Out-of-Office Model – the Eight Factors and Barriers Controlling the Future of E-Working

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Abstract: Academics, researchers and managers have struggled for years to identify and describe exactly what constitutes effective e-working and to identify the ideal model of e-working. In the midst of the debate and discussion, some basic concepts seem to have been lost, because, as is evident, there are different definitions of e-working. We have developed a simple basic three-dimensional model of future trends and factors affecting e-working. Each of these three dimensions, namely Technology, Global changes and Generational and demographic changes, is within the control of the individual country, and each one can be developed through appropriate support and guidance. Effective e-working is a matter of developing the ability within each of the three dimensions and then choosing to apply the eight controlling factors and barriers in a balanced way. Our model provides a systematic way of incorporating best practices to overcome concerns and guide organizations through the process of building successful, sustainable and customized e-working programs that meet the demands of a changing workplace.

Keywords: e-working; Out-of-Office model; factors and barriers; generations; digital natives and novices

JEL Classification: J22; J80; M54; O33

1. Introduction

In 1979, the Washington Post published an article entitled "*Working at Home Can Save Gasoline*" (Schiff, 1979), and since then the idea of e-working has gained popularity. Throughout the history of mankind, dependence on the worksite has been the key to finding a job. This means that a lack of technological progress has hampered the flexibility of the working environment. From the Stone Age (hunting, harvesting, food preparation, construction of human artefacts), people moved into social groups, through agriculture (farming) and various industrial revolutions (physical strength) to the age of modern information and technology (Beno, 2018a). The Industrial Revolution brought employees from their homes to factories. With ICT (Information and Communications Technology), the reverse is

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possible, with employees now able to move back to their homes (Simitis, 1986).

Many companies still refuse to allow employees to work remotely because managers are reluctant to accept that employees will work properly outside the office. Today, e-working has evolved and offers more flexibility than in the past, and companies are able to choose from various e-working models such as a centralised office and occasional work from home, a centralised office and work from anywhere and fully e-working without a centralised office. So, e-working saves many more resources than just gasoline. With the help of modern technology, some companies have adopted these models with open arms, and more are following suit.

In the past, e-working has been associated with telemarketing, call centres and wages below the minimum. Today, home-based work is very popular among different professions thanks to the availability of high-speed Internet, cloud-based tools, advanced collaboration tools and flexible workplace space. Based on various trends (demographic, economic and technological), we expect global growth in e-working in the coming decades. The number of modern work arrangements well adapted to e-working will increase as a percentage of total work. Continued technological development will allow more employees to work outside the office. We believe that e-working is a triple-win option – for employers, employees and our society.

To understand this phenomenon, we developed a simple basic three-dimensional model of future trends and factors affecting e-working (see Figure 1). These trends and factors will affect the acceptance of the growth of e-working. An understanding of these influences is necessary for assessing trends in e-working and for identifying future opportunities and needs. As individual trends and factors affect the development and growth of e-working in countries differently, the basic model varies. According to Beno and Ferencikova (2019), there are three trends (dimensions) that the authors consider to have a significant impact on this concept, namely **Technology, Global changes** and **Generational and demographic changes**. These trends are implemented in our model as the main dimensions shown in Figure 1 in blue, red and yellow. Various factors limit and encourage the way e-working affects the acceptance and growth of e-working. Our analysis focuses on eight areas of direct relevance to this way of working: 1) Talent acquisition and retention; 2) Eco-friendliness; 3) Cost reduction; 4) Modern technology; 5) Upgrading and security; 6) Big brother is watching you and legislation; 7) Digital natives and global citizens and 8) New labour market models and jobs.
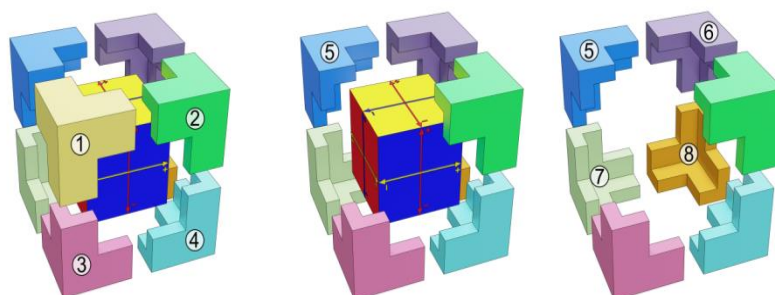
Figure 1. Basic Out-of-Office model
Source: Author's Compilation

2. Methodology

We start by reviewing the drivers of change and the interactions that are expected to shape e-working in the future. Our Out-of-Office model is constructed according to a robust, evidence-based approach. Key elements include a comprehensive literature review and a full analysis of trends and disruptions. This model was developed systematically, and implications were then drawn from this analysis. A systematic literature analysis of publications relating to the future of e-working was used in our study. We subsequently use the information to generate eight factors and barriers developed systematically by drawing on this analysis. In the organizational structures of the Industrial Revolution one had to travel to work in order to be at work. This has changed in the era of e-organization, where increasing numbers of workers are employed in information work and ICT, which results in information being portable and work being done outside the traditional settings. In e-organization and with the proper tools, an information worker can be at work nearly anywhere.

The model is the result of an integrated analysis of different economic, technological and social environmental interfaces, in which, apart from the factors influencing the environment, attention is also given to human factors. The model consists of three-dimensional kernels with their description and importance for the future, as well as an axis in each dimension that affects individual dimensions to a greater or lesser extent (that is, positively or negatively) and eight areas. The complexity and sophistication of e-working increases up, down, left and right, hence the shape of the model is tied to specific countries, work tasks or levels (see Figures 2 and 3). This means that countries with a lower share of e-working may find that they are not in the basic model, but in one of the two variations.
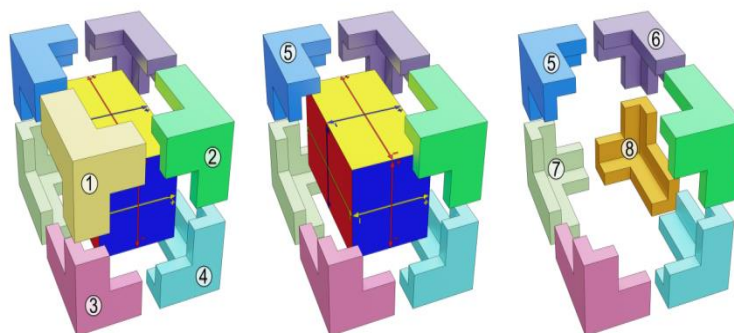
Figure 2. Out-of-Office Model, Variation 1
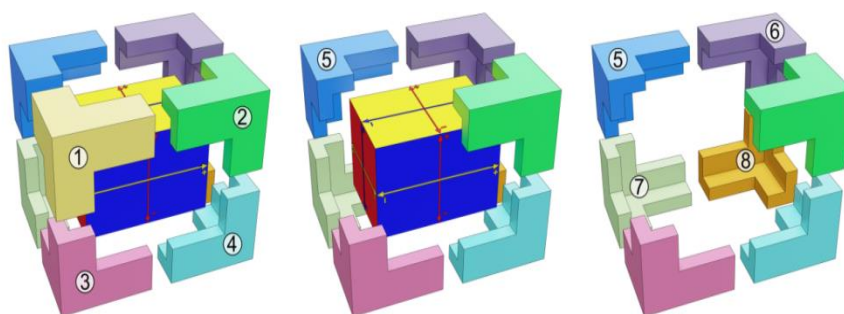*Source: Author's Compilation*

Figure 3. Out-of-Office Model, Variation 2
Source: Author's Compilation

Finally, our aim is to gain a better understanding of the dynamics of future e-working and to present the key factors influencing today's labour market, because this market is agile since people can work anywhere at any time.

3. Out-Of-Office Model – Eight Factors and Barriers

In the past, e-working may have seemed like a distant dream. Nowadays, more and more companies are introducing e-working practices (Radu, 2018), and we are aware that the way we work has more and more benefits than risks (Beno, 2018b; 2018c; 2018d). The growth of this form of work has been documented (GWA, 2019; Vasel, 2017) and discussed (Gibbons, 2017; Ussem, 2017), but many authors conclude that e-working is a better solution for governments, organisations and for society as a whole, as well as for people's well-being. The size of a corporation is not important, but giving employees the opportunity to work remotely through e-

working is important. However, as we point out, although e-working is not suitable for everyone, it can be a triple victory for both employees, employers and society. Below are eight areas that increase/limit the spread of e-working in our Out-of-Office model:

1. Talent acquisition and retention: People are the most valuable asset of companies (Marks, 2018). It is currently difficult to find and retain good workers (Tore, 2018), even in a poorly functioning economy (Goldsmith, 2010). Productivity and employee retention are significantly increased when employees are deployed. This is important nowadays, because job security and company loyalty are much less important than ever before. Scientists have long noted that the ability to attract and retain quality workers is critical to organisational competitiveness (Delery & Shaw, 2001; Ulrich, 1993), and research streams in strategic human resource management have explored the link between human resources practices and performance and organisational efficiency (Boselie *et al.*; 2005). To attract and retain top talent, employers need to understand the real needs of workers; it is not just competitive wages and good benefits that persuade workers to join and stay with a company. The Mercer 2018 Global Talent Trends study (Mercer, 2018) identified three factors that employees and jobseekers are looking for in a company: flexibility in the workplace, commitment to health and well-being, and work with a purpose. We believe that organisations need to realise that e-working must be an option, not just a desire, to attract and retain the best workers. As reported in the IWG report (2019), flexible working is helping businesses become more successful by enabling them to attract and retain top talents (77%). Siemens (2009) emphasises that this form of work will help attract talent far from the traditional headquarters or physical office buildings, especially global talent and young people.

2. Eco-friendliness (revitalisation of rural areas, urbanisation): Being eco-friendly seems to be an important feature of today's business, compared to the situation at the end of the 20th century, where quality control was the key. Currently, being eco-friendly offers the company a competitive and an image advantage. In addition, an organisation with e-working programmes can be considered a green employer (Siemens, 2009). Fuhr and Pociask (2011) emphasise that e-working can reduce pollutants without sacrificing economic productivity, and may even augment it. The authors also add that encouraging the development of technologies such as broadband services to facilitate the use of more e-working could become one of the most important economic public policy initiatives by helping the environment and increasing economic growth. But on the other hand broadband services increases electromagnetic pollution which affects the environment negatively. A recent global online study by Nielsen found that Millennials and Generation Z are willing to pay more for products and services that come from companies that are committed to a positive social and environmental

impact (Nielsen, 2015). E-working is an environmental option that reduces the ecological footprint of employers and employees (Beno, 2018c; Pyöriä, 2011). Swift and Stephens (2014) report that homeworking provides environmental and cost-effective benefits to organisations when implemented at the right time and in the right way. As a result of e-working, congestion can be alleviated by greater flexibility in scheduling travel to work and replacing some trips (Bull, 2004). Clark (2000) concludes that e-working may not yet be a solution to many rural problems such as unemployment and depopulation, and that businesses and local authorities still need to develop their policies and strategies to enable this kind of work to reach its potential. E-working can lead to retaining the viability of small towns, as is confirmed by the Finnish project in the Central Ostrobonthia region (Yle.fi, 2019). Butz-Widener (2019) highlights that leaning into remote work can save rural towns. However, the potential environmental benefits are controversial, as stressed by Büssing (2002), *e.g.* replacement of commuter traffic through overcompensation leading to increasing leisure traffic, increasing computer production and problems with the disposal of toxic material or from radiation through wireless telephone and mobile radio communication.

3. Cost reduction: Generally e-working helps companies save money, depending on the number of e-workers, commuting frequency, the number of trips and time spent on commuting, expected increase of number of workers, estimated average discount rate and cost distribution, and employers and employees (Shafizadeh *et al.;* 2007). Reducing costs for employers and employees through e-working can save money (Schilling, 1999; Ye, 2012). Letting a single employee work from home can save a business $10,000 (Ohio University, 2020). Robbins (2018) highlights employees' savings by cutting out gas/travel expenses, lunches, coffee, work clothes and other work-related expenses. Robèrt and Börjesson (2006) emphasise that e-workers donate the use of their homes, rent-free, to the employer, and thereby potentially save the employer a great deal of expenditure on rent.

4. Modern technology: Moskowitz (2006) said that the Los Angeles earthquake in 1994 forced the company to implement remote programmes urgently as an essential part of their business. E-working therefore grew before the Internet, he added. There is no doubt that the Internet and modern technologies (secure software, VPN, laptops, smart devices and others) have been the driving force for the practical development of e-working. A reliable Internet connection is a major need for modern businesses. Slow Internet can affect not only employee productivity but also the quality of customer service (DataKom, 2016). As mentioned in point 2, Fuhr and Pociask (2011) appreciate the development of technologies (broadband services) that facilitate the use of e-working by helping the environment and increasing economic growth. Beno (2018b) emphasises that the use of robotic telepresence will solve the problem of the feeling of isolation and lack of team coherence, while allowing an e-worker to be an active member of the

organisation. An increase in productivity, saving time and money, and reducing the carbon footprint are the elements that offer collaboration tools (3c- communication, collaboration and coordination) without the need for commuting. Mobile technology is widespread globally and enters every part of our lives. The spread of laptops, tablets, smartphones and mobile devices helps e-working to be more accessible, efficient and productive. Distance work in this sense does not mean that employees work only from home. This technology allows an employee to work while on a journey, travelling on a train or a plane, or sitting in a cafe (Smith, 2019).

5. Upgrading and security: A powerful, more accessible Internet and advances in security software, such as a virtual private network (VPN), have permitted the online processing of transactions quickly and reliably enough to perform tasks over hundreds or thousands of kilometres, making such tasks not only possible, but also convenient. Laptops and home office equipment are becoming increasingly portable, requiring less space, and they can be purchased at increasingly affordable prices. The geographical decentralisation of e-workers means that if an organisation has suffered a destructive event (for example fire, earthquake, flooding), the organisation can continue to work, but if everyone were working in the same place, a complete loss would have occurred. Generally, we stress the lower risk of accidents and accidental and harmful events, and fewer allegations of harassment and sexual discrimination. Generally, research data reported the risks to data security as a major challenge when adopting e-working (Blackwell & Demerath, 2002; Clear & Dickson, 2005; Illegems & Verbeke, 2003). Furthermore, Fulton *et al.;* (2001) reported that home e-work would lead to data security risks, including disclosure, modification and destruction. E-working can lead to security problems (risks). However, these risks can be managed. The main cause of data breaches is employee negligence (Reinicke, 2018). According to the Online Trust Alliance report, the Cyber Incident & Breach Trends (OTA, 2018), 93% of security breaches could be prevented in 2017.

6. Big brother is watching you and legislation: Douglas (2018) stresses the need to hire the right people, eliminate the wrong ones, create smart checkpoints and focus on outcomes instead of monitoring employees. Trust is an important element in e-working. There must be a strong bond of trust between manager and employee (Harrington & Ruppel, 1999), and maintained trust is essential for the implementation of e-working (Kowalski & Swanson, 2005). We propose the following medal standards regarding monitoring: *gold* for building trust and responsibility with employees, *silver* could basically be considered the diamond level, but the claimed results may possibly have to be corrected, *bronze* goes with a regular daily and public inspection, a *tin* medal with modern tracking tools and a *lead* medal when using remote monitoring software. With an e-workforce, all communication takes place in a decentralised environment. The privacy and

security of the business's information should be at the top of the list of concerns. When there are cross-over e-workers from different states, it is necessary to comply with the employment and labour laws in those locations. When someone has the right to disconnect the Internet connection, this could, in our opinion, cause a lack of interest and even the end of e-working. If the nature of a job requires email availability, say in different time zones, such expectations should be stated formally as part of the job responsibilities.

7. Digital natives and global citizens: Today's young people are players, but also victims of the current social, economic and cultural environment that shapes their identity, needs and worldview (Noble *et al.;* 2009). This is not a completely new situation, because since the beginning of ICT development, it is not only young people whose behaviour has adapted to the situation. Barna (1996) stresses that the young generation was born and raised in a global society where consumerism and capitalism are natural conditions and go largely unchallenged. To them, technology is their natural ally and a necessity rather than a luxury, the solution to all imaginable problems. Mitan (2014) emphasises that youth unemployment is currently a major problem in many European countries. Within the modern workforce, there are two distinct groups: Digital natives (familiar with computers, the Internet and other digital technology) and Digital novices (Baby Boomers and Generation Xers) who grew up without digital technology and only encountered it at a later stage of life (Computacenter, 2016). Generation Y, Millennials and the Me generation have been labelled by some researchers (Dagnaud, 2013; Gansky, 2012; Zandt, 2010) as dependent on technology, which is becoming the organisational principle of their lives. Sutherland and Thompson (2003) identified this generation as permanently connected. In five years' time, generations Y and Z and Millennials will account for approximately 65% of the global workforce. As more people from these generations graduate and find permanent jobs, Baby Boomers will continue to retire. A shift in working culture and standards is therefore expected. Generally speaking, the Millennials of digital natives are considered to be well-educated, tech-savvy and idealistic when it comes to pursuing passions and incorporating a "do good" ethic into the workplace (DMRC, 2020).

8. New labour market models and jobs: Automation tends to take jobs away while, on the other hand, the invention of new complex tasks creates new jobs (Gruen, 2017). It seems to us that technology leads to job losses, but only technology can save them. We believe that jobs will not disappear entirely, but many will be redefined globally (Beno, 2019). Chui *et al.* (2016) say that the technical potential of automation varies significantly between industries and activities. Authors further highlight that manual work will be most at risk. On the contrary, the most difficult automated occupations will be management and development of people, professional knowledge in decision making, planning and

creative work. For workers to win this race, however, they will have to acquire creative and social skills (Frey and Osborne, 2013). Lee (2019) summarises four types of jobs at low risk: *creative jobs*, *complex, strategic jobs*, *still-unknown jobs created by AI (Artificial Intelligence)* and *empathetic and compassionate jobs.* Digital technologies have become an integral and familiar feature of our day-to-day lives at work and at home (Valenduc & Vendramin, 2016). Across Europe, new forms of employment are taking place, making the labour market more flexible. Some of these are employee sharing, job sharing, interim management, casual work, ICT-based mobile work, voucher-based work, portfolio work, crowd employment and collaborative employment (Mandl *et al.;* 2015). Valenduc and Vendramin (2016) add on-call working and crowd working, and we also include de lege ferenda, compressed work week and term-time working. As a result of social, economic and technological transformation, some authors are considering new jobs, namely alternative money bankers, 3D/4D engineers, drone operators, nano-medics and others (Binsfeld *et al.;* 2016; OECD, 2016; Talwark and Hancock, 2010; WEF, 2018). We believe that e-working can help to find the missing labour force on the market and at the same time be a new resource for Baby Boomers to improve their retirement, thus reducing national social burdens. Studies in Estonia show that a large number of older, working people with ICT agree to work longer if they can use teleworking (Arvola *et al.;* 2017).

4. Discussion and Conclusions

Digitisation along with e-working challenges us as human beings by introducing big changes. The question remains: What will e-working look like? Home office, flextime, remote working – are these only interim solutions? E-working focuses more on autonomous work and offers a lot of flexibility and responsibility in designing one's way of work and free time. The question that is much more important is how we can enable ourselves to work autonomously.

Over the coming years, we will begin to see different generations in a single workplace at the same time, each with very different needs, aspirations and demands. Managers will be faced with the task of managing this multi-generational workforce (Nicholson & Nairn, 2006).

The workplace will increasingly focus on the performance of people who have their own needs to combine work and life and are a core company asset. Further models of flexible working will continue to evolve, depending on the changing needs of different generations. Managers in the future will have to create more flexible work environments that better suit the needs of their employees (Nicholson & Nairn, 2006).

Our model is intended to help managers, employers and countries to obtain a better

understanding of future e-working. It will be useful to everyone by describing the trends, factors and barriers, and it is organized in a way that will help everyone understand how e-working can develop. The model applies equally to the whole gamut of factors that exist within the work market**.** As the workplace and society adapt to more flexible work arrangements, it is undeniable that e-working is here to stay, as is shown by our model. There are plenty of benefits for workers, employers and society; of course, there are also challenges, but these can be minimized with relevant and timely management. Due to the Covid-19 outbreak, our model will become the Future for Office Workers and e-organizations, the arrangement that best fits company culture. Finding the right e-working model boils down to organizational business needs choosing what works best by asking employees what they want and by responding to their needs.

The debate on whether one is born or made for e-working will rage for years to come. However, we believe that, given the right support, training, guidance and policy, we can all become more effective in e-working. If we develop society with the right values, personal efficiency and a positive attitude, we will develop a work model that sets the example that others will follow.

References

Arvola, R.; Lutsoja, K.; Kristjuhan, Ü. & Tint, P. (2017). Telework as an Option to Postpone the Retirement for Ageing People? *Safety of Technogenic Environment,* Vol. 8, pp. 15-23.

Barna, G. (1996). *Generation Next:What you need to Know about today's Youth.* Ventura, California: Regal Books.

Beno, M. (2018a). Transformation of Human Labour from Stone Age to Information Age. *Mobile Web and Intelligent Information Systems Lecture Notes in Computer Science*, Vol. 10995, pp. 205–216.

Beno, M. (2018b). Work Flexibility, Telepresence in the Office for Remote Workers: A Case Study from Austria. Kaenampornpan, M.; Malaka R.; Nguyen D.; Schwind N. (eds). *Multi-disciplinary Trends in Artificial Intelligence*, Vol. 11248, pp. 19-31.

Beno, M. (2018c). Managing Telework from an Austrian Manager's Perspective. *Advances in Intelligent Systems and Computing,* Vol. 745, pp. 16-29.

Beno, M. (2018d). An Empirical Study on Teleworking Among Slovakia's Office-based Academics. *IEEE, Conference: 2018 IEEE International Conference on Computational Science and Engineering* (CSE), pp. 164-170.

Beno, M. (2019). *Robot Rights in the Era of Robolution and the Acceptance of Robots from the Slovak Citizen's Perspective. 2019 IEEE International Symposium on Robotic and Sensors Environments (ROSE) Proceedings*, pp. 150-156.

Beno, M. & Ferencikova, S. (2019). The Future of Work is e-Work. *14th International Workshop on Knowledge Management,* pp. 6-20.

Binsfeld, N.; Whalley, J. & Pugalis, L. (2016). *Competing through e-skills: Luxembourg and its second level digital divide*. http://www.studium.lu/downloads/2016_Binsfeld_et_al.pdf.

Blackwell, J. & Demerath, P. (2002). Telecommuting in the 21st century: benefits, issues, and a leadership model which will work. *Journal of Leadership & Organizational Studies*, Vol. 8, No. 4, pp. 75-86.

Boselie, P.; Dietz, G. & Boon, C. (2005). Commonalities and contradictions in HRM and performance research. *Human Resource Management Journal,* Vol. 15, No. 3, pp. 67-94.

Bull, A. (2004). *Traffic congestion. The Problem and how to deal with it.* https://repositorio.cepal.org/bitstream/handle/11362/37898/LCG2199P_en.pdf.

Butz-Widener, B. (2019). *Rural towns are leaning into remote work, and it might save them*. https://acorn.work/rural-towns-are-leaning-into-remote-work-and-it-might-save-them.

Büssing, A. (2002). *Teleworking and Quality of Life*. http://ce.sharif.ir/courses/89-90/2/ce221-1/resources/root/TELEWORKING-%20INTERNATIONAL%20PERSPECTIVES.pdf.

Chui, M.; Manyika, J. & Miremadi, M. (2016). *Where machines could replace humans-and where they can't.* https://www.mckinsey.com/~/media/mckinsey/business%20functions/mckinsey%20digital/our%20insights/where%20machines%20could%20replace%20humans%20and%20where%20they%20cant/sector-automation.ashx.

Clark, M. A. (2000). *Teleworking in the Countryside. Home-Based Working in the Information Society.* USA: Routledge.

Clear, F. & Dickson, K. (2005). Teleworking Practice in Small and Medium-Sized Firms: Management Style and Worker Autonomy. *New Technology, Work and Employment,* Vol. 20, No. 3, pp. 218-233.

Computacenter. (2016). *Understanding Digital Natives*. https://www.computacenter.com/docs/librariesprovider8/brochures/understanding-digital-natives-research-report-21102016.pdf.

Dagnaud, M. (2013). *Génération Y. Les jeunes et les réseaux sociaux, de la dérision à la subversion*. Paris: Les Presses de Sciences Po.

Datakom. (2016). *How slow internet speeds can impact productivity.* https://www.datakom.co.uk/2016/07/how-slow-internet-speeds-can-impact-productivity.

Delery, J. & Shaw, J. (2001). The Strategic Management of People in Work Organizations: Review, Synthesis and Extension. *Research in Personnel and Human Resource Management*, Vol. 20, pp. 165-197.

DMRC. (2020). *The Impact of Digital Natives on the Future of Business*. http://dmresourcecenter.com/unit-1/digital-natives/.

Douglas, T. M. (2018). *How to Know if Your Remote Employee is Really Working*. https://teresamdouglas.com/how-to-know-if-your-remote-employee-is-really-working/.

Frey, C. B. & Osborne, M. A. (2013). *The Future of Employment: How Susceptible are Jobs to Computerisation?* https://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf.

Fuhr, J. P. & Pociask, S. (2011). Braodband and Telecommuting: Helping the U. S. Environment and the Economy. *Low Carbon Economy,* Vol. 2, No. 1, pp. 41-47.

Fulton, C.; Haplin, E. & Walker, S. (2001). Privacy Meets Home-based eWork. *Proceedings of the Eighth International Assembly on Telework*, Helsinki, 12-14 September. http://www.telework2001.fi/FultonHalpinWalker.pdf.

Gansky, L. (2012). *The Mesh: Why the Future of Business is Sharing.* New York: Portfolio Penguin.

Gibbons, B. (2017). *Working from Home: The Fantasy vs. The Reality*. https://www.huffpost.com/entry/working-from-home-fantasy-vs-reality_b_2835725?guccounter=1.

Goldsmith, M. (2010). *How to Keep Good Employees in a Bad Economy*. https://hbr.org/2010/02/how-to-keep-good-employees-in.

Gruen, D. (2017). *Technological Change and the Future of Work*. https://www.pmc.gov.au/news-centre/domestic-policy/technological-change-and-future-work.

GWA. (2019). *Latest Telecommuting Statistics*. https://globalworkplaceanalytics.com/telecommuting-statistics.

Harrington, S. J. & Ruppel, C. P. (1999). Telecommuting: A test of trust, competing values, and relative advantage. *Professional Communication, IEEE Transactions On,* Vol. 42, No. 4, pp. 223-239.

Illegems, V. & Verbeke, A. (2003). *Moving towards the virtual workplace: managerial and societal perspectives on telework*/ Viviane Illegems, Alain Verbeke, Cheltenham, UK; Northampton, MA: Edward Elgar Pub.

IWG. (2019). *The IWG Global Workspace Survey. Welcome to Generation Flex - the employee power shift*. http://assets.regus.com/pdfs/iwg-workplace-survey/iwg-workplace-survey-2019.pdf.

Kowalski, K. B. & Swanson, J. A. (2005). Critical success factors in developing teleworking programs. *Benchmarking: An International Journal,* Vol. 12, No. 3, pp. 236-249.

Lee, K-F. (2019). *Artificial Intelligence Is Powerful—And Misunderstood. Here's How We Can Protect Workers*. https://time.com/5501056/artificial-intelligence-protect-workers/.

Mandl, I.; Curtarelli, M.; Riso, S.; Vargas, O. & Gerogiannis, E. (2015). *New forms of Employment.* https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef1461en.pdf.

Marks, G. (2018). *Businesses claim it's hard to hire 'good people'. The solution is pretty simple*. https://www.theguardian.com/business/2018/jul/22/small-business-hiring-good-people-wages-raise.

Mercer, (2018). *Global Talent Trends Study. Unlocking Growth in the Human Age*. https://www.fsgplus.com/fsgplus/news/hr_insight/201805/P020180515513270762947.pdf.

Mitan, A. (2014). Digital Natives Coming of Age: Challenges for Managers. *Management Dynamics in the Knowledge Economy,* Vol. 2, No. 2, pp. 335-354.

Moskowitz, R. (2006). *Tunnel woes shine light on telecommuting technology*. https://www.bizjournals.com/boston/stories/2006/08/07/story6.html?page.

Nicholson, J. & Nairn, A. (2006). *The Manager of the 21st Century.* https://www.bcg.com/documents/file14724.pdf.

Nielsen. (2015). *Green Generation: Millennials Say Sustainability Is a Shopping Priority*. https://www.nielsen.com/tw/en/insights/article/2015/green-generation-millennials-say-sustainability-is-a-shopping-priority/.

Noble, S. M.; Haytko, D. L. & Phillips, J. (2009). What drives college-age Generation Y consumers? *Journal of Business Research*, Vol. 62, No. 6, pp. 617-628.

OECD. (2016). *New Skills for the Digital Economy*. https://www.oecd-ilibrary.org/science-and-technology/new-skills-for-the-digital-economy_5jlwnkm2fc9x-en;jsessionid=Y91LEA_59K8vADF9GhaaeZyn.ip-10-240-5-36.

Ohio University. (2020). *Telecommuting Can Save Businesses Money*. https://onlinemasters.ohio.edu/blog/how-telecommuting-can-save-businesses-money/.

OTA. (2018). *Cyber Incident & Breach Trends Report*. https://www.internetsociety.org/wp-content/uploads/2019/04/ota_cyber_incident_trends_report_jan2018-2.pdf.

Pyöriä, P. (2011). Managing telework: risks, fears and rules. *Management Research Review,* Vol. 34, No. 4, pp. 386-399.

Radu, S. (2018). *How Soon Will You Be Working From Home?* https://www.usnews.com/news/best-countries/articles/2018-02-16/telecommuting-is-growing-but-still-not-unanimously-embraced.

Reinicke, C. (2018). *The biggest cybersecurity risk to US businesses is employee negligence, study says*. https://www.cnbc.com/2018/06/21/the-biggest-cybersecurity-risk-to-us-businesses-is-employee-negligence-study-says.html.

Robbins, J. (2018). *Is Telecommuting the Future? 5 Reasons why it should be*. https://www.mightycall.com/blog/is-telecommuting-the-future-5-reasons-why-it-should-be/.

Robèrt, M. & Börjesson, M. (2006). Company Incentives and Tools for Promoting Telecommuting. *Environment and Behaviour,* Vol. 38, No. 4, pp. 521-549.

Schiff, F. W. (1979). *Working at Home Can Save Gasoline*. https://www.washingtonpost.com/archive/opinions/1979/09/02/working-at-home-can-save-gasoline/ffa475c7-d1a8-476e-8411-8cb53f1f3470/?noredirect=on.

Schilling, S. L. (1999). Implementing a successful telework program. *Compensation and Benefits Management*, Vol. 15, No. 4, pp. 58.

Shafizadeh, K. R.; Niemeier, D. A.; Mokhtarian, P. L. & Salomon, I. (2007). Costs and Benefits of Home Based Telecommuting: A Monte Carlo Simulation Model Incorporating Telecommuter, Employer, and Public Sector Perspectives. *Journal of Infrastructure Systems*, Vol. 13, No. 1, pp. 12-25.

Siemens. (2009). White Paper. *Get Lean and Green Fast with Telecommuting*. http://www.crmxchange.com/uploadedFiles/White_Papers/PDF/Get_Lean_and_Green_Fast_with_Telecommuting.pdf.

Simitis, S. (1986). The Juridification of Labour Relations. *Comparative Labor Law*, Vol. 7, No. 93, pp. 93-142.

Smith, Ch. (2019). *How mobile technology can help companies manage their remote workforce*. https://knowtechie.com/how-mobile-technology-can-help-companies-manage-their-remote-workforce.

Sutherland, A. & Thompson, B. (2003). *Kidfluence: The Marketer's Guide to Understanding and Reaching Generation Y -- Kids, Tweens and Teens*. New York: McGraw Hill.

Swift, P. & Stephens, A. (2014). *Homeworking: helping businesses cut costs and reduce their carbon footprint*. https://www.carbontrust.com/media/507270/ctc830-homeworking.pdf.

Talwark, R. & Hancock, T. (2010). *The Shape of Jobs to Come*. *http://fastfuture.com/wp-content/uploads/2010/01/FastFuture_Shapeofjobstocome_FullReport1.pdf*.

Tore, N. (2018). *Why Employee Retention Should Be a Talent Acquisition Responsibility*. https://theundercoverrecruiter.com/employee-retention-responsibility.

Ulrich, D. (1993). Profiling organizational competitiveness: Cultivating capabilities. *Human Resource Planning,* Vol. 16, No. 3, pp. 1-17.

Ussem, J. (2017). *When Working From Home Doesn't Work*. https://www.theatlantic.com/magazine/archive/2017/11/when-working-from-home-doesnt-work/540660.

Valenduc, G. & Vendramin, P. (2016). *Work in the digital economy: sorting the old from the new*. http://ftu-namur.org/fichiers/Work_in_the_digital_economy-ETUI2016-3-EN.pdf.

Vasel, K. (2017). *Working from home is really having a moment*. https://money.cnn.com/2017/06/21/pf/jobs/working-from-home/index.html.

WEF. (2018). *The Future of Jobs Report 2018*. http://www3.weforum.org/docs/WEF_Future_of_Jobs_2018.pdf.

Ye, L. R. (2012). Telecommuting: Implementation for Success. *International Journal of Business and Social Science,* Vol. 3, No. 15, pp. 20-29.

Yle.fi. (2019). *Telecommuting may keep small towns viable*. https://yle.fi/uutiset/osasto/news/telecommuting_may_keep_small_towns_viable/10727842.

Zandt, D. (2010). *Share This! How You Will Change the World with Social Networking*. San Francisco: Berrett-Koehler Publishers, Inc.