

ELECTRONIC COMMUNICATION IN THE WORKPLACE: BOON OR BANE?

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The workplace use of Information and Communication Technology (ICT) is now pervasive, and growing¹. Being able to use ICT for workplace related tasks, “anytime, anywhere” can certainly have benefits in terms of efficiency, flexibility and productivity. However it can also give rise to detrimental side-effects such as ‘round-the-clock-always-on’ tethering to the workplace and leave employees ‘technostressed’. ICT is thus a double-edged sword that needs to be managed carefully and sensibly. In this briefing we describe this dark side of ICT use in the workplace, and explain how it can be tackled.

Technostress - Challenges for Employees

Technology overload

Using ICT is a time-consuming activity because it forces employees to do things they would not do otherwise. A study by Prof. Thomas Jackson² from Loughborough University found that employees of a large company spent on an average 29 minutes reading email each day, let alone answering them. In similar studies, employees feel that increasing volume of ICT related communication they are required to handle, not only makes them overloaded with technology, it also leads to work overload³.

1 International Labour Organisation. (2017). Working anytime, anywhere: The effects on the world of work. Report.

http://www.ilo.org/global/publications/books/WCMS_544138/lang--en/index.htm.

² Jackson, T. W., Burgess, A., & Edwards, J. (2006). A simple approach to improving email communication. *Communications of the ACM*, 49(6), 107–109.

³ Gupta, A., Li, H., & Sharda, R. (2013). Should I send this message? Understanding the impact of interruptions, social hierarchy and perceived task complexity on user performance and perceived workload. *Decision Support Systems*, 55(1), 135–145.

Technology overload further happens when employees perceive their communication demands, such as that from email, to be out of control and exceeding their coping abilities⁴. These sorts of feelings – of technology overload and the associated work overload - are associated with increased risks of burnouts, sleep disorders and stress⁵. Further, although on the face of it, the technology we use feels like it is getting simpler, many applications and devices have complex user interfaces that can take a long time to master, which leads to further work. To aggravate this situation, short technology life cycles and pressure from vendors means that employees often find themselves continuously dealing with new screens, functionalities and interfaces, often without adequate support. This further increases their overload from doing IT related work⁶.

Interruptions, Divided attention and Multi-tasking

This never-ending flow of communication results in more frequent interruptions, as employees are compelled to react to their ICT notifications. Although email can be read anytime, employees react to their incoming email in under one minute 44 seconds on average, and to the majority of it in under six seconds (Jackson et al. 2001). It is common to see most people looking at their screens in the middle of

Barley, S. R., Meyerson, D. E., & Grodal, S. (2011). E-mail as a Source and Symbol of Stress. *Organization Science*, 22(4), 887–906.

4 Dabbish, L. A., & Kraut, R. E. (2006). Email overload at work: an analysis of factors associated with email strain. In *Proceedings of the 2006 20th anniversary conference on Computer supported cooperative work* (pp. 431–440). Banff, Alberta, Canada: ACM.

5 Mano, R. S., & Mesch, G. S. (2010). E-mail characteristics, work performance and distress. *Computers in Human Behavior*, 26(1), 61–69.

6 Tarafdar, M., D'Arcy, J., Turel, O., & Gupta, A. (2015). The Dark Side of Information Technology. *Sloan Management Review*, 56(2), 60–71.

important meetings and gatherings⁷. While it is not clear that such divided attention is directly beneficial, increasingly we find that employees' attention is being parcelled among many different tasks at the same time. While multi-tasking is not necessarily bad for productivity, constant flitting back and forth among different devices and different tasks is time consuming and results in less sustained attention to one specific task. This is bad for productivity, creativity and work quality. Studies show that it takes more than a minute to reengage in the primary task following an ICT interruption⁸, and that, overall, employees seem to lose about 28 minutes of their workday being interrupted⁹.

Work-home Interference

Employees facing increasing technology overload are tempted to keep on top of their communication and work tasks by using work related ICT such as tablets, laptops and smartphones at home. Indeed many people prefer doing that because it affords them flexibility and allows them to integrate their home and work activities¹⁰. However, that also means they end up working longer. BBC News recently reported that 90% of UK managers work outside contracted hours using ICT, accounting for an extra day of unpaid overtime per week¹¹. The 2017 International Labor Organisation report on "working anytime, anywhere" similarly reports that, in most

⁷ The Guardian. (25 November 2016). What were all those MPs doing on their phones? <https://www.theguardian.com/technology/2016/nov/25/what-were-labour-mps-doing-on-their-mobile-phones-in-parliament>

⁸ Jackson, T. W., Dawson, R., & Wilson, D. (2001). The cost of email interruption. *Journal of Systems and Information Technology*, 5(1), 81–92.

⁹ Gupta, A., & Sharda, R. (2008). SIMONE: A Simulator for Interruptions and Message Overload in Network Environments. *International Journal of Simulation and Process Modelling*, 4(3–4), 237–247.

¹⁰ Park, Y., Fritz, C., & Jex, S. M. (2011). Relationships between work-home segmentation and psychological detachment from work: The role of communication technology use at home. *Journal of Occupational Health Psychology*, 16(4), 457–467.

¹¹ BBC News. (9 July 2014). Managers 'work extra day per week in unpaid overtime'. www.bbc.co.uk/news/business-28220312

countries, employees who access ICT outside contracted hours, work longer. Such constant availability allowed by ICT has been associated with increased work-life conflict and work-life imbalance¹². For the others, refusing to bring ICT home is a difficult choice to make. In a recent study of employees, 73% respondents worried that not being connected to their workplace through their email or other electronic means would place them at a disadvantage at work¹³.

Technostress - Challenges for Organizations

Between a rock and a hard place – Giving employees the technology they want

Knowing the risks of bringing work related ICT home does not prevent employees from embracing constant availability. They often feel an increased sense of job satisfaction, professionalism, productivity, autonomy, control and empowerment¹⁴ even justifying their inability to disconnect from work communication as a matter of free choice¹⁵. Should organizations go along with this and encourage employees to access work related communication outside contracted hours? Organizations have the difficult task to both provide employees with the technology they want, while at

12 Derks, D., van Duin, D., Tims, M., & Bakker, A. B. (2015). Smartphone use and work-home interference: The moderating role of social norms and employee work engagement. *Journal of Occupational and Organizational Psychology*, 88(1), 155–177.

Wright, K. B., Abendschein, B., Wombacher, K., O'Connor, M., Hoffman, M., Dempsey, M., ... Shelton, A. (2014). Work-Related Communication Technology Use Outside of Regular Work Hours and Work Life Conflict The Influence of Communication Technologies on Perceived Work Life Conflict, Burnout, Job Satisfaction, and Turnover Intentions. *Management Communication Quarterly*, 28(4), 507–530.

13 Tarafdar, M., D'Arcy, J., Turel, O., & Gupta, A. (2015). The Dark Side of Information Technology. *Sloan Management Review*, 56(2), 60–71.

14 Diaz, I., Chiaburu, D. S., Zimmerman, R. D., & Boswell, W. R. (2012). Communication technology: Pros and cons of constant connection to work. *Journal of Vocational Behavior*, 80(2), 500–508.

15 Cavazotte, F., Heloisa Lemos, A., & Villadsen, K. (2014). Corporate smart phones: professionals' conscious engagement in escalating work connectivity. *New Technology, Work and Employment*, 29(1), 72–87.

the same time steer them away from “self-inflicted work life conflict” or “self-imposed escalation of work-related connectivity”¹⁶. This challenge is made even more difficult with the never-ending introduction of new technologies in the consumer market, which at some point become desirable to employees. Organizations may be tempted “to advance the technology per se rather than to consider its impact on individual workers”, write O’Driscoll, Biron and Cooper¹⁷.. Although these new technologies are desired and asked for by employees, “we must be vigilant in assessing the human costs that are incurred when these advances are adopted in the workplace”¹⁸.

Dealing with varying ability to use ICT

In a 1998 paper, Dr. Anthony Townsend and colleagues wrote that although ICT can provide a platform for organizations to actually address the communication needs and expectations of employees, they also require successful training and technology habituation of people who may be technophobic¹⁹. Not everyone likes technology or can use it well or effectively. For example employees who lack the ability to manage and sort their email experience greater email overload than those who do not. At the same time those who cannot send concise and clear emails increase their colleagues’ email overload. ICT enabled work communication is social and

16 Wright, K. B., Abendschein, B., Wombacher, K., O’Connor, M., Hoffman, M., Dempsey, M., ... Shelton, A. (2014). Work-Related Communication Technology Use Outside of Regular Work Hours and Work Life Conflict The Influence of Communication Technologies on Perceived Work Life Conflict, Burnout, Job Satisfaction, and Turnover Intentions. *Management Communication Quarterly*, 28(4), 507–530.

17 O’Driscoll, M. P., Biron, C., & Cooper, C. L. (2009). Work-related technological change and psychological well-being. In Y. Amichai-Hamburger (Ed.), *Technology and psychological well-being*. Cambridge University Press.

18 Mark, G., Voida, S., & Cardello, A. (2012). A pace not dictated by electrons: an empirical study of work without email. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 555–564). ACM.

19 Townsend, A. M., DeMarie, S. M., & Hendrickson, A. R. (1998). Virtual teams: Technology and the workplace of the future. *Academy of Management Executive*, 12(3), 17–29.

interactive. Such problems are thus often matters of collective drowning in the electronic deluge! A major organisational challenge is therefore to improve the ability of all employees to use ICT effectively, in order to limit these sorts of detrimental outcomes.

Technostress – Taking it On

Specify clear ICT use policies

Organizations can design interventions aiming at mitigating these negative outcomes. To prevent work-life imbalance, some organizations have decided to forbid access to ICT outside contracted hours in order to force employees to take sufficient time off work. For example, in Germany, Volkswagen stopped routing emails to some employees on shift²⁰. In France, Atos decided in 2010 to progressively replace emails with other, supposedly more efficient, media such as enterprise social networks. In 2014, 40,000 of their 80,000 employees, sent less than 20 emails per week, compared to an average of 100 in 2010. Their ambitious objective has served as a catalyst for imagining innovative ways to reduce technostress²¹. Prof Thomas Jackson further suggests that “by reducing the volume of irrelevant and untargeted email and by reducing the frequency with which an email application checks for new email, the cost of email use can be optimised.²²” If organizations do not want to bear the costs of email use, a 1985 paper went as far as to suggest, rather ironically, that email senders could be “charged according to

²⁰ BBC News. (8 March 2012). Volkswagen turns off Blackberry email after work hours. <http://www.bbc.com/news/technology-16314901>

²¹ Pillet, J.-C., & Carillo, K. D. A. (2016). Email-free collaboration: An exploratory study on the formation of new work habits among knowledge workers. *International Journal of Information Management*, 36(1), 113–125.

²² Jackson, T. (10 May 2011). Inefficient email is costing companies. http://www.lboro.ac.uk/service/publicity/news-releases/2011/52_Email.html

the number of recipients”²³. Such measures, although draconian, do serve to send clear signals as to what is organizationally acceptable or not, with respect to use of ICT.

Develop more careful “one-size-fits-all” interventions

However, “strategies aimed at simply reducing email volume and changing individual behaviours may not be enough”, concluded a research team from Southampton Business School²⁴. Our own research shows that such unilateral interventions are difficult and risky to design, given that some employees may also experience high levels of stress and inadequacy when they lack the ICT and constant availability they need or desire. To the question “why do some individuals thrive in this environment whereas others suffer?” we find that employees thrive when they can use the technology they need and want, and suffer when they cannot. Among less risky “one-size-fits-all” interventions is the elaboration of a chart giving advice and guarantees to employees about mitigating their technostress. In France, large organizations are now forced by law, since January 1st, to write such a chart in which they describe how they intend to guarantee their employees’ “right to disconnect” and disengage from work while at home.

Such charts may contain promises to train employees on how to use ICT and protect themselves against technostress. Email training, for instance has been found to reduce trainees’ levels of email overload and their colleagues’ levels of email overload. Email training interventions can include a demonstration of email features

23 Hiltz, S. R., & Turoff, M. (1985). Structuring Computer-mediated Communication Systems to Avoid Information Overload. *Communications of the ACM*, 28(7), 680–689.

24 Sumecki, D., Chipulu, M., & Ojiako, U. (2011). Email overload: Exploring the moderating role of the perception of email as a “business critical” tool. *International Journal of Information Management*, 31(5), 407–414.

(sorting, filtering), examples of poorly-written email, simulation exercises and collaborative writing of “proper email use” charts²⁵.

Help individuals be mindful of their own use of ICT

Besides these ideas that can be applied to all employees, interventions and charts can also contain guidelines that can be applied individually to each employee. Internal surveys could audit employees’ levels of technostress and attitudes towards ICT, and their results could serve as a basis for collective discussions in the company, through peer support groups. Technostress²⁶ and stress²⁷ instruments reported in recent studies could be the basis of discussions among employees regarding their preferences for and reactions to use of ICT.

Help individuals be mindful of their colleague’s use of ICT

Employees with managerial responsibilities have a special role to play in reducing everyone’s technostress. Managers sending email to their subordinates outside their contracted hours create even stronger response expectations and implicitly encourage a culture of constant availability. They are therefore the ones who both suffer the most from technostress and have the most impact on others’ technostress! They should as such be at the centre of organisational interventions. Organizations should also encourage employees to understand and empathise with the ICT use preferences of their colleagues. This could include, understanding communication

25 Soucek, R., & Moser, K. (2010). Coping with information overload in email communication: Evaluation of a training intervention. *Computers in Human Behavior*, 26(6), 1458–1466.

26 Tarafdar, M., D’Arcy, J., Turel, O., & Gupta, A. (2015). The Dark Side of Information Technology. *Sloan Management Review*, 56(2), 60–71.

27 Cartwright, S., & Cooper, C. L. (2002). *ASSET: Management guide*. Manchester, UK: RobertsonCooper Ltd.

habits of immediate colleagues, for example, what communication medium they prefer, and how they prefer to use it.²⁸

In conclusion, the pervasiveness of these problems we describe, demands that IT Leaders, Human Resource leaders and senior executives come together to frame and implement solutions²⁹. Senior leadership should make mindful use of ICT an organizational priority and commit to provide support and resources for tackling these problems. Human Resource leaders should monitor employee sentiments and problems with regard to the stressful demands they face from ICT. They should provide training and resources for employees to maintain work life balance and create repositories for support resources. IT leaders should provide technical support on issues such as how to switch off email alerts and how to manage email.

28 Stich, J.-F., Tarafdar, M., Cooper, C. L., & Stacey, P. (2017). Workplace stress from actual and desired computer-mediated communication use: a multi-method study. *New Technology, Work and Employment*, 32(1), 84–100.

²⁹ Tarafdar, M., D’Arcy, J., Turel, O., & Gupta, A. (2015). The Dark Side of Information Technology. *Sloan Management Review*, 56(2), 60–71