

The Impact of Cyberloafing: A Literature Review and Future Prospects

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Abstract. With the rapid development of the internet on a global scale, the use of internet communication equipment and the digitization of workplaces has accelerated, leading to widespread concern about "cyberloafing". Since 2002, scholars have discussed various aspects and types of cyberloafing, exploring its antecedents, consequences, and mechanisms. In recent years, due to the widespread presence of cyberloafing in management practice, there has been a growing number of studies on its impact, and scholars are increasingly concerned with how to transform cyberloafing into productive behavior for employees and organizations. Therefore, a new and targeted review of the existing literature on the impact of cyberloafing is necessary. In this review, we examine all the studies investigating the outcomes of cyberloafing, integrate existing research, and propose future research directions.

Keywords: Cyberloafing; Internet; Workplace deviance; Counterproductive behavior; Systematic literature review; Cyberslacking.

1. Introduction

Since the commercialization of the Internet in the 90s of the last century, the Internet has achieved rapid development on a global scale, and today, the operation and development of all walks of life are difficult to leave the participation of the Internet. According to the "China Next Generation Internet (CNGI) Construction Market Prospect and Investment Strategic Planning Analysis Report" by the Prospective Industry Research Institute, as of March 31, 2021, the global Internet penetration rate reached 65.60%, the number of Internet users reached 5.169 billion, and the Internet penetration rate in North America and Europe was around 90%. Baker Finance and Economics found that the continuous improvement of China's Internet infrastructure construction and the gradual formation of the online service system have also made more and more people choose to use the Internet to work and purchase services. The new investment outlet "metaverse" and AI training are inseparable from the participation of the Internet [1, 2], and the Internet will play an increasingly important role in human development.

With the popularization of the Internet, the use of Internet communication devices and the acceleration of the digitization of the workplace have greatly changed the way modern organizations and employees work [3, 4]. However, for enterprises, the popularization and development of the Internet may be a double-edged sword. On the one hand, as an indispensable part of people's daily life and business activities, the Internet has brought great convenience to organizations (such as reducing production costs, shortening production cycles, efficient access to information, and accelerating global cooperation), but on the other hand, the Internet has flooded the work and life of employees, resulting in an increasing dependence on the Internet and blurring the boundaries between work and non-work activities [5]. Further, in the post-information society of knowledge explosion, attention resources have become very scarce economic resources, and the Internet attracts and distracts users' attention in various ways to the greatest extent, resulting in the Internet world full of interest and temptation, making it more difficult for employees to fully devote their attention to work, which derives a new type of work deviation behavior - cyberloafing.

Compared with traditional slacking behavior, cyberloafing is more concealed and accessible, making this new type of slacking behavior more common in the modern digital workplace. Statista's 2019 data shows that 52% of respondents check their personal emails during working hours. Another

study showed that 85.04% of employees use smartphones for non-work purposes compared to using them for work purposes [6]. Large-scale and high-frequency employee online loitering has had a serious negative impact on organizations [5, 7], and has attracted great attention from scholars.

In the context of continuously improving hardware facilities and the integration of the network environment with work, almost all workers will use internet tools such as mobile phones and computers in their work. Considering factors such as human rights and implementation costs, it is difficult to prohibit internet browsing in management reality. Therefore, it is particularly important to face this behavior, which has already become widespread in the workplace, and to study the possible behavioral outcomes and potential impacts on individuals or organizations. It is important to guide these impacts in a direction that is beneficial to the organization as much as possible.

Therefore, based on the research of Lim and many other domestic and foreign scholars[8], this paper reviews the literature on the results of internet browsing behavior, and makes a phased summary of the results of internet browsing behavior that have already been academically proven, as well as further preparing for the next stage of research.

2. Background

2.1. Conceptualization of cyberloafing

Over the past two decades, a number of terms have been proposed to describe internet leisure. Terms such as cyberloafing, cyberslacking, non-work related computing (NWRC), personal web usage, personal internet use, personal internet usage. have been introduced and sometimes used interchangeably [8-11]. The concept of "cyberloafing" was first printed in a publication in 1995 in an article by Kamins published in The New York Times, describing it as a new type of workplace deviant behavior[12]. Lim first defined the concept of cyberloafing as employees voluntarily using organizational network resources to send and receive emails and engage in non-work related activities during working hours[13]. This definition played a pioneering role in later academic research on cyberloafing. With the popularity of personal smart devices and increasing internet access, scholars have modified the definition of cyberloafing to "individual internet use in the workplace," omitting Lim's earlier definition regarding the use of company resources[14].

There are several different classification methods that have emerged in the research and development of cyberloafing. Scholars have attempted to differentiate between different forms of cyberloafing based on different dimensions and characteristics. Lim and Teo distinguished between two types of cyberloafing activities: non-work-related email and browsing non-work-related websites [15]. Blau et al. classified cyberloafing into passive browsing and interactive browsing, suggesting that cyberloafing spans both production-based and property-based boundaries, with interactive internet browsing (such as downloading information, playing games, or using chat rooms) requiring more energy and attention compared to simple web browsing, and therefore should be considered as a form of property boundary violation (the misuse of company property) [16]. Other scholars represented by Henle and Blanchard, based on specific activities that employees might engage in while cyberloafing and on the organization's perceived severity or legal liability, distinguish between minor and severe cyberloafing behaviors [17-20]. Based on research on counterproductive work behavior (CWB), minor cyberloafing includes the normal use of email and the internet, which may be inappropriate but is generally tolerated in the workplace; severe cyberloafing includes online gambling, downloading and browsing adult websites, activities that often involve internet security issues and sometimes legal risks, which may lead to more serious consequences for the organization [21].

In general, the concept of cyberloafing has undergone significant changes since its inception, and scholars have proposed various labels to describe and classify cyberloafing. Although different studies use different terms, a basic commonality of these concepts is that cyberloafing refers to non-work related activities conducted by an employee through the internet during working hours.

2.2. Literature Research Strategies

Before the search began, we determined the terms that needed to appear in the title, abstract, or keywords, including: cyberloafing, cyberslacking, nonwork-related computing, personal web usage, personal Internet use, personal Internet usage. Then we artificially stipulated the requirements for selected papers: (1) published in English or Chinese; (2) from January 2002 to November 2023; (3) journal articles, book chapters, papers, or conference papers; (4) research in the field of management; (5) empirical research as the experimental method. Choosing 2002 as the starting point is due to the publication of Lim [13], which marked the introduction of cyberloafing into academic discourse and provided a formal definition and operationalization of the term cyberloafing. Since the purpose of this paper is to organize existing research on the impact of cyberloafing, the final step in the search will involve manual selection based on the content of the papers.

In the formal beginning of the literature collection work, we used web crawlers and other means to conduct topic searches in Web of Science (WOS), EBSCO (Business Source Complete), The International Bibliography of The Social Sciences (IBSS), CNKI, and Google Scholar. The preliminary search returned a total of 712 papers. After removing duplicate records and unavailable papers from each database, we reduced the total number of papers to 295. Finally, we selected the research papers on the impact of cyberloafing by reading the contents of the papers, while excluding some inappropriate articles, and identified the final 75 entries.

3. Literature References

3.1. Cyberloafing as counterproductive

In the early and middle stages of research on cyberloafing, most studies have treated cyberloafing as a form of counterproductive work behavior (CWB) [15, 22]. The main focus of research in this field is on the negative effects of cyberloafing on job performance and attitudes, internet addiction and abuse, as well as the legal liability risks. Scholars have applied theories related to deviant behavior and criminology, such as deterrence theory, neutralization theory, general strain theory, and others.

The report by Henle et al. indicates that productivity of American employees has decreased by 30-40% due to internet surfing, equivalent to an annual loss of 7.5 billion dollars [23]. For individuals, it is obvious firstly that cyberloafing will cause work delay [24], and Mahatanankoon et al. found a negative correlation between cyberloafing and work efficiency [25], while Bock et al.'s research found a negative correlation between NWRC (nonwork-related computing) and employee productivity [26]. Koay et al. indicated that cyberloafing is positively correlated with work stress, which in turn has a negative impact on task performance [27]. However, Metin et al. found in their survey of IT employees that the relationship between cyberloafing and work performance was not significant [28]. Research by Roosen and Shaddiq warned that excessive cyberloafing may lead to fatigue and disengagement from work [29, 30]. Syrek et al. found that after using social media for one hour, work engagement decreases, and then increases again, indicating the presence of a positive time-lag effect. These findings suggest that the relationship between cyberloafing and work performance is much more complex than previously thought [31].

For organizations, Liberman et al.'s research suggests that internet browsing can have a certain impact on the productivity of the organization. Employees spending time, attention, cognitive and emotional resources on the internet consumes their potential energy, leading to a decrease in their work efficiency [32]. Internet browsing also poses risks for network security [33], as employees' web browsing or program downloads may unintentionally bring viruses, jeopardizing the organization's network security [17]. Additionally, if employees use organizational IT resources for activities such as online gambling or browsing pornographic videos, it may expose the company to significant public relations and legal risks.

3.2. Cyberloafing as restorative

On the positive side, Whitty et al. initially based their research on object relations theory, arguing that the consequences of cyberloafing depend on how individuals use cyberspace, which can provide them with opportunities to access knowledge that could stimulate their creativity [34]. In recent years, scholars have started to acknowledge that internet loafing is not always counterproductive. Based on theories such as broaden-and-build theory, COR theory, and boundary theory, internet loafing can serve as a form of relaxation, allowing employees to recharge.

In recent years, scholars have recognized that if used appropriately, cyberloafing can have restorative effects [35], and be beneficial for the psychological well-being of employees [36]. Luqman et al. found that social media-based interactions with colleagues can help employees alleviate boredom, and promote relaxation [37]. Building on the Conservation of Resources (COR) theory, Lim and Chen found that browsing activities, such as reading news or entertainment websites, can alleviate work stress, and motivate employees to achieve better performance through resource acquisition [5]. COR theory explains that cyberloafing is a means for employees to exert effort to acquire, retain, and protect resources.

Coker et al. argue that cyberloafing can help employees to restore their attention [38], and there is also research showing that cyberloafing can act as a coping strategy for negative work experiences, such as stress [39], and boredom [40], Wang et al.'s study reported that appropriate cyberloafing can alleviate work fatigue [41]. Many scholars have studied cyberloafing based on work performance, Miltsov points out that cyberloafing is beneficial for employees with unpredictable work tasks, as it minimizes the effort required to switch tasks. Scholars often use job performance to study cyberloafing at workplace [42]. Andel et al. found that cyberloafing at work mitigates turnover intentions [33]. Research indicates that employees who use cyberloafing to cope with stress are more energetic, thus improving their job performance [38,43,44]. Khawaja et al. also point out that cyberloafing helps to shift employees' negative thoughts arising from workplace incivility, allowing them to focus on their work [45].

3.3. Balancing Work and Family Responsibilities

In addition to workplace demands, employees also face demands in non-work domains (such as family commitments), which are linked to non-work-related cyberloafing. Batabyal and bhal found that due to their busy work schedules and job requirements, employees turn to internet surfing as a way to manage the work-life balance [46]. Koay et al. drawing from the cross-domain theory of individual involvement, suggest that individuals who need to play multiple roles (e.g., as an employee, parent, and spouse) and have more personal commitments are more likely to use internet surfing to help them transition across work and family boundaries, thus helping them manage the demands of work and family [47].

3.4. Learning, creativity, and innovation

In recent years, according to Conservation of Resources Theory, scholars have continuously linked cyberloafing with learning, creativity, and innovation from the perspective of recovery spirit and resource acquisition. This is because a relaxed mind is a necessary condition for innovation, and a large amount of information and knowledge resources from the outside world are the basis of creativity. Jian emphasized that people engaged in knowledge-intensive work with creative thinking tend to cyberloafing through personal online communication [48]. Baskaran et al. found that cyberloafing can stimulate the desire to learn [49]. And the results of Kuem et al.'s research show that cyberloafing actually helps stimulate creativity [50].

However, Sawitri and Mayasari pointed out that excessive cyberloafing actually decreases creative performance, and it was found that self-efficacy moderates the relationship between cyberloafing and creative performance [51]. Fichtner et al. also suggested that a certain level of cyberloafing is beneficial for employees in terms of learning and creativity [52]. Since learning and creativity often have potential links to innovation, Derin and Gökçe observed a positive relationship between

cyberloafing and innovative behavior, and preliminary findings suggest that cyberloafing may promote employees' innovative activities [53].

Kaptangil et al. argue that, unlike social cyberloafing, purposeful cyberloafing for learning can promote employees' organizational identification. This suggests that the type of cyberloafing predicts different outcomes [54]. Similarly, starting from the type of cyberloafing, Elciyar et al.'s study found that certain specific types of cyberloafing may contribute to learning, creativity, collaboration, and flexibility, as Internet platforms provide ample opportunities for learning, development, and communication. [55].

4. Summary

Research on the impact of cyberloafing is very inspiring, especially the summary of its potential benefits. In recent years, scholars have found that there may be an optimal threshold for cyberloafing. In moderate amounts, cyberloafing may be beneficial for work performance, but once it exceeds a certain level, it may have negative effects. Although initial studies suggested that cyberloafing would have adverse effects on work, newer research has found that moderate cyberloafing can serve as a form of recovery, contributing to employee health, helping employees to rest and rejuvenate, and thus re-engage in work. Recent research has revealed a brighter future in the field of cyberloafing, which suggests that moderate cyberloafing can stimulate employee creativity, promote innovative behavior, and make organizations operate more efficiently. With the ever-growing power of AI tools and the continuous improvement of the Internet as a "second university", future research needs to start from the perspective of information resources to study the relationship between network browsing and learning, especially informal learning, creativity and innovation in the context of a constantly evolving era.

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