and time. Each fragment presents, putatively, a different voice, theme or motif which are intended to help the reader better understand the trajectories contained in the other papers in the volume.

Findings – The paper finds that conceptions of space and time are fundamental to the manner in which organizations are managed and organized and are a symbolic order inter-related to themes of power and control. The manner in which we experience space and time is open to manipulation and specifically a form compression that displaces critical reflection and may make individuals prone to external locus of control. The manner in which time and space are linked to the suppression of human agency and the imperatives of capitalism cannot be overestimated and require reflexive consideration.

Originality/value – The paper, and the volume as a whole, recognises time and space as social constructions and thus open to “reconstruction”. Space and time are not simply a priori categories that are fixed, immutable absolutes and knowable entities. The recognition of the intersubjective “nature” of space and time is shown to help us better appreciate the different manner in which space and time is experienced and the manner in which space and time are used in the management of change.

Keywords Organizational change, Change management, Resources

Paper type Conceptual paper

Management and organization theory have a long history of recognising space and time as significant resources. Taylor (1911) (“Speedy” Taylor, as some of us have dubbed him) immediately comes to mind in this context. By the turn of the twentieth century, Taylor viewed space and time as commodities to be factored into job design, organization processes and control mechanisms. Space and time were conceived as a priori categories, as natural fixed entities that instrumentally should be of core concern to management. In that era of “Scientific Management” space and time existed within a broader framework in which epistemology was “grounded” in the scientific method and, as Lash and Urry (1994) suggested, clock-time was to be the modern organizing principle.

Yet strangely absent from that period – one in which management was seeking to become a respectable profession by aligning itself with “science” – was any concomitant recognition of the manner in which there was a binding of space and time through these changes in job design and organization processes. In most recent times,
however, space and time have been recognised in a manner that appreciates not only how these “entities” are social constructions, but also the difficulty of talking about one without simultaneously implying the other. Lefebvre (1991, p. 181) made this point forcefully when he observed how: “Time per se is an absurdity, likewise space per se. The relative and the absolute are reflections of one another: each always refers back to the other, and the same is true of space and time.” Today, the management of change continues to reflect issues of space and time, as a number of contributions in this volume will nicely demonstrate. Before outlining the contributions in this volume it is, however, important to provide a little background as to how space and time have been understood in the past and how that understanding is changing. It is from such an appreciation that we are arguably, better equipped to engage with the ideas presented in the papers to follow.

Conceptions of space and time: some fragments
In our opening to this paper, we made the passing observation that the field of management, in part due to its effort to become a more respectable at the dawn of the twentieth century, linked itself to the precepts of science and scientific methods. This was also a time when psychology was seeking recognition as a discipline. In the eras that we now commonly refer to as those of the experimental psychology movement, scientific management and the testing movement (Carr, 1989; Carr and Pihlanto, 1998), faith in scientific methods was seen as crucial in the establishment of general principles and “laws” to explain and predict human behaviour and aid in the achievement of efficient use of human “resources”. Particularly for the “father” of scientific management, Taylor (1911) as well as in the subsequent work of the likes of Gilbreth and Gilbreth (1917), faith was predicated on the ability to empirically determine what would seem to be universal truths through the experiment method – in the form of “time-and-motion studies” – that allowed them to determine the “one best way” for the performance of each job. Such faith in science would seem to beckon questions of how science, itself, conceived of space and time? How that may have changed? And, how such views may have informed the paradigms of management and have been consistent with the social sciences more generally?

Whilst the answers to such questions are well beyond the scope of an introduction to the papers in this volume, we can nonetheless usefully raise some of these changing conceptions of space and time as a primer for what the reader will encounter in this volume’s papers. In raising some of these different perceptions, it is not our intention to provide a “chronology” of ideas, but in what might be regarded as a more postmodern manner, to give some fragments that the reader might employ in bringing their own sense to the papers that follow. We prefer to talk in terms of “fragments” as we recognise that much of our engagement with disciplinary discourses, as with life itself, is a fragmented experience and at the same time these discourses have contextual histories whose inter-relationship is complex, contested and/or problematic. Each fragment presents a voice, theme or motif on space and time that the reader can, of course, choose to add to or discard from their own collection of thoughts on the topic. They are, however, fragments that make sense to us in terms of understanding some of the trajectories contained in the papers that follow. Our initial fragment comes from the realm of science.
Newtonian physics conceived of space and time as some kind of absolutes only to subsequently have Einstein's theory of relativity recast these ideas in terms of the position of the observer. Hawking (1989, p. 24), in his award-winning tome: A Brief History of Time, suggested that the theory of relativity actually requires us to radically rethink our general ideas about relationships between space and time. Specifically, he proposed that “we must accept that time is not completely separate from and independent of space, but is combined with it to form an object called space-time”. For example, when we gaze upon the night skies we need to remind ourselves that the speed of light is such that the light coming from those distant stars left some thousands of million years ago. Thus, it could be said, we are observing those stars in a space they occupied in the past. The complex co-relationship between space and time is such, as we noted earlier, that it is often difficult to imagine one without the other. Indeed, in terms of our use of language in some of the social sciences, Noel-Smith (2002, p. 1) made pertinent observations that “space is often used as a metaphor for other things, including time”[1].

Hawking’s words were primarily targeted at an audience interested in the physical sciences, of course. However, we also find resonance with arguments in the arena of philosophy — another fragment of which you find traces in the management discourse. Kant (1950), in the Critique of Pure Reason, argued that the world we know is created by our perception of it — to paraphrase Kant, we do not make our world as such, but we do create it. Of course, there are forces that act upon us and around us, but our knowledge of those forces are our own constructions. In his critical examination of the nature of reason, Kant concluded that the mind structures our experience, or put another way, our sense of experience is structured by our modes or categories of cognition. We can never know “things-in-themselves” only “things-as-they-seem”. The precepts of understanding are thus “synthetic a priori” truths. The positioning of Kant’s argument within the traditions of philosophical thought, and the relationship with space and time, can be described as follows:

Kant moved beyond the traditional philosophical dichotomy between rationalism (that is, that knowledge of the world is obtained a priori through the application of reason) and empiricism (that is, that knowledge of the world is derived a posteriori, from experience) to arrive at a synthesis of both positions. The external world is essentially unknowable. Its contents, the things-in-themselves, or noumena, which cause our sensations, are beyond knowledge because they are outside time and space. Our perceptions of things-in-themselves are, however, knowable phenomena, constituting both the sensation arising from the thing-in-itself and its ordering by our mental apparatus into spatial, temporal and causal relationships (Noel-Smith, 2002, p. 3).

Knowledge does not reflect, therefore, on the “nature of objects” — the “things-in-themselves” — but on the reverse of “objects in nature”; for which space and time are the organizing principles. Kant (1950, p. 77) argued:

Time is the formal condition a priori of all appearances whatsoever. Space, as the pure form of all outer intuition, is so far limited: it serves as the a priori condition only of outer appearances. But since all representations, whether they have for their objects outer things or not, belong in themselves, as determinations of the mind, to our internal state; and since this inner state stands under the formal condition of the inner intuition, and so belongs to time, time is the a priori condition of all appearances whatsoever. Just as I can say a priori that all outer appearances are in space, and are determined a priori in conformity with the
relations of space, I can also say, from the principle of the inner sense, that all appearances whatsoever, that is, all objects of the senses, are in time and necessarily stand in time-relations.

Thus, it would seem that space and time are “necessary forms of thought” (Noel-Smith, 2002, p. 2) and have implications for the manner in which “our sensations are beyond knowledge as they are outside time and space” (Noel-Smith, 2002, p. 3). Interestingly, in another fragment, but this time from the realm of psychology, Freud made a number of references to what he dubbed Kant’s “philosophical theorem” (Freud, 1988b, p. 106; see also, for example, Freud, 1988a; 1984a, b).

Freud (1984a, p. 191) suggested that unconscious mental processes “are ‘timeless’; i.e. they are not ordered temporarily, are not altered by the passage of time; they have no reference to time at all” (Freud 1984b, p. 299). Most specifically, and paying due reference to the work of Kant, Freud (1988b, p. 106) asserted that in that realm of the psyche known as the id in which various biological urges or instincts “reside”:

There is nothing in the id that could be compared with negation; and we perceive with surprise an exception to the philosophical theorem[1] that space and time are necessary forms of our mental acts. There is nothing in the id that corresponds to the idea of time; there is no recognition of the passage of time, and, – a thing that is most remarkable and awaits consideration in philosophical thought – no alteration in its mental processes is produced by the passage of time. Wishful impulses which have never passed beyond the id, but impressions too, which have been sunk into the id by repression, are virtually immortal; after the passage of decades they behave as though they had just occurred. They can only be recognised as belonging to the past, can only lose their importance and be deprived of their cathexis of energy, when they have been made conscious by the work of analysis... [Superscript 1 is an editor’s footnote in the Freud volume that notes: “The reference is to Kant.”]

Thus, the “sensations” of the id are timeless, whereas “our abstract idea of time seems to be wholly derived from the method of working of the system Pept-Cs (the perceptual system) and to correspond to a perception on its own part of that method of working” (Freud, 1984b, p. 300; bracketed comment is my addition). Freud made an overt connection with Kant’s philosophical theorem:

Just as Kant warned us not to overlook the fact that our perceptions are subjectively conditioned and must be regarded as identical with what is perceived though unknowable, so psychoanalysis warns us not to equate perceptions by means of consciousness with the unconscious mental processes which are their object. Like the physical, the psychical is not necessarily in reality what it appears to us to be (Freud, 1984b, p. 173).

In keeping with Kant’s “philosophical theorem” Freud posited that the perceptual system is responsible for time and spatial organization. However, in contrast, the id is a timeless and spaceless domain and works in accordance with what Freud called the “pleasure principle” – the id tries to discharge the “excitations” that arise from primitive biological instincts activated by certain internal and external stimuli, and thus gives pleasure or avoids the “pain” of not relieving the tension that was created.

The working of the psyche is such that while the Freudian formulation supports the basic philosophical theorem that space and time are necessary forms of thought, many psychoanalytic scholars would, at the same time, question Kant’s assumption that time and space exist a priori – or, indeed that such an assumption is in some way necessary...
to the theorem. Some psychoanalytic scholars have pointed out, correctly in our view, that it is the province of the psyche that Freud dubbed the ego in which “temporal and spatial form of thought arise as a result of experience, not independently from it or logically prior to it” (Noel Smith, 2002, p. 4; Arlow, 1986, p. 514; White, 1980, p. 64). The ego, according to Freud, engages sophisticated cognitive functioning to satisfy or suppress (through repression) demands of the id in terms of coping with the “reality” of the external world – an operation in accordance with what Freud termed the “reality principle”. The hallmark of a healthy ego is that it operates according to a (reality) principle that modifies the operation of the pleasure principle such that it recognises when it is appropriate to detour, postpone or alter the attainment of the goal of the pleasure principle in the context of the conditions imposed by the outside world.

The inter-subjective “nature” of space and time and the manner in which “temporal and spatial form of thought arise as a result of experience” is a view that has been expressed in the organization studies discourse – a recent example of which comes in a paper from Cairns et al. (2003, p. 127) who proposed that “space and time can be understood as an arrangement of symbolic and expressive markers, evoking sensations, thoughts and memories amongst the actors that experience them”. In a further “fragment” the paper by Cairns et al. (2003) also gave us some glimpses of different conceptions of space and time including the advancement of Foucault’s (1994) notion of heterotopia in which a workplace might be thought of as “both tangible and intangible, fixed and floating in time and space, good and bad, and enabling and controlling” (Cairns et al., 2003, p. 127). The recent discourse about postmodernity has ushered in a heightened[2] questioning of the common understanding of time and space as being simple a priori categories as though they are fixed, immutable absolutes and knowable entities. Harvey (1989), in his tome: The Condition of Postmodernity, stated that the pace of life is such that there has been a “time-space compression” and as a consequence we now live in a world characterized by fragmentation, insecurity, and the ephemeral. Indeed, recently we have suggested (Carr, 2006) that the contemporary age is one characterized by a fetish with speed where there is a time-space compression in which “cultural texts” and “realities” are conveyed in such a manner that they displace critical reflection and may often result in a psychological state of “stimulus entrapment” (Meares, 1992, 1997). Stimulus entrapment suggests that through continual external hyper-attentiveness, a person fails to develop an “inner self voice” and, as a result, experiences feelings of “emptiness”. A lack of ability to self-reflect, makes these individuals prone to external locus of control and/or to a false self that is often one dimensional. “They live as if at the mercy of the environment, in a hypertrophy of the ‘real’” (Meares and Coombes, 1994, p. 66). The pre-occupation for speed demands and sustains a state of external hyper-attentiveness and maintains a need for societal personas while simultaneously militating against individuality. Stimulus entrapment has enormous implications for the context for work organizations.

Our final fragments come from the discourses associated with varieties of labour process theory and organization studies and their often overriding concern with managerial control of the workforce. For instance, many of the now somewhat classic studies – both empirical (Kunda, 1992) and theoretical (Willmott, 1993) – of the managerial drive to harness the cultural dimension of organizational life, implicitly identify an attempt to dissolve established temporal and spatial boundaries between
organizational and everyday life. More recently, Fleming and Spicer (2004) have explicitly set out to identify several ways in which the dissolution of spatial boundaries between the organization and its environment operate so as to more completely draw employees into the disciplinary web they identify as necessary for the successful operation of a low stimulation working environment such as a call centre. And while the empirical evidence mobilised to support this claim is perhaps somewhat overworked in places, nonetheless it points to an emerging consciousness of the importance of recognising the dissolution of previously established temporal and spatial boundaries between the management not only of our working but also our non-working, quotidian existences.

Of course, the conjunction of time and space as being linked or open to some form of social control and the ability to self-reflect that we noted above, are not new ideas. Very similar claims could be made with reference to, for instance, the activities of the mid-nineteenth century Victorian altruists such as Robert Owen and George Cadbury who, in the UK, established communities in which people would live and work together, fundamentally blurring the temporal and spatial distinctions of work and social activity. While one could undoubtedly, wish to view such endeavours far more in terms of social reform than social control, perhaps this can be less said of the broader drive in early twentieth century life towards a hedonistic culture of consumerism, a culture which as Veblen (1953, 1965, 1964) argued, led citizens to be held back from living in the present as they were encouraged to think more in terms of the future and of the past. For Veblen, it was as though the present was becoming increasingly ephemeral in an age of “conspicuous consumption” and where capitalism acted in an increasingly “predatory” and “parasitic” manner. Veblen’s analysis of this age was one in which there was a misrepresentation of time in order to enhance the social control by those in power. Eby (1998, p. 690) succinctly summarized the import of this aspect of Veblen work in the following manner:

The habit of conspicuous consumption ... helps to maintain the status quo because people who define themselves based on future purchases pay little attention to present inequities in the distribution of goods and services. Manipulations of the past, often intentionally deployed by powerful groups, can serve equally well as opiates. The past is strategically misrepresented, for instance, through historical accounts that favor maintaining the status quo (particularly the “great man” theory of history and the notion of historical objectivity); through psychological lag and through the leisure class’s myths about timelessness and pedigree. These misrepresentations of temporal process all keep people from thinking about changing the present and promote what Veblen dryly refers to as the “conservation of the good old ways”.

Ultimately, therefore, the manner in which we experience space and time requires explication such that we better understand the manner in which we relate to the world and, indeed, form our own identity. As Sarup (1996, p. 99) observed:

How we represent space and time in theory is important because it affects how we and others interpret and then act with respect to the world. Symbolic orderings of space and time provide a framework for experience through which we learn who and what we are in society.

The fragments from discourses on space and time presented above we feel are a useful background in engaging with the papers in this special issue and it is to a brief summary of those papers that we now turn our attention.
About the papers in this special issue
The papers that appear in this special issue owe their collective origins to a conference held at Cambridge University in July 2005. The conference was the 4th International Critical Management Studies Conference and it contained a stream on space and time in organizations. The stream was convened by the editors of this special issue and in the conference call, it was made clear that outstanding papers would be considered for publication in this journal. The papers for the conference were subject to extensive review and then to a further review process for suitability for this journal. In addition to these review processes, the editors were keen to ensure that a range of issues would be canvassed in relation to the management of change. The authors of this collection of papers also represent a diversity of backgrounds; some are consultants, others academics, and others are PhD students.

Joanne Roberts and John Armitage examine the confluence of time and space in terms of the emergence of the “hypermodern organization”. In their paper, “From organization to hypermodern organization: On the accelerated appearance and disappearance of Enron” Roberts and Armitage initially consider three different types of organizations: the pre-modern organization; the modern organization; and, the postmodern organization. These three types of organizations are defined in terms of historical and socio-economic eras and there is a fairly extensive discourse in organization studies about these types of organizations. Roberts and Armitage then distinguish these three types of organization from what they call the hypermodern organization. The hypermodern organization is viewed as one in which the key source of competitiveness is speed. This type of organization is described as “hyperflexible” being able to change its size to meet a new niche and opportunity that arises from changed market conditions and innovative zeal. Roberts and Armitage suggest that: “in reality, any spatio-temporal change in the market environment, whether legal, social, political, economic, natural or technological, gives rise to fresh business openings”. The hypermodern organization is conceived as having outputs that are ephemeral and assets that are “light” – skills of the employees coupled with intangible assets such a brand name and reputation. The hypermodern organization is described as “transient” with a short life span that through its hyperflexibility, and speed in securing the next opportunity, may evolve or reform.

Having defined the hypermodern organization and contrasted it with the pre-modern, modern and postmodern, Roberts and Armitage use the case study of Enron to illustrate the characteristics of a hypermodern organization. The authors use this same organization to illustrate how the hypermodern organization may have an accelerated demise and, in the case of Enron, the concentration of the here and now at the expense of long-term viability was a significant element. The speed in engaging spatial and temporal opportunity was the same speed that, these authors suggest, featured in the organization’s demise. It is from such an analysis, that Roberts and Armitage offer some suggestions as to recognize hypermodern organizations and those that may be in transition to becoming a hypermodern organizations while at the same time highlighting the dangerous elements that may contribute to these organizations’ demise.

Gina Anderson in her paper, “Carving out time and space in the managerial university” notes that the notion of a university as a contemplative site for academic scholarship and the “production” of new knowledge in an unhurried environment has
given way to an organization characterized by performance targets, performance reviews, contract employment, workload agreements, entrepreneurial activity and high levels of managerialism. Post-bureaucratic forms of control that are more commonly found in the private sector are now increasingly found in universities. The time and space implications of such changes are discussed in this paper that draws from “data” collected from 27 interviews with academics from a variety of discipline backgrounds in eight Australian universities.

Anderson uses a Foucauldian optic, in relation to forms of power and resistance, to shed some light on the way in which academics themselves report their experiences of responding to specific practices associated with managerialism. The paper notes a variety of forms of resistance enacted by academics in response to managerial control – forms of resistance sensitive to the “assault” on time and space academics would normally view as their proper and “core” responsibilities of teaching and research. Anderson ventures the opinion that managerial control over the hours worked by academics is somewhat of a “fools errand” in as much as academics willingly have worked hours that might be considered excessive and have traditionally found it difficult to respect and “feel” the distinction between work and leisure time. Their identity as an academic is placed in some jeopardy or compromised by forms of control that shift time and space away from the “core” functions of teaching and research. Anderson reports, that in response, academics have appropriated time and space often “away” from the university utilising their home, long service leave, annual leave and “leisure” time to fulfil what they view as core work such as research. To fulfil such core work is viewed as important “for the maintenance of one’s self-respect” and it is in this context that Anderson observes that: “academics are more inclined to employ a task-oriented approach to time, typical of craft workers”. It is such a “manipulation” of time and space that is manifest as a form of resistance to overt insidious managerialism that Anderson cogently reasons has significant implications “for further academic demoralisation and burnout”.

“Time thieves and space invaders: technology, work and the organization” is the title of the paper by Ian Towers, Linda Duxbury, Christopher Higgins and John Thomas. For Towers et al., time thieves and space invaders is an apt description for the manner in which the division between work and home has become blurred through the use of Information and Communication Technology (ICT). They make a distinction between ICT generally and those items of technology that they call Work Extending Technology (WET). The authors report upon their study of the manner in which “the possession and use of WET technology affects employees and the ways they negotiate the shifting borders of the organization”. One of the matters investigated that has some resonance with the previous paper, is the manner in which we develop strategies to deal with the blurring of temporal and spatial boundaries. In the study by Towers et al., the sample was not university academics but 845 Canadian civil servants.

Towers et al. overview the manner in which ICT and WET not only blur the distinction between work and home but in some instances how such technology enables a proximity that even blurs the distinction between the spatial and temporal. One of the most interesting findings in this study was that many employees felt that the problems associated with the use of WET intruding into family and home life were less in the domain of the employer’s responsibility but were either simply something
nobody could do anything about or were in the domain of the employee to fix. The manner in which these problems can be managed poses a significant challenge.

In the next paper, "The spatial and temporal mediation of social change" Philip Hancock explores the manner in which "organizations seek to manage the symbolic and aesthetic representation of temporal and spatial change, particularly in relation to the broader socio-cultural environments within which they operate". For Hancock this is an area of discussion largely neglected by the literature on change management. The constitutive role that organizations can play in the manner in which we experience the broader social context of change is a matter that has been largely overlooked not least of which because of a lack of a suitable framework to recognise such a role. Hancock makes some suggestions in this regard, and in doing so considerations of the spatial and temporal are revealed as being key elements of social and organization change.

Working within what can broadly be described as a structural hermeneutic framework, Hancock argues that certain visual artifacts generated by organizational activity can, and should be understood, as producing particular constellations of representation capable of mobilising "consent to specific political positions through images, spectacle [and] narrative" (Kellner, 1995, p. 62). In particular, he identifies several such symbolic and aesthetic constellations at work in a selection of organizational documents – namely those of vitality, ephemerality, subordination and authenticity – each of which, Hancock argues, can be seen to contribute to what he refers to as a process of strategic mediation (Hancock and Tyler, 2001); one orientated towards the purposeful management of those structural and subjective contradictions that arise on a daily basis due to the temporal and spatial dynamism of contemporary capitalist modernity. In conclusion, therefore, Hancock reasserts the need for organizational scholars to consider not only the role of change agents within the organizational domain, but also the role organizations might themselves play as agents and mediators of change within their wider socio-cultural context.

"Metaphorical mediations of organizational change across space and time" is the title of Jeff Waistell's paper and he takes up the familiar theme of how metaphors are used in organizations and how they have utility to those who seek to comprehend organizations and how they are managed. In this paper, it is proposed that metaphor appears to fuse the spatial and temporal. Waistell opens the paper with the same quote from Lefebvre we used in the opening paragraph to this paper. Using a case study of a University, Waistell examines the manner in which a succession of Vice Chancellors in the same University have employed or invoked metaphor in their formal speeches. In particular, the focus is upon metaphors that appear to be related to the management of change. Waistell finds that "change participants can more readily accept change communicated through metaphor, as it simultaneously mediates continuity and change". The paper details examples of the manner in which metaphor "mediates" change across the "dimensions" of space and time in five major ways that are summarised as:

1. transferring meaning from the familiar to the unfamiliar;
2. providing coherence;
3. “Breaking distance”;

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Whilst those who stress the importance of hermeneutics and semiotics to the management of change may appear, at times, to carry a complicated and sometimes convoluted message to those who actually manage change, Waisell suggests a number of lessons that management can learn from understanding how metaphor is engaged in the communication of change. These lessons include not only how we might interpret metaphor “in-use” but also the manner in which those engaged in the change process might employ metaphor to reassure those likely to be affected by the change. In this latter case, the paper argues that the metaphor reassures in its connection “to familiar times and places, while exposing them to new scenarios”.

Cheryl Lapp and Adrian Carr in their paper, “To have to halve to have: ‘Being’ in the middle in changing time’s space” consider the plight of those in middle management who are often charged with the responsibility of implementing change while trying to maintain self-concept. During feudalism, middle managers were the king’s comptrollers (appointed to examine and verify accounts) and protectors. In terms of class structure, they fell into the workspace between the “have” and the “have nots” but to survive, ultimately their loyalties needed to be with the “haves” and at the expense of the “have nots”. For Lapp and Carr, today’s middle management resonates with Aristotle’s notion of “intermediaries” between “contraries” of master and slave. The more one desires to be master, the more one desires not to be slave. During anxiety causing organizational change, the means by which managers elevate themselves above slavery is to increase the number of intermediaries between themselves and front-line workers. Hegel’s (1977) conceptualisations of lordship and bondage and their intermediary, self-consciousness are self-evident. But, Lapp and Carr contend that being successful in the middle is “being” and “doing” (moving) between contraries of master and slave or living in the personality paradox of master slave without ever “becoming” either extreme. The authors suggest that today’s middle managers need to be in a continual dynamic of temporal and spatial identity compromise. There is mutual causation of master and slave within the same personality space and they use psychodynamics to synthesise philosophical and management theory fragments as presented in an extensive case study. This re-reading illustrates how time and space are implicated in a complex web of labour-relations and deep-seated psychological processes related to identity. To be effective at implementing and reacting to organizational change, Lapp and Carr ascribe to the difficult task of maintaining psychological continuity while being two different personalities in the same space and time.

Notes
1. The inter-relationship of space and time is such that even when we dream, according to Freud, we substitute one for the other. “In a dream, for instance, one may see a scene between two people who look very small and a long way off . . . Here, both the smallness and the remoteness in space have the same significance: what is meant is remoteness in time and we are to understand that the scene is from the remote past” (Freud, 1986b, p. 55, italics is original emphasis; See also Carr, 2001).
2. In another fragment, Rosenau (1992, p. 72) notes that “the post-modern redefinition of space and time” was anticipated by modern social science and points to the work of Henri Bergson who distinguished between *duree* from clock time. In similar vein, Rosenau notes, as a further example, the work of Giddens (1987) who also “breaks ground in the direction of space/time consciousness”.

References


About the authors
Adrian N. Carr is an Associate Professor (Organisation Studies and Applied Social Sciences) and holds the research-only position of Principal Research Fellow in the School of Social Sciences at the University of Western Sydney, Australia. Carr’s major area of research interest is psychodynamic theory and its implications for organizational application. Carr’s PhD was in the area of psychodynamic theory and he been the author of over 200 refereed journal publications and number of books the most recent of which are: *Leadership is a Matter of Life and Death: The Psychodynamics of Eros and Thanatos Working in Organisations* (with Cheryl Lapp), *Cyberspace Romance: The Psychology of online Relationships* (with Monica Whitty) and *Art and Aesthetics at Work* (co-edited with Philip Hancock). In addition to his five university degrees, Carr holds an
advanced accreditation to administer and purchase the Myers-Briggs Type Indicator. Carr is a member of a number of professional associations and editorial boards, the latter including: Policy, Organisation & Society; the Journal of Management Development; Administrative Theory & Praxis: A Journal of Dialogue in Public Administration; Journal of Organisational Change Management; Radical Psychology: A Journal of Psychology (founding co-editor), Politics and Radicalism; TAMARA: Journal of Critical Postmodern Organization Science; Global Business & Economics Review; Journal of Managerial Psychology; Human Relations; and, the Journal of Critical Perspectives on International Business. Adrian N. Carr is the corresponding author and can be contacted at: a.carr@uws.edu.au

Philip Hancock is Lecturer in Organisation Studies at Warwick Business School, University of Warwick, UK. He has degrees in Social Science, Philosophy and Social Theory and Management from the universities of Nottingham Trent, Warwick and Keele, respectively. He has published in a range of internationally recognised journals on topics including organisational feudalism, culture and motivation and aesthetics at work. He is also a co-author of Body Culture and Society, Work, Postmodernism and Organization and a co-editor of Art and Aesthetics at Work.

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