



A Review of Telecommuting Research Based on Employee Perspectives

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Abstract. In recent years, the rapid development of information technology and the catalyzing of the new crown epidemic have driven the global popularity of telecommuting, which has become an important issue of concern for enterprises and employees. This paper starts from the perspective of employees, comprehensively adopts the literature analysis method, and systematically combs through the multi-dimensional impact of telecommuting on employees' work efficiency, psychological state, organizational management and employee depletion, aiming to provide theoretical basis and practical reference for enterprises to optimize their management modes and to promote employees' work-life balance. The results of the study show that telecommuting significantly improves work autonomy, satisfaction and innovation efficiency by giving employees time and space flexibility and effectively reduces commuting pressure and work-family conflicts. However, its drawbacks should not be overlooked: the blurring of work-life boundaries increases the hidden burden of "always-on" employees, leading to a higher risk of physical and mental exhaustion; information security loopholes, social isolation, and the difficulty of management co-ordination further undermine the sustainability of telecommuting. In this regard, this paper proposes the construction of a "technology-institution-humanity" trinity of management strategies, including the improvement of policy support, the strengthening of data security, the implementation of flexible working hours, and emphasizes that the hybrid office model will become the key to balancing the efficiency and the well-being of employees in the future.

Keywords: telecommuting, employee depletion, job depletion.

1 Introduction

1.1 A Subsection Sample

Telecommuting can be referred to as working from home. This concept refers to a new type of office where employees can complete their work tasks outside of the office with the help of the Internet or other information means without being restricted by geographic location. Compared with the traditional office model, telecommuting no longer

requires employees to complete their work at a fixed time and place, but rather work results-oriented, to achieve flexibility in time and space. In recent years, with the rapid development of information technology and the profound impact of the new crown epidemic, telecommuting has gradually become an important issue of concern for enterprises and employees worldwide. As an office mode that is not restricted by geography and relies on a digital platform to complete work tasks, telecommuting has not only changed the traditional office mode but also brought about far-reaching impacts on employees' work efficiency, psychological state, organizational management and other aspects. Studying the advantages and challenges of telecommuting from the perspective of employees can help companies optimize their human resource management strategies and help employees achieve a better work-life balance. Therefore, this paper will focus on the practical effects and potential problems of telecommuting at the employee level, trying to provide theoretical references and practical support for the optimization of the future office model and system construction.

2 Status of Telecommuting Developments

In recent years, with the development of Internet technology and the catalyst of the epidemic, telecommuting has been rapidly spreading in China. Compared with the past perception of "having to go to the office to work", more and more enterprises and employees have begun to accept and get used to the way of "online work". Firstly, in terms of scale of use, the number of telecommuting users continues to grow. According to a report released by the China Internet Network Information Centre (CNNIC), by the end of 2022, the number of online office users in China had reached 540 million, accounting for more than half of the country's Internet users. This shows that telecommuting is no longer an option for a few but is gradually becoming a norm. Secondly, from the perspective of market development, telecommuting-related industries are also expanding. According to relevant data, the overall size of China's telecommuting market in 2022 has exceeded 50 billion yuan, with significant growth in all three areas: hardware, software and services. This shows the scale of enterprises in this aspect of telecommuting is becoming more and more important. In addition, the development of technology has also made telecommuting more convenient. The application of new technologies like 5G networks, cloud computing, and artificial intelligence has not only improved office efficiency, but also made remote work more fluid. For example, many meeting platforms can now automatically generate meeting minutes and can automatically generate PPTs, which greatly reduces the workload of employees and allows them to have more time to correct meeting minutes and do other work.

2.1 Current Status of Telecommuting Development in China

In recent years, the popularity of telecommuting has risen dramatically in China. This less popular form of work, in this case by many enterprises set as an "emergency option". According to Ai media consulting data show that in 2020, during the spring resumption of work, China has adopted the online office mode of more than 18 million enterprises, the use of telecommuting software users totaled more than 300 million people [1]. This data not only reflects the surge in demand for telecommuting at that time

but also illustrates that the adaptability and acceptance of digital office methods by Chinese enterprises are rapidly increasing. Entering the post-epidemic era, telecommuting has not been completely replaced with the resumption of offline resumption of work but has instead been gradually normalized in some industries. Some Internet-, technology-, education- and consulting-based companies have begun to embed telecommuting into their daily work systems as a flexible and complementary means. At the same time, the government is also actively guiding the policy level. For example, to promote the digital transformation of small and medium-sized enterprises (SMEs), some policy documents have proposed to strengthen the construction of intelligent office platforms, and to improve the level of online collaboration and information security. Overall, the popularity of telecommuting in China is moving from "emergency" to "choice" and then gradually to "habit". Although there are still problems such as increased difficulties in management coordination and differences in employee efficiency, the overall trend shows that telecommuting is a flexible and efficient way of working.

2.2 Status of Telecommuting Development Outside China

The development of telecommuting in Japan can also be traced back to the 1980s, but compared to the United States, the process of its popularity is significantly lagging behind. In terms of specific data, the percentage of Japanese companies adopting telecommuting was only 11.5 per cent in 2012, and then showed slow growth: it rose slightly to 13.9 per cent in 2017 and reached 19.1 per cent in 2018. It is worth noting, however, that as of 2018, workers with actual telecommuting experience accounted for only 8.7% of the country's total employed population [2]. According to the Telecommuting Population Reality Survey published by Japan's Ministry of Land, Infrastructure, Transport and Tourism, the proportion of teleworkers in Japan did maintain a gradual upward trend until 2018. Specifically, the 2018 survey data showed that employed teleworkers accounted for 16.6%, while the proportion of self-employed teleworkers was even higher at 24.0%. However, this increasing trend was reversed in 2019: the proportion of employed teleworkers fell to 14.8% that year, a year-on-year decrease of 1.8 percentage points, and the proportion of self-employed teleworkers also slipped to 20.5%, a decrease of 3.5 percentage points from the previous year [3].

3 The Effect of Remote Work on Workforce Efficiency

3.1 The Relationship Between Remote Work and Labor Productivity

Research indicates that the implementation of hybrid work arrangements can effectively coordinate employees' relationships across multiple domains including family, work, friendships, and personal life, providing employees with more time and opportunities to balance work and family responsibilities [3]. This model not only reduces commuting time and alleviates family stress, but also facilitates the achievement of work-family balance, thereby laying the foundation for employees to produce innovative outcomes. Furthermore, work-family balance enables employees to focus more energy on work, consequently enhancing innovative performance. On the other hand, hybrid work

can also influence employees' innovative behaviors within the organization by reshaping the social exchange relationships between the organization and employees, as well as among employees themselves [4].

3.2 The Impact of Remote Work on Employees' Psychological State (Satisfaction and Stress)

Job satisfaction refers to the degree of pleasure employees derive from their work. Most research suggests that the greater the extent of employees' remote work, the more likely they are to meet both personal and organizational needs, thereby increasing job satisfaction. This positive effect is primarily achieved through two mechanisms: remote work grants employees broader job autonomy, enabling them to adjust work tasks to meet personal needs while avoiding unplanned interruptions from supervisors and colleagues, thus gaining more interaction control which helps reduce work pressure; remote employees can better fulfill family-related non-work responsibilities, reducing the likelihood of work-family conflict and consequently enhancing job satisfaction [5].

3.3 Work for Organizational Management (Information Security and Blurred Boundaries)

Current technological means cannot fully ensure organizational information security. In classified industries or sensitive operational processes where confidential materials constitute proprietary assets requiring enhanced control, remote work models are difficult to implement under current conditions as they cannot be adequately secured in the highly open internet environment. Currently, many large enterprises address the open nature of cyberspace by establishing internal virtual private networks (VPNs) to ensure transmission security through encrypted tunnels. However, this approach has two drawbacks: first, internal network access capacity is typically limited, making it prone to crashes and other anomalies during collective work, affecting workflow smoothness; second, remote access environments are not completely closed, still presenting uncontrollable risks of information leakage. Therefore, in closed, specialized enterprise organizations, it is difficult to normalize remote work [6].

Research has found that remote employees who set up home offices may end up working longer hours or more days per week, potentially blurring the temporal and spatial boundaries between work and family [7]. While remote work provides flexibility in workplace and time, it also creates dual-dimensional boundary blurring issues. On one hand, the temporal and spatial boundaries between work and life are broken: organizational work time and personal private time interpenetrate, while virtual workspaces overlap with domestic living spaces. This integration not only fosters an "always-on" work culture that extends actual working hours, but also leads to persistent work interference in private life, exacerbating family role stress. On the other hand, the inherent randomness, uncertainty, and fragmentation of daily life continuously erode the concentration required for work, creating efficiency losses. This bidirectional boundary dissolution may ultimately evolve into systemic field disorder, disrupting the normal order between work and family, public and private domains [7].

3.4 Employee Burnout

While remote work provides employees with temporal flexibility, it also exacerbates the issue of "employee burnout" to some extent. Burnout typically refers to a state of physical and mental exhaustion, emotional depletion, and declining efficiency resulting from prolonged high pressure or overwork, and this condition is more likely to occur in remote work environments [8]. First, remote work often breaks down the previously clear "work-leisure" boundary. Some employees, due to the overlap between work and living spaces, find it difficult to truly "clock out," remaining in a state of "constant availability." This "invisible overtime" deprives employees of adequate rest time and psychological buffer periods, making them prone to persistent fatigue and accumulated stress. Some studies indicate that remote workers are more likely to experience time pressure and task overload compared to traditional office workers, especially when management is unclear or task allocation is ambiguous. Second, feelings of social isolation are another key factor contributing to burnout. Online work reduces face-to-face interaction between employees and colleagues, weakening the sense of team collaboration and making some employees feel "isolated" or lacking support. On the other hand, some employees working from home must also attend to household responsibilities, such as caring for elderly parents or children. This makes them particularly vulnerable to dual pressures from both work and life. Therefore, when implementing remote work policies, enterprises need to consider employees' mental health and workload intensity, and provide appropriate support to help employees relieve stress in a timely manner [8].

4 Management Strategies for Remote Work

4.1 Optimizing Policy Support for Remote Work

The outbreak of the COVID-19 pandemic in 2020 highlighted the crucial role of remote work. Building on this experience, China should incorporate remote work into its emergency management system as an important measure for responding to public health emergencies, extreme weather events, and other natural disasters. Specifically: First, government agencies should take the lead by improving remote work contingency plans in terms of hardware equipment, software technology, data protection, and regulatory frameworks to ensure the normal functioning of government operations during emergencies. Second, the government should promote the integration of remote work into emergency management mechanisms for enterprises and institutions, encouraging them to make technical preparations and institutional arrangements in advance to avoid passive responses during crises. It must be emphasized that the effective implementation of remote work must be based on thorough daily preparations. Therefore, both government agencies and enterprises/institutions should make adequate preparations in advance, ensuring the necessary technical support and regulatory safeguards for remote work are in place to enable immediate deployment during emergencies [9].

4.2 Strategies for Addressing Work-Family Conflict

The boundaries between work and family roles possess two attributes: permeability and flexibility [10]. Permeability refers to the degree to which elements from one role domain can enter another role domain [12]. Flexibility, also called elasticity, refers to the extent to which work-family boundaries can be adjusted to accommodate the specific demands of either the work or family domain [11]. In other words, the strength of boundaries in either the work or family domain depends on their ability to prevent the penetration or encroachment of roles from the other domain. Strong boundaries are characterized by low permeability and flexibility, making them resistant to penetration by roles from other domains and difficult to adjust to accommodate external demands. Weak boundaries have high permeability and flexibility, making them susceptible to penetration by roles from other domains and easy to adjust to accommodate external demands [13]. When one domain (work or family) has strong boundaries and individuals strongly identify with that domain's role, they can usually flexibly adjust roles in the other domain without feeling significantly encroached upon. Conversely, when individuals have weak identification with a domain's role, they tend to resist the penetration of that domain's roles into the other domain and experience stronger conflict. Thus, the boundary strength of both work and family domains serves as the external condition for the formation of work-family conflict.

4.3 Development Trends of Future Hybrid Work Models

As the long-term impacts of the pandemic on work patterns gradually emerge, although the pandemic has receded from human society, the practice of long-term remote work has remained. The boundaries between remote work and traditional office work continue to blur. A more flexible and adaptive work format called the hybrid work model is becoming the choice of an increasing number of enterprises. Hybrid work not only retains the flexibility of remote work but also incorporates the advantages of on-site work in terms of communication, collaboration, and corporate culture building. Based on current development trends, future hybrid work will manifest several clear directions:

First, the integration of workspace and technology will become tighter. With the continuous maturation of technologies like cloud computing, 5G, and artificial intelligence, enterprises can more easily build seamless online-offline work systems. For example, employees can use unified collaboration platforms for project management, real-time communication, and file sharing whether they are in the office or at home. This technological integration is breaking down temporal and spatial constraints on work while providing foundational support for hybrid work.

Second, personalized and flexible work arrangements will become the norm. Differences among employees in work rhythms, lifestyle needs, and job characteristics are driving enterprises to explore more flexible work mechanisms. Some companies allow employees to choose their weekly remote workdays or adopt "core office days + flexible remote" policies to enhance employee satisfaction and sense of belonging. This work philosophy not only helps employees achieve work-life balance but also benefits companies in attracting and retaining talent.

Through data and practical analysis, hybrid work will no longer be a temporary transitional measure but an important direction for future work models. With continuous improvements in technological support, institutional arrangements, and management philosophies, hybrid work is expected to bring enterprises greater organizational flexibility and employee satisfaction while driving profound transformations in work methods.

5 Conclusion

This article explores the multidimensional impacts of remote work in actual operation from the perspective of employees, including its comprehensive effects on work efficiency, psychological state, organizational management, employee burnout, and work-family conflict. Research shows that while remote work has positive effects in enhancing flexibility and employee satisfaction, it also comes with issues such as blurred boundaries, information security risks, and social isolation. Therefore, enterprises need to build a more scientific and balanced remote work management system by addressing multiple aspects including policy support, technological optimization, institutional design, and humanistic care.

First, future research could further explore the differential impacts of remote work on different employee groups (such as by gender, age, and job type). Second, with the continuous application of technologies like artificial intelligence, the relationship between remote work and intelligent office work also deserves ongoing attention from academia. Additionally, there is a need to strengthen follow-up research on the long-term impacts of remote work, particularly regarding changing trends in organizational culture and employee career development paths. Finally, research on remote work from cross-cultural and cross-national comparative perspectives will provide broader theoretical support for building office models in a globalized context.

Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

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