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## The Future of Work, Physical Location of Workers, Technological Issues and Implications

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### Abstract

The 2019 Pandemic drastically changed many aspects of work including where and how the work gets done. Many individuals and organizations modified their work location and how they accomplish various tasks relying a lot more on information and communication technologies than ever before. As the pandemic eased, organizations and individuals revisited the nature and location of work. Based on what we have seen so far and the published literature, it is likely that the future of work for many workers is different than before the pandemic. Rapid technological innovations and adoption of Generative Artificial Intelligence (GAI) types of platforms are also having major impacts on how some tasks will be performed. In this editorial, based on our literature review, personal experience and observations, we will describe what we expect to see for the foreseeable future. We will also address implications of our findings for institutions of higher education.

**Keywords:** In office, remote, hybrid work, Generative Artificial Intelligence (GAI) impacts on future of work, implications for higher education.

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## **1. Introduction**

The 2019 Pandemic drastically changed many aspects of work including where and how the work gets done. Many individuals and organizations modified their work location and how they accomplish various tasks relying a lot more on information and communication technologies than ever before. The concept of “Virtual Organization” (Burkhard and Horan, 2006, p. 239) is not new and researchers have been predicting it for more than a few decades. As the pandemic has eased, organizations and individuals are revisiting the nature of work and the concept of hybrid work.

Townsend et al., 2002, among others, stated that more widely availability of information and communication technologies facilitate the transformation of organizations to what AACSB 2002 report referred to as “conducting business activity anytime, anywhere” (p. 240). In addition to the historical transformation of work, new technological innovations such as the use of GAI are impacting how, and where tasks are accomplished.

Based on what we are already observing in most organizations, the question we need to ask is what are the implications of the changes for employees, organizations, customers, communities, and society as a whole regarding the future of work. If you ask employees, they very much request flexibility. In particular, those who have younger children, other family members they need to provide care for, or disabilities that make in-person work challenging may prefer the flexibility afforded by remote work arrangements. The other major consideration is the potential implications for the lack of or limited social interaction. It is true that there are many communication technologies available; however, as we know, there are some needs for in-person meetings, in particular, for newer members of our organizations.

From the organizations’ point of view, functions, services, products, etc. need to be delivered in a timely fashion. These requirements, to some extent, are also expected from customers. Implications for communities and society as a whole are much broader. For example, we may consider housing, office space, and transportation systems and requirements. As we experienced, at the onset of the pandemic, many individuals moved to different cities and states than their employment location. Major cities saw significant decline in office occupancy that is still not back to pre-pandemic levels. Commuting time and congestion, particularly in larger cities, is also a factor to consider for longer term planning. Of course, as far as society as a whole is concerned, energy consumption and sustainability issues come to mind as well when thinking about longer-term implications of daily commuting to work and office occupancy levels.

Artificial Intelligence (AI) has been around for quite some time and has been making a positive impact on our lives in many different ways. We use this technology in our homes for monitoring and security, controlling and adjusting temperature, improving sanitization, buying products, monitoring our health, entertainment, and education. Similarly, businesses and other organizations have been using AI and related technologies for many years in various areas including manufacturing. During and after the pandemic, many businesses and other organizations significantly increased their focus on using enhanced versions of AI technology such as GAI to perform different organizational functions. Some publications (Balakrishnan et al. 2020) estimated that in 2020, more than 50% of businesses were implementing some kind of generative AI technologies. The adoption rate has been growing exponentially. It is apparent that GAI will have a transformative impact on how work gets done in all kinds of organizations. In the next section, we conduct a brief review of the literature related to future of work and GAI incorporations in organizations.

## **2. Literature Review**

Based on what we have seen so far and as our literature review indicates, it is likely that the future of work for many workers is different than before the pandemic. Garzillo, Cioffi, Carta, and Monaco (2022) reviewed 2,477 articles and conducted detailed analysis of 51 of them to determine the trends. They focused on three important characteristics of the future of work and its implications for individuals and organizations. Namely, “remodeling of work organizations,” “clinical evaluation of workers.” and “testing strategies related to return to work” (p. 1). For the first characteristic, their literature review indicates that different organizations have developed alternative models for return to work based on the risk level employees are willing to take. They suggest adopting “flexible

working modalities.” Regarding the clinical implications, the authors suggest “fitness for work” evaluation is essential. For the “testing strategies” the authors suggest various ways of health surveillance to be implemented.

Barath and Schmidt (2022) conducted an online survey of fifty employers including major private and public organizations in two countries – Slovakia and Kuwait - to determine their vision of flexible office space after the pandemic and return of employees to work. Their focus was to determine how future work will be “planned, organized, performed, and controlled” (p. 1). Based on their analysis and findings they suggest that options for future office arrangement could include “open office, coworking office, satellite center, activity-based office, home office, and other remote” (p. 12).

Kong, Zhang, Xiao, Das, & Zhang (2022) used open-source survey data to determine the extent that companies have accepted the work from home practice. As a part of this study the authors looked at literature regarding the “travel behavior, work from home characteristics, and societal implications” (p. 1119). This study concludes that the work from home has become a new normal for many employees. However, they also found that some employees are still struggling with the practice of work from home. Data analysis of this study suggest that employees who had some work from home experience prior to the pandemic are more accepting to continue working from home compared to employees who did not have this experience. This study further suggests that flexibility should be a major consideration by employers. They also suggest that some professional training may be helpful for employees who do not have much work from home experience.

Durakovic, Aznavoorian, & Candido (2023) conducted an online survey of 668 managers and 911 knowledge workers from 12 different industries in Australia. The focus of the study was on “perceived effectiveness and performance, sense of adjustment to remote working, and sense of belonging” (p. 1) during the first two COVID-related lockdowns in Australia. Employees who responded to the survey stated that they were technically supported, were productive working remotely, but their sense of “connection and belonging was suffered” (p. 1). They further stated that the main reason to come back to the office is to be with colleagues and be able to better collaborate with them. This study also found that managers want “efficacy in managing their teams, workflows, and professional purpose” (p. 23). They recommend creating an “effective hybrid work place post pandemic” (p. 23).

Baudot & Kelly (2020) conducted a survey of 592 US workers who were living and working from home using Amazon MTurk. The survey focused on finding the employees’ as well as their subordinates’ perception of work productivity during the COVID shutdown. This study’s preliminary finding indicates that a) the respondent’s perception is that their productivity improved, b) the perception of improved productivity is positively correlated with the amount of work done remotely prior to the COVID, and c) if given the option of remote work after COVID, workers would prefer to do so.

Based on our literature review and personal observations over the last three years, it seems that for many organizations the future of work is a hybrid arrangement. In the next section we identify some benefits and potential pitfalls of the hybrid work environment.

### **3. Potential Benefits and Pitfalls of the Hybrid Work Environment**

The most apparent benefit of the hybrid work is the flexibility and autonomy it provides for employees. It is particularly family-friendly for individuals with younger children or families who need to provide care for elderly family members. Individuals with disabilities that make in-person work challenging may be more productive or more able to participate in the labor force when hybrid or remote options are available. The travel time saving associated with the hybrid work could also potentially increase productivity. It could reduce traffic congestion and in the longer term potentially impact climate change and improve sustainability. Organizations that are looking for new employees can use the hybrid work option benefits to increase the pool of candidates. Space costs saving could be significant for organizations by utilizing the well-established hoteling office space practice.

We need to be aware of and prevent or at least minimize potential negative aspects of hybrid work in

organizations. Long-term isolation and the lack of ability to socialize and collaborate is not healthy. Newer employees need interaction and face-to-face team building, networking, and informal training opportunities. Fortunately, with proper safeguards in place, these potential negative implications of hybrid work can be fully eliminated or, at least, significantly reduced.

In general, all employers want accountability from employees. Organizations that adopt the hybrid work environment need to consider developing and broadly circulating policies and requirements for hybrid work. Such guidelines should specifically state the minimum number of days and hours that employees are expected to work on site. Some employees and supervisors may need specific training to be effective and productive in this new work environment. State-of-the-art and best practices other organizations are using for hybrid work can be presented during these trainings.

Another consideration is the fact that many organizations are automating routine processes using GAI so the presence of some staff members at all times may not be needed in the office. Some employees can be upgraded to perform higher level tasks when their previous tasks are automated. This process has been expedited more recently with the wide availability of GAI-based platforms.

#### **4. Potential Implications of Hybrid Work and GAI for Higher Education**

The implications of hybrid work for higher education institutions are somewhat similar. Given that our highest priority is to find ways to best meet our learners' demand, we will need to make sure a variety of course delivery modes are available for students to select from based on their learning preferences, time constraints, and location constraints. A good number of students are now experienced with taking online, hybrid, and HyFlex courses and many faculty members have developed more expertise in offering courses in various delivery modes. This situation allows faculty, staff, and administrators to adapt to a hybrid work environment. It is important to recognize the fact that some students as well as faculty members in some disciplines, such as accounting, still prefer face-to-face instruction due to the nature of the courses' contents. The hybrid work environment will allow multi-mode course delivery.

Universities faced with declining enrollments may also benefit from considering ways in which course modality options may allow them to attract and retain new types of students such as students with inflexible work schedules and challenging family care responsibilities. We also recommend that universities consider their missions in the context of the ways in which course modality options and work arrangements may allow them to serve their stakeholders. For example, regional public universities with students, faculty, and staff with lengthy commutes may benefit from offering online and hybrid courses and remote work arrangements, while more residential universities may benefit from a more traditional approach of mostly in-person work and classes.

Another important consideration is to provide means for students, faculty, and staff to interact and network with peers and mentors. Although there are many communication technologies available for interaction, it is essential to provide ways for students to experience socialization and networking, in particular, for undergraduate students. Group projects and presentations either in person or via video conferencing is one way to facilitate this process.

The availability of GAI-based platforms could potentially facilitate more effective hybrid work environment at the institutions of higher education. Similar to other organizations, the routine tasks such as recruiting, hiring, retention, on and off-boarding, routine admission enquiries and other processes, can be effectively automated. This automation process could ease the need for staff to be present at the office so it facilitates the hybrid work environment.

There is an urgent need for institutions of higher education to develop policies and guidelines for adoption and implementation of hybrid work environment as well as ethical uses of GAI-based platforms in teaching, learning, and scholarship. We should not simply ban GAI related technologies due to the concerns that some individuals will use them unethically. History is repeating itself. We have seen similar arguments when other technologies such as the Internet and the Web came about. Some feared that plagiarism would destroy the quality and value of higher education. This did not happen and it will not happen with new AI-based technologies either.

Given the fact that many organizations that hire our graduates have already adopted GAI-based platforms in their operations, we need to design our curricula such that our graduates are exposed to the ethical uses of GAI-based platforms. These technologies can be used to enhance our students learning and engagements. They can also be used to better design assignments and assess students' performance more accurately. In many parts of the Midwest USA and the rest of the country, equity gaps exist in the level of education students have before entering college and during their college years. We need to identify ethical ways to fill the gaps so that all students regardless of their social and economic background gain the same level of education and access to new educational tools and technologies.

## **5. Conclusion**

Organizations including institutions of higher education that have made a decision to continue with the hybrid work environment will benefit operationally if they articulate and communicate their hybrid model and clearly state the guiding operational principles. The guidelines should consider the benefits of hybrid work, including the flexibility, and autonomy it provides, but also the potential challenges it may create, in particular, for newer employees. The guidelines for hybrid workforce could, for example, include:

- The organization needs to meet and exceed the expectations of their customers as well as management.
- All employees whose functions can be conducted in a hybrid mode should be treated equally.
- The organization needs to make sure to facilitate the creation of an environment for all employees and, in particular, new employees the ability to interact face-to-face as needed.

Similarly, for institutions of higher education guidelines for hybrid work and the use of GAI-based platforms could, for example include:

- When it comes to the hybrid work option, all employees, with some exceptions such as security personnel, should be treated equally.
- As far as possible, departments within an institution should articulate similar guidelines and principles for work arrangements. Employee dissatisfaction is likely to increase if some departments allow more flexibility than others or if some managers insist that all meetings occur in-person while others encourage remote meetings. In general, rigid regulations of time and location will need to be carefully justified and clearly communicated in order to maintain adequate levels of employee satisfaction and retention.
- Safeguards need to be in place to make sure that adequate in-person interaction options are available for socialization and networking with peers.
- Specific guidelines need to be developed for students, faculty, and staff for the use of GAI-based platforms. University policy regarding plagiarism and its consequences with respect to the use of GAI need to be clearly articulated for all students and every employee in the institution.
- Equal access to GAI-based platforms should be provided for all students and employees for ethical uses of these platforms.

## **6. Overview of the Contents of this issue**

This issue of the journal includes two traditional research articles. Qinhui Wang, Andy Luse, and Julie Rursch in their interesting and timely article looked at enrollment in information technology and the available IT related jobs. Using the social cognitive career theory (SCCT) they followed high school students for two years to better understand the decision-making process students use to select IT related jobs for their future career.

Christine Witt, James Melton, and Robert E. Miller in their important article looked at the social media postings of students and how they can potentially negatively impact students during and after college.

We appreciate and wish to acknowledge the contributions of reviewers for this issue of the journal, including Gaurav Bansal (University of Wisconsin – Green Bay), Queen Booker (Metropolitan State University), Mari Buche (Michigan Technological University), Omar El-Gayar (Dakota State University), Yi “Maggie” Guo (University of Michigan-Dearborn), Bryan Hosack, (Penske Logistic), Jakob Iverson (University of Wisconsin – Oshkosh), Jeffrey Merhout (Miami University, Oxford, Ohio), and Alanah Mitchell (Drake University).

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