A Working from Home (WFH) 2022 - Best Practices Implementation and Case Study of Company Agreement

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Abstract: While four per cent of employees in Germany worked from home before the covid crisis, this figure was around 30 per cent in the first lockdown in April 2020. Now working from home and mobile working are part of the everyday life of many employees. Experience has shown that many activities can also be carried out from other locations than the classic office in the company. Location-flexible work will also still be standard in some sectors after the crisis. This article shows employees' experiences with working from home in corona times, with serious advantages and disadvantages being reported. Best practices as implementation of company agreements are presented based on an Original Equipment Manufacturer (OEM) example: Example of working from home (WFH) / office work, life-phase oriented working time instruments as a personnel management success factor, promotion of cross-border cooperation, efficient use of resources, questions on learning from the pandemic, working through the corona period with employees, recommendations for surviving this crisis and culture of trust versus control.

Keywords: best practices; company agreements; case study; covid crisis; employees' experiences; working from home

1 ARTICLE POSITIVE AND NEGATIVE RESULTS OF WORKING FROM HOME

In the case of working from home, the place of work is defined and restricted to the employee's own home. Mobile working describes all forms of location-flexible working. Working from home became a daily reality for many during the covid crisis. The Hans Böckler Foundation has been researching the opportunities and risks of mobile working for many years [1].

Corona was a catalyst for mobile work. The percentage of employees working from home increased significantly from just four percent before the outbreak of the pandemic to 27 percent in April 2020, dropping to just 14 percent in November 2020 during the "lockdown light" period. Many employees with work-from-home jobs were encouraged to work face-to-face. At Siemens, for example, 140,000 employees could work from home for two to three days a week with the approval of their supervisor.

Figure 1 "Work from Home" Works for Some, Percentage of jobs that can be done at home, by industry [2]

Working from home will be more prevalent in the future according to 71 % of respondents to the June survey. However, it must be recognised that working at home also comes with risks, such as psychological overload, loneliness, or career disadvantages. The most significant disadvantage of working from home among respondents in Germany is the lack of direct contact with colleagues. In 2020/2021, 75/74 percent agreed with this statement. The risks can be avoided with clear company rules and compliance with the necessary framework conditions [1].

In companies with co-determination, employees report an above-average number of positive experiences with working from home. Almost half of those surveyed, who work from home, would also like to work from home in the future. This article shows the experiences of companies and employees with working from home in corona times, with serious advantages and disadvantages being reported.

This article shows the experiences of companies and employees with working from home in corona times, with its reported significant advantages and serious disadvantages and negative impact on health.

Figure 2 WFH Is for the Rich, Where countries rank in terms of wealth and capacity for remote work [2]
Administrative, organisational and information-based activities are better suited for working from home. In contrast, the creation and distribution of products as well as some services are less suitable for working from home to a greater or lesser extent, ranging from 'Accommodation and Food Service' with four percent to 'Educational Services' with 83 percent (see Fig. 1) [2].

WFH is mainly a topic of wealthy countries. Up to a Gross domestic product (GDP) of $30,000, only countries from Asia, Africa and Latin America are in ‘Group 1’. Above a GDP of $30,000, only countries from Europe, the U.S. and the United Arab Emirates are in ‘Group 2’ (see Fig. 2) [2].

1.1 Positive: Is Your Boss Ending Remote Work? As a Chief Executive Officer (CEO), I Tell You Why They Are Wrong

The 200 employees of the credit card processing company Gravity Payments have been working mobile since the beginning of the pandemic. Gravity Payments CEO Dan Price cut his salary by one million dollars in 2015 to enforce a minimum wage of 70,000 dollars in the company. For him, the shift to mobile working turned out to be very positive [3].

The shift to mobile working can be life-changing for employees. Buying a house and raising a family in cheaper areas is easier and employees are given the opportunity to decide how they want to work. Daily commuting requires a lot of time and incurs high costs. In addition, by avoiding commuting, companies make a contribution towards environmental protection. When commuting in the morning, employees experience more negative feelings than at other times of the day [4]. How can productivity be increased? According to nationwide research, mobile working led to a 5% increase in productivity [2], mainly because employees were not burnt out from commuting. Companies had been having it too easy for too long. Commuting was demanded by the company managers, who were in control.

Instead of the Chief Executive Officer (CEO) making the decision alone, the Gravity Payments employees were asked how they would like to work:

- 7% wanted to return to full-time office,
- 32% wanted a mix of office/telecommuting,
- 62% wanted to work from home full-time.

Many companies need to work face-to-face, for them face-to-face interaction is a necessity. For Gravity Payments, office work makes less sense with regard to fostering innovation and increasing productivity. Employees know their work better and have shown in the last year that they can do their work just as well or better from home. Therefore, they can be allowed to decide for themselves how they want to work. It is advantageous for some companies to leave this decision to their employees. Mobile work also avoids additional short-term costs (such as turnover) as well as long-term costs (such as low morale).

1.2 Post-Covid Work Patterns must not be imposed by Bosses with an Eye on Cost

The pandemic sparked more discussions about the future of work than ever before [5]: Some employers expected employees back in the office after the lockdown, while others welcomed the prospect of new ways of working and to this end invested heavily in mobile working technologies. Although companies are able to adapt quite quickly to the widespread shift to mobile working, this will, in contrast, have a negative impact on the development of shopping streets, homes and business parks built in an earlier era and will inevitably lead to change. Some governments are considering making mobile work the default option by law. Hybrid working (workers are in the office part of the week) seems to be becoming the norm, at least for workers in large companies.

For individuals, the impact will be profound and lasting. Workers' representatives noted a growing gap between a privileged elite of more flexible working professionals of large employers and those workers, who do not have the same flexibility and are required to work according to the demands of their employers, for example, in different shifts at the workplace. Workers and the growing number of workers in the gig economy will be even more bound to the shift schedules dictated by their employers in the workplace. The flexibility mainly benefits the employer with arbitrary decisions more likely to be made based on the need to cut costs and increase productivity in the short term. However, it is essential that employment practices are developed in discussion with employees rather than dictating standard options from top management, as the new working patterns may otherwise develop in a misguided and costly way to the disadvantage of all concerned [6].

1.3 Negative: The Evidence is in: Working from Home is a Failed Experiment

People working from home are more stressed and less happy according to study results [7]. This is also supported by the results of a large study by Microsoft with more than 31,000 full-time or self-employed workers in 31 markets [8]:

- Nearly 2/3 of workers "crave" more face-to-face time with their teams.
- 37% of the global workforce complains that their companies "demand too much" when they are not in the office.
- Some 54% of these people feel overworked, 39% are simply exhausted.
- With mobile working, meetings are significantly longer, "chats" are up 45%.
- In February 2021, 41 million more emails were sent than in the same month last year.
- Older workers and bosses seem to have things under control (61% are doing well at the moment).
- Those without decision-making power: only 38% are doing well at the moment.
- Younger generations - especially those aged 18 to 25: they have difficulty balancing work and their lives, have
problems to feel engaged or excited about work and are more exhausted than their office-based colleagues.
- Even worse is the death of innovation.
- According to Microsoft, companies are even more isolated from each other than before the pandemic.
- Interactions in their own networks are more common, but these close team interactions diminish over time.
- When connections are lost, people are less innovative and group-thinking increases.

Other companies make similar statements [7]: Citigroup introduced a series of "Zoom Free" Fridays to get employees away from their screens. LinkedIn employees were given a paid week off to deal with the stress of mobile work. According to Chief Executive Officer of Goldman Sachs, home working is an aberration that needs to be corrected as soon as possible. A client wants their employees back in the office to see them, talk to them, brainstorm and connect.

The trend towards working from home is unfortunately too strong to resist. There is an illusion of more independence, flexibility, and control over one's life. Of the employees, who responded to the Microsoft survey, 70 per cent want some kind of flexible working options in the future.

However, big tech companies such as Microsoft, Google, Amazon, Apple have powerful interests in mobile work. They want to tie their customers more closely to their cloud models. Huge media providers expect more traffic to their sites. Large retailers expect an increase in their online sales. Furthermore, savings in real estate costs as well as an offer of better (cheaper) talent can be expected [7].

According to studies [9, 10], people in home offices are more stressed and less happy. Mobile working leads to more disruption, less productivity and reduced innovation:
- 70% of Americans working from home during COVID-19 are struggling to maintain a healthy work-life balance.
- 65% are working longer hours than ever before
- 56% are more stressed about work than ever before
- 63% feel their company discourages them from taking time off
- 67% feel pressured to be available 24/7 while WFH

What is stressful about working at home [10]? In the home office, the boundaries between work and private life become blurred. Problems arise regarding resting one's mind / with taking a break. Employees are surprised by the stress once the novelty of working from home wears off and they realise the challenges. Common sources of stress faced by many home-based workers: lack of structure, too many distractions, social isolation, less physical effort, and difficulties with setting boundaries. The Work Trend Index 2021 Annual Report (The Next Great Disruption is Hybrid Work – Are We Ready?) represents the following trends [8]:
1. Flexible work is here to stay
2. Leaders have lost touch with employees and need a wake-up call
3. High productivity masks an exhausted workforce
4. Generation Z is at risk and will need to be re-energized
5. Shrinking networks are a threat to innovation

6. Authenticity will drive productivity and wellbeing
7. Talent is everywhere in a hybrid world of work

Mobile work can be a good and productive benefit for employees. Studies show that Millennials, who make up about half of the workforce, want more mobility and independence. But face-to-face contact in the office is also very important and working two to three days from home seems to be the ideal compromise [11].

As a result, 41 percent of workers are considering leaving their current employer this year and 46 percent are likely to relocate because they can now work remotely.

Amazon's shipping centres, on the other hand, are a different world: Welcome to a dystopia where Amazon employees are fired via an app [12] and Amazon.com founder Jeff Bezos seems to believe all workers are inherently lazy. Amazon's systems encourage high turnover and fear and despair; employees are suddenly mysteriously fired, treated as disposable entities.

1.4 Is Remote Working better for the Environment? Not necessarily

There are arguments for as well as against the environmental impact of mobile working. Before long, four times as many people could be working from home compared to before Covid. Mobile work is not necessarily better for the environment, while hybrid working could lead to a "worst case scenario". [13]. Companies now have a rare opportunity to redesign work models. Post-pandemic work does not necessarily have to take place in the office. According to the intuitive assumption, mobile work is de facto better for the environment. But the climate models of mobile and office work are complex [13]:
- Transportation is the largest contributor to greenhouse gas emissions in the United States.
- Mobile work will reduce emissions from the daily commute.
- More energy is used to run air conditioning or heating in homes.
- According to the International Energy Agency (IEA), in some cases the average residential weekday electricity use increased by more than 20 percent during lockdown.
- When employees use public transportation and short commutes, their total emissions may even be higher when they work from home.
- Sprawling suburban homes use three times more energy on average.
- Saved emissions from the daily commute are more than offset by flights to quarterly meetings.

According to the Carbon Trust and Vodafone's Homeworking report [14], working from home leads to a reduction in carbon emissions in six countries. Office emissions account for the largest share and the savings achieved by avoiding commuting are only secondary.

The International Energy Agency (IEA) notes that in an average year, the total energy saved because of the reduction
in commuting is still about four times the increase in household energy consumption due to working at home. The longer-term impact of a trend toward more home-based work on energy and emissions is uncertain [15].

2 HEALTH EFFECTS – WORKING WITHOUT END – RISKS

Remote work and then the pandemic of increased working from home leads to health impacts on people, who are inherently social beings. A study back in 2017 by the International Labour Organization on the impact of working remotely found, based on data from 15 countries, that although workers are more productive outside of a traditional office, they also show higher levels of employee stress and insomnia. This is associated with the risks of "longer working hours, higher work intensity and overlap between work and home. Two to three days working from home seems to be the ideal scenario [16].

Numerous statistics (number 50) on the impact of the corona virus (COVID-19) on the psyche are presented with key figures relating to the corona pandemic, the situation before its outbreak and the emotional state, fears, concerns, stress, psychological distress, and loneliness that people have experienced [17].

According to the Nationale Kohorte (NAKO) Health Study, the Corona pandemic leads to greater psychological distress. Young adults and middle-aged adults reported significantly more severe symptoms of anxiety, stress, and depression. With about 200,000 participants, the Nationale Kohorte (NAKO) Health Study is the largest long-term study in Germany and unique in Europe in its dimension. It is conducted jointly by universities and research institutes. The participants, who are between 20 and 69 years of age, have been studied nationwide since 2014 and form a representative cross-section of the population [18, 19, 20].

In the "Health after COVID-19" multidisciplinary study in Tyrol/South Tyrol, one fifth of the participants reported a poorer quality of life following a SARS-CoV-2 infection and recovery at home. Mental stress is the number one risk factor for psychological complaints after COVID-19, with an increase in depression and anxiety disorders [21 22].

Cases of mental disorders rose sharply during the Covid-19 pandemic. Younger people and women were hardest hit with depressive and anxiety disorders globally in 2020 [23].

Many life trajectories are set in place during adolescence and young adulthood. The COVID-19 pandemic has affected adolescents and young adults across several life domains. The pandemic and response have negatively affected their social connectedness and has led to a worsening of their psychological distress [24].

United Nations Children’s Fund (UNICEF) State of the World's Children 2021 report on mental health describes the mental distress caused by Covid-19 as only the "tip of the iceberg". Even before that, a significant proportion of girls and boys were mentally distressed. Children and young people could feel the impact of the Covid-19 pandemic on their mental health and well-being for many years to come. One in seven young people between the ages of ten and 19 are estimated to be living with a diagnosed mental health condition or disorder [25].

According to UNICEF's ‘State of the Children in Germany 2021’ report, multiple constraints on public and private life not only jeopardise young people's educational achievements, but also have far-reaching consequences for their overall well-being and development [26]. In principle harm caused by Covid-19 in relation to age is shown in Fig. 3 [Author].

The impairment of employees by Covid-19 in relation to sustainable productivity is shown in Fig. 4 [Author].

The unlimited world of work with "flexible" being the new "productive" can also lead to the danger of working without end with constant accessibility and insufficient non-accessibility. Misuse is also possible, as the example of a call centre used by British companies shows. It is accused of monitoring home workers via teleperformance, providing biometric and medical data and using lie detectors [27].

Pandemics have changed the world with diseases that are now known to be transmitted from farm animals to humans, such as through industrial chicken farming. Therefore, risk management and appropriate home office management must be implemented for pandemic readiness. Many long-term effects of COVID-19 are not yet known and, like the impact
and extent of surveillance software for remote workers, need to be carefully monitored and further researched.

3 COMPANY AGREEMENT ON MOBILE WORK
3.1 Example of Company Agreement on Mobile Work [28]

The company agreement on mobile work concluded between the employee representatives and the management on mobile working is intended to achieve a number of balanced goals as well as improved, more flexible working practices and to promote health preservation. The high flexibility is also particularly important for the overcoming of crisis and managing future risks.

The compatibility of private and professional life is promoted through mobile working. The flexibility of working hours and of the place of work will be increased. The extent of constant accessibility and non-accessibility is fixed. All professional activities can be carried out externally both online and offline. An allocation of different work locations and times of day combined with part-time office work is possible. Mobile work is possible for the whole day or for part of it or in combination with office work or leisure time. It can be undertaken by employees, provided their assigned tasks are appropriate for mobile work, and by managers. Mobile work is carried out voluntarily with the agreement of the company management. The frequency and distribution of office and mobile work are determined by means of a regulated exchange of information.

There are several examples of the possible allocation of mobile work and/or office work:
- Exclusively office work.
- Exclusively mobile work.
- Working day divided into two parts combining office work and mobile work.
- Part-time employees performing mobile work and/or office work.
- Working day divided into three parts combining mobile work, office work and finally mobile work.
- Any combination of mobile work, office work and free time.

Mobile work is not only online work on the PC/laptop, but also work offline, using phone, mobile/smartphone or on paper. The necessary work and communication tools are provided by the company. Mobile work can also take place without access to the company network. The provision of a statutory accident insurance or considering mobile work as a self-employed activity must be considered. In the event of an accident, a regular accident report must be made. The design of the workplace must comply with the usual ergonomic regulations. Liability for work equipment exists only in cases of intent and gross negligence.

3.2 Implementation of Company Agreement on Mobile Work

The example of an automobile manufacturer is used to present its implementation of the company agreement on mobile working as part of the life-phase-oriented working time instruments and a human resource management success factor. The company not only wants to expand its leadership in technology, but it also wishes to underpin its employer attractiveness by improving working conditions through innovative and individual working time solutions: Mobile work - Flexible working, consciously switching off [28, 29].

Mobile working is a progressive working time instrument. It allows a flexible organisation of the work location and working time across national borders and time zones. Open dialogue with an individual agreement between manager and employee allows maximum freedom for customised solutions. Working time and place of work can be optimally adapted according to the individual employee’s phase of life. Mobile working means a culture of trust and is based on constructive dialogue rather than rigid guidelines. The responsible handling of unlimited communication in the age of mobile and smartphone is supported. To this end, the topic of availability versus unavailability is evaluated as a focal point: "Work flexibly, switch off consciously". Possible qualifications support the dialogue in the company.

Advantages of mobile working [29] are:
- Contribution to work-life balance,
- Promoting the long-term health and performance of employees,
- Increasing the competitiveness of the company.

Mobile work promotes the efficient use of resources in cross-border cooperation [30]:
- **Time** - through the avoidance or use of waiting and commuting times.
- **Location** - through the flexible use of different work locations and the private home office, savings in travel and operating costs are made possible. The conditions for new concepts for offices with the option of desk sharing are created.
- **Personal performance** - through the design of an individually optimal working environment and the consideration of personal biorhythms.

Examples of the share of content-related performance in total weekly working time are shown in Fig. 5.

![Figure 5 Share of content-related performance in total weekly working time [30]](image)
To intensify the implementation of the company agreement, the managers are measured by the quota of their employees in mobile work. The chairperson of the works council wants a cultural change in the company [28]:

A company agreement on mobile work was already adopted before the pandemic. With this flexibility, for example during the day could also emails be processed off the office. This is working time as is working on the train. Mobile working is one step further than home office. However, an automobile company is not a commercial bank or insurance company, but an industrial company. Complex production plants or measuring machines cannot be operated at home. Employees from production have to be on site. The same applies to planning engineers, software engineers or auditors. Generally applicable regulations do not make sense. Where possible, a reasonable mix is strived for. For example, three days in the office, two days at home are preferable.

The existing company agreement on mobile working has not been redrafted. What is needed is a corresponding cultural change of mindset, not of documents. This is a question of leadership behaviour and drawing up appropriate criteria. There is consensus on sick leave: high levels of sick leave are a sign of poor leadership. A low share of mobile work should be understood as a sign that the leader has not yet understood the possibilities of digitalisation. Good leaders have a high proportion of mobile work, bad ones a low one. With this recognition, change can then come quickly. There are no rules set by the works council for this cultural change.

The monthly ten-minute video podcasts by the works council chair should contribute to this change. Because of Corona, no large works meetings could be held. In these podcasts, the issue of leadership culture and mobile working is clearly addressed. This is also communicated at the works meetings. These measures have already had an impact internally: managers will be evaluated on how they deal with this issue. As a result of the additional home offices, staff equipment has also been improved. With the provision of notebooks, all employees were equipped with appropriate technical equipment, which may also be used privately. More importantly, all company trainees have also been provided with notebooks.

Another effect of home office is the reduced need of companies for office space. If employees work two out of five days a week in all-day mobile work, this has a considerable impact on local transport, office space in the company or car park occupancy. The two days working from home also led to 40 percent less carbon dioxide CO2 pollution from commuting. Federal Labour Minister Hubertus Heil plans to establish working from home permanently in Germany. In future, employees will be able to work from home 24 days a year if there are no operational reasons to the contrary [31]. The automobile company in question has already made a lot of progress in their goal to have mobile working two days a week. Any problems that arise are solved in consultation with the responsible department heads and board members and are not discussed publicly. This corporate culture is the more successful way [28].

3.3 Trust Creates Competitive Advantages - Culture of Trust versus Control

Trust plays a key role in strategic management as a 'cost-free' resource. Trust [32]:
- opens up potential that is otherwise unavailable,
- is essential in situations such as the home office,
- is a competitive advantage especially in times of shortage of skilled labour,
- is often the decisive differentiating factor in securing a company's future,
- promotes the development of competencies,
- promotes identification and long-term loyalty to the company,
- is the only alternative when no control is possible
- and promotes employee loyalty as a complex, long-term valuable resource that is difficult to replace.

Trust is, by definition, a 'risky advance' (Luhmann 2010). By taking a leap of faith, team members are assumed to have a fundamental will to perform, with the new contexts of home office and digitalisation inevitably lead in this crucial direction anyway. Moving forward with trust requires courage above all. Complete control is pure illusion!

4 WORKING THROUGH ISSUES WITH EMPLOYEES.
4.1 Review Learnings from the Pandemic/Remote Work with Questions.

It is recommended to work through the problems encountered during the pandemic and the lessons learned from the pandemic and the resulting increase in mobile work by asking questions of the staff [28]:
- What worked well in leadership during the lock-down?
- What did not work?
- How was closeness established with the team? What should be retained from this?
- What maintained performance in the team? What of this would be useful to continue?
- Where can leadership continue to build on the self-responsibility of its employees?

One thing is certain: the new normal needs empathy and mutual understanding, because post-Corona life is fragile. The next virus outbreak in the family, at school, day care or sports club shatters the newly won freedom and drives those affected back into the uncertainty of a quarantine.

4.2 Review with Employees the Corona Period/Remote Work with Questions

Managers must provide for the possibility of returning to mobile work at any time. Collaboration rather than competition is important [28].
- What communication and meeting routines do we keep, what do we need to do differently?
- Which tools have proven themselves and where are there still gaps?
• Which competencies have we developed and where do we continue?
• Which processes and decision-making channels have we reorganised and how do we proceed?

However, the transition to the new normal also brings with it the potential danger of falling back into old patterns. Much of what has been achieved in the last two years points in the direction of the future.

Recommendations to help the leadership and the team get through this crisis [28]:
• Drop the 9-to-5 mentality.
• Allow staff to create their most productive schedules.
• Get organised.
• Shorter working days are fine.
• Provide written updates instead of check-in calls.
• Being a good person makes you a better leader.
• Transparency in communication.
• Provide support for the "employee, who is down".

Communication, flexibility of mobile working and especially the extensive freedom of employees to decide on their working methods are particularly important for overcoming the crisis and managing future risks.

5 CONCLUSION

The company agreement on mobile work between the employee representatives and management on mobile working goes beyond working from home and proved its worth in the pandemic. The company has come a long way, with the implementation of the company regulations now tailored to the employees and the company. Voluntary mobile working online/offline has achieved many balanced goals and improved flexible working in a sustainable manner: improving the work-life balance with the regulation of both accessibility and non-accessibility, improving employees’ long-term health and performance, increasing the company’s competitiveness through flexible working hours and location, and enhanced resilience to crises. Employees create their own most productive schedules, whereby their equipment requirement for working at home is basic.

Mobile working requires a culture of trust and is based on constructive dialogue rather than rigid guidelines. As a 'cost-free' resource, trust plays a key role in strategic management. Achieving the required cultural shift in mindset is a question of leadership behaviour and appropriate criteria. This change is supported by the assessment of how leaders deal with this issue. Problems are solved between board members and employee representatives in dialogue and not discussed publicly. A culture of trust and cooperation rather than control is the more successful way forward for the company.

Mobile work can be performed by employees, for whom tasks appropriate for it can be assigned, and by managers. Production staff, on the other hand, must be on site. The expansion of mobile work requires a suitable corporate and trust culture, supportive leadership behaviour and embedding in the life-phase-oriented working time instruments of human resource management, whereby health management and pandemic considerations must be included in the risk management process.

The WFH-literature shows that there are not only many significant advantages in working from home, but also serious disadvantages; for example, employees, who work from home, are more productive, but they also show negative health impacts such as a higher level of employee stress.

COVID-19 (Coronavirus) can cause damage to the heart, lungs, and brain, which brings with it an increased risk of long-term health problems. These effects can sometimes remain for months or may even be permanent, which will in turn increase the sickness rate for companies as well as health care costs. Many long-term COVID-19 effects and how they will impact those affected over time are still unknown, but research is necessary and ongoing [33].

Finding the right balance between on-screen and in-person contact is a delicate problem, as is finding the right balance between in-office work and working from home. At the moment, we do not know how to best quantify and develop this new situation, in order to achieve the optimum balance for both employee and employer.

Occupational health management needs reliable data for appropriate health measures and for preventive medicine. In Germany, medical data are considered to be highly sensitive and confidential and, although a more convenient and quicker means of communication, are therefore never sent by email, but by regular mail only; in addition, employers do not have the right to request any medical information relating to their employees. This makes it very difficult for employers to make inquiries about and obtain information on their employees; for this, they must first obtain permission from the unions, which takes a very long time.

In recent years, the use of technology to monitor the workforce has sharply increased. The software - 'Bossware' - affects almost every employee, who may not even realize that they are being watched. This computer monitoring software supports companies, who wish to spy on their employees, for example, to measure their productivity, which often takes place without the employees’ knowledge or approval [34].

A survey of 1,250 US employers with remote employees found that 60% of them are using work monitoring software, which is generally used to track web browsing and application use. 88% of employers said they had terminated workers’ employment after implementing monitoring software [35]. The expansion of this so far unregulated market involving such products erodes labor standards for workers and exploits weak labor protections.

The effect and extent of monitoring software for remote workers needs careful observation and further research.

Notice

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6 REFERENCES

All documents retrieved March 25 2022.

[1] Hans.Böckler-Stiftung (2021, February 16). Studien zu Homeoffice und mobiler Arbeit. Retrieved from https://www.boeckler.de/de/lauf-einen-blick-17945-Auf-einen-Blick-Studien-zu-Homeoffice-und-mobiler-Arbeit-28040.htm

[2] Source National Bureau of Economic Research in: Curran, E. (2021, April 22). Work from Home to Lift Productivity by 5% in Post-Pandemic U.S. Retrieved from https://www.bloomberg.com/news/articles/2021-04-22/yes-working-from-home-makes-you-more-productive-study-finds

[3] Price, D. (2021, July 7). Is your boss ending remote work? As a CEO, let me tell you why they are wrong. The Guardian, Retrieved from https://www.theguardian.com/commentisfree/2021/jul/07/is-your-boss-ending-remote-work-as-a-ceo-let-me-tell-you-why-they-are-wrong

[4] Kahneman, D. & Krueger, A. D. (2006). Developments in the Measurement of Subjective Well-Being, Journal of Economic Perspectives, 20(1), 3-24. https://doi.org/10.1257/089533006776526030

[5] Partridge, J. & Makortoff, K. (2021, June 18). Office, hybrid or home? Businesses ponder future of work. The Guardian, Retrieved from https://www.theguardian.com/business/2021/jun/18/office-hybrid-or-home-businesses-ponder-future-of-work

[6] Post-Covid work patterns must not be imposed by bosses with an eye on cost (2021, June 20). The Guardian online, Retrieved from https://www.theguardian.com/business/2021/jun/20/post-covid-work-patterns-must-not-be-imposed-by-bosses-with-an-eye-on-cost

[7] Marks, G. (2021, April 8). The evidence is in: working from home is a failed experiment. The Guardian, Retrieved from https://www.theguardian.com/business/2021/apr/08/working-from-home-is-a-failed-experiment

[8] The Work Trend Index: The Next Great Disruption Is Hybrid Work—Are We Ready? (2021, March 18). Microsoft.com, Retrieved from https://www.microsoft.com/en-us/worklab/work-trend-index/hybrid-work

[9] SWNS (2020, September 3). The stress of working from home is getting to most Americans. Retrieved https://nypost.com/2020/09/03/the-stress-of-working-from-home-is-getting-to-most-americans/

[10] Scott, E. (2021, April 7). 8 Tips to Handle the Stress of Working From Home. Retrieved from https://www.verywellmind.com/the-stress-of-working-from-home-4141174

[11] Marks, G. (n. D.). Study: Working From Home Causes More Stress - For some remote employees, it's not such a great thing. Retrieved March 24, 2022, from https://www.inc.com/gene-marks/study-working-from-home-causes-more-stress.html?cid=sf01002&amp;sr_share=facebook

[12] Crispin, J. (2021, July 5). Welcome to dystopia: getting fired from your job as an Amazon worker by an app. The Guardian, Retrieved from https://www.theguardian.com/commentisfree/2021/jul/05/amazon-worker-fired-app-dystopia

[13] Schupak, A. (2021, August 2). Is remote working better for the environment? Not necessarily. The Guardian, Retrieved from https://www.theguardian.com/environment/2021/aug/02/is-remote-working-better-for-the-environment-not-necessarily

[14] Acerini, L., Bordat, S., Fitzpatrick, L., Jennings, T., Stephens, A. (2021, June). Homeworking report, Carbon Trust and Vodafone Institute for Society and Communications, Retrieved from https://www.vodafone-institut.de/wp-content/uploads/2021/06/CT_Homeworking-report-June-2021.pdf

[15] Crow, D. & Millot A. (2020, June 12). Working from home can save energy and reduce emissions. But how much? International Energy Agency, Retrieved from https://www.iea.org/comments/workfrom-home-can-save-energy-and-reduce-emissions-but-how-much

[16] Messenger, J., Vargas Llave, O., Gschwind, L., Boehmer, S., Vermeylen, G., & Wilkins, M. (2017, February 15). Working anytime, anywhere: The effects on the world of work. Retrieved from https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef1658en.pdf

[17] Pawlik, V. (2021, July 7). Statistiken zu den Auswirkungen des Coronavirus (COVID-19) auf die Psyche. Statiesta, Retrieved from https://de.statista.com/themen/8237/auswirkungen-der-corona-pandemie-auf-die-psyche/

[18] Aktuelle Meldungen 2020 (2020, December 4), NAKO Gesundheitsstudie: Stärkere psychische Belastung durch Corona-Pandemie. Bundesministerium für Bildung und Forschung, Retrieved https://www.gesundheitsforschung-bmbf.de/de/nako-gesundheitsstudie-starkere-psychische-belastung-durch-corona-pandemie-12564.php

[19] Dragano, N., Reuter, M., & Berger, K. (2022, March). Increase in mental disorders during the COVID-19 pandemic—the role of occupational and financial strains. An analysis of the German National Cohort (NAKO) Study. Dtsch Arztebl Int, 2022(119), 179-187. https://doi.org/10.3238/arztebl.m2022.0133

[20] Dragano, N., Reuter, M., & Berger, K. (2022, March 9). Zunahme psychischer Störungen während der COVID-19-Pandemie – die Rolle beruflicher und finanzieller Belastungen - eine Analyse der NAKO Gesundheitsstudie. Dtsch Arztebl Int, 119, 179-187. https://www.aerzteblatt.de/archiv/223957/Zunahme-psychischer-Stoerungen-waehrend-der-COVID-19-Pandemie-die-Rolle-beruflicher-und-finanzieller-Belastungen, online am 9. 3. 2022 (online first)

[21] Hüfner, K. et al. (2022). Who is at Risk of Poor Mental Health Following Coronavirus Disease-19 Outpatient Management? Front. Med., 9, 792881. https://doi.org/10.3389/fmed.2022.792881

[22] Mair, T. & David Bullock, D. (2022, March 15). Mentaler Stress ist Risikofaktor Nummer Eins für psychische Beschwerden nach COVID-19. Medizinische Universität Innsbruck Aktuell, Retrieved from https://www.i-med.ac.at/mypoint/news/761234.html

[23] The Lancet (2021, October 8). Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic. Lancet, 398(10312), 1700-1712. https://doi.org/10.1016/S0140-6736(21)02143-7

[24] AIHW Australian Institute of Health and Welfare (2021, June 25). Australia’s youth: COVID-19 and the impact on young people. Retrieved from https://www.aihw.gov.au/reports/children-youth/covid-19-and-young-people

[25] United Nations Children’s Fund (2021, October). The State of the World’s Children 2021: On My Mind – Promoting, protecting and caring for children’s mental health. UNICEF, New York, Retrieved from https://www.unicef.de/informieren/materialien/sowcr-2021/251192

[26] Bertram, H. (2021, April). Kinder – unsere Zukunft!!! Der UNICEF-Bericht zur Lage der Kinder in Deutschland 2021. Deutsches Komitee für UNICEF, Köln. Retrieved from https://www.unicef.de/informieren/materialien/kinder-unsere-zukunft-bericht-2021/239414
[27] Walker, P. (2021, August 8). Call centre used by UK firms accused of intrusively monitoring home workers. The Guardian. Retrieved from https://www.theguardian.com/world/2021/aug/08/call-centre-uk-firms-accused-intrusively-monitoring-home-workers-teleperformance

[28] Premium automobile manufacturer (2019-2022), several documents

[29] Quandt-Schubert, K. (2017, February 22). BMW: Mobilarbeit – Flexibel arbeiten, bewusst abschalten. In: Bartz, M., Gnesda, A., Schmutzer, T. (eds) Unternehmen der nächsten Generation. Springer Gabler, Berlin, Heidelberg. https://doi.org/10.1007/978-3-662-52819-8_11

[30] Lipp, J., Quandt-Schubert, K., & Schwarz, M. (2016, November). BMW Group: Lebensphasenorientierte Arbeitszeitinstrumente als personalwirtschaftlicher Erfolgsfaktor. ifaa | Betriebspraxis & Arbeitsforschung, Vol. 228, 25-28. Retrieved https://www.arbeitswissenschaft.net/fileadmin/Bilder/Angebote_und Produkte/Publikationen/Zeitschriften_B_und_A/ifaa_B_A_228_web.pdf

[31] Bund Verlag (2022, January 24). Gesetzesvorhaben: Hubertus Heil will dauerhaften Anspruch auf Homeoffice. Bund Verlag, Meldungen, Retrieved from https://www.bund-verlag.de/aktuelles-Hubertus-Heil-will-duerhaften-Anspruch-auf-Homeoffice-.html

[32] Bolzern-Konrad, B. (2021, November 8). VERTRAUEN | über die Meßbarkeit und strategische Implementierbarkeit des vermeintlich weichen Faktors. Talks Seibert-Media.net, Retrieved from https://talks.seibert-media.net/media/tools4agileteams2021/submissions/C33AJX/resources/Vortrag_Vertrauensmodell_Britta_Bolzer_prufvd.pdf

[33] Mayo Clinic Staff (2021, October 22). COVID-19 (coronavirus): Long-term effects. Mayo Foundation for Medical Education and Research (MFMER), Retrieved from https://www.mayoclinic.org/diseases-conditions/coronavirus/-in-depth/coronavirus-long-term-effects/art-20490351

[34] Corbyn, Z. (2022, April 27). Bossware is coming for almost every worker: the software you might not realize is watching you. The Guardian, Retrieved from https://www.theguardian.com/technology/2022/apr/27/remote-work-software-home-surveillance-computer-monitoring-pandemic

[35] Digital.com Staff (2022, January 31). 6 in 10 employers require monitoring software for remote workers. Digital.com, Seattle, Retrieved from https://digital.com/6-in-10-employers-require-monitoring-software-for-remote-workers/

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